South African Journal of Occupational Therapy

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***Articles commemorating the UFS anniversary

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This final 2016 edition of SAJOT also marks the last of the special celebratory issues to commemorate the 40 year anniversary of the Department of Occupational Therapy, University of the Free State. However, due to the funding requirements for publications laid down by the Department of National education, we were only able to publish a minimum number of articles dedicated to this event in each edition. We therefore plan to publish a selected number of the remainder of these articles throughout 2017. All articles pertaining to this celebration are identified by ***. Readers will also notice a new symbol printed on each article. This symbol denotes that SAJOT – as an open access journal – is distributed under the terms of the Creative Commons License code CCBY-NC-ND 4.0, which means that you are free to copy and redistribute published material in any medium or format, but under certain terms. For more information of the terms of this license, please log on to https://creativecommons.org/licence/by-nc-nd/4.0/.

We open this edition of the journal with a commentary on ethics in clinical education. Clinical education – on which so much of our profession’s future depends – affects a large proportion of our community, whether in our role as clinical therapist, academic supervisor or student. The commentary is based on a study to determine various barriers and facilitators to clinical education, and highlights those issues relating to ethical and professional conduct in the clinical education context which emanated from the results of the original study. The revelations by students regarding the conduct of clinical educators that could be construed as unethical, and in some instances even negligent, should be of concern to us all and warrants some serious introspection and critical reflection on our conduct as professionals.

A further commentary, on the challenges and opportunities of Occupation-based Hand Therapy (OBHT), advocates for this approach to be adopted in the treatment of the upper limb in conjunction with the more commonly used biomechanical approach. The authors – based on international literature and on their collective clinical experience – put forward some barriers to the implementation of OBHT together with some valuable guidelines as to how this holistic approach can be implemented in the South African context.

The first of three undergraduate studies reported on in this issue focuses on whether children with Down syndrome – together with the diagnosis-specific problems associated with this condition – also struggle with sensory processing, praxis and related social participation which could exacerbate their engagement in occupation. This study is the first of its kind done on a South African population, and the results contribute to the emergent understanding of the sensory processing, praxis and related social participation of children with Down syndrome within the South Africa context. In the second undergraduate article, students from UFS set about developing an emotion regulation scale for adolescents. After conducting an extensive literature search, a 39-item scale to identify the strategies employed by 404 adolescents drawn from a student population, was developed. A confirmatory factor analysis (CFA) model proved the provisional scale, as well as the items, to be reliable. Further research for the development and the refinement of this scale is recommended. The third student article sheds some light on African mothers’ experiences and vulnerabilities of having a child with cancer. The students emphasise that greater efforts need to be made towards improving awareness of the community about childhood cancer by colleagues working in more rural areas in an attempt to demystify the myths existing in the African culture which render these mothers susceptible to occupational risk factors, particularly occupational disruption and imbalance.

Three articles report on the experiences of clients on occupational therapy intervention, adding to our insight and understanding from our clients’ perspective. In a mixed methods study, the many challenges facing stroke survivors in the Western Cape are reported, and include early discharge due to bed-shortages, no or limited treatment protocols and resources, no dedicated beds or wards and limited access to community services. Two recommendations put forward by the authors are the direct and active involvement of primary caregivers in the rehabilitation process and the expansion of occupational therapy and other services specifically dedicated to the management of this population. The factors affecting adherence and non-adherence to pressure garment therapy from the perspective of burn survivors are highlighted in a study conducted in the Western Cape. Some results reported in this study, are distressingly similar to those reported in a South African study conducted by Stewart et al. almost 16 years ago, and indicate these issues have still not been adequately addressed. In another study (also from the Western Cape) the significance of the ability to drive is highlighted by clients with Spinal cord injuries, and the recommendations are aimed mainly at educational bodies providing entry-level programmes or continuing professional development, to include student training in driver rehabilitation, in order to meet the return-to-driving needs of clients with SCI’s.

Four articles in this edition should be of interest not only to clinicians, both newly qualified and experienced, but also to clinical and academic educators in particular. The first focuses on the value of simulated learning and the training of clinical skills. Participants in this study reflect on how this ‘hands-on’ approach to learning has stood them in good stead in their clinical placements in that it provided a ‘safe’ learning environment and contributed to their confidence in dealing with their ‘real-life’ clients. In an article from South Australia, valuable insights are gained from the collective experience of professionals into the requirements, development and maintaining of inter-disciplinary collaboration within as well as between different centres. Another article from the UFS shows how collaboration between academics and clinicians in a supervisory capacity can narrow the gap between theory and practice in relation to the application of Occupational Therapy conceptual models.

Finally, we hear from our new colleagues on their experiences of the compulsory community service year. The significant findings reported in this article will help us better prepare our students for the challenges and to work towards offering appropriate support whilst completing this service. A warm welcome is extended to new members of the editorial committee Janine van der Linde, Hester van Biljon and Denise Franzen who will assist with the screening and review processes, and Helen Robinson who will be involved in final editing and proofreading of articles in preparation for publication. We look forward to working with you and thank you for your preparedness to assist in the quality of the articles we publish.

I would like to express my heartfelt and sincere gratitude to Mar Concha, for her unwavering support, patience, leadership and guidance over the last two years.
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*** Articles commemorating the UFS anniversary.

Blanche Pretorius
Editor in Chief
SAJOT
Ethics and clinical education

Patricia Ann de Witt, Dip OT (Pret), MSc (Wits), PhD (Wits) — Head, Department of Occupational Therapy, School of Therapeutic Sciences, Faculty of Health Sciences, Wits University

This paper explores the ethical concerns which were identified in a mixed methods study to determine the facilitators and barriers to quality clinical education on the clinical training platform of the University of the Witwatersrand (Wits). Ethical and professional behaviour concerns were extracted and analysed from focus groups and questionnaires that were used to collect data for the study. The ethical and professional behaviour concerns and responsibilities are discussed in terms of the clinical educators in their role as both clinicians and educators. Ethical and professional concerns and responsibilities are also highlighted in respect of students in their role as developing learners and professionals. How students learn ethical and professional behaviour is discussed as well as how a clinical educator should encourage these important clinical competencies which students tend to learn in an overt rather than covert manner. The paper also considers how in a service delivery placement where the focus is on clients’ right to care, and the students’ right to education may be overlooked and their professional learning compromised. The importance of a sound clinical educator-student relationship is central to professional education and facilitation of reflective practice and clinical reasoning essential for the learning of ethical and professional behaviour.

Key words: Clinical education, ethics, professional conduct

INTRODUCTION

According to the Health Professional Council of South Africa (HPCSA) all occupational therapy students are required to complete a minimum of 1000 hours of clinical work under the supervision of a qualified occupational therapist. The HPCSA Minimum Standards of Training for Occupational Therapists indicate that the nature and extent of clinical supervision varies as students gain experience. Students from first to third year are required to work under the direct supervision of a registered occupational therapist, while final year students need only to work under guidance. While there is no clear definition of the specific difference between direct supervision and guidance, it is clear that all students have to be guided/supervised, either directly or indirectly, as they transition their classroom knowledge and skill to the occupational therapy process for clients in any service delivery setting.

There is agreement within the occupational therapy profession, that the nature and quality of the guidance/supervision provided in the context of professional education, is not only critical to the student’s learning process but also has important implications for the development and future of the profession. While much has been reported in the literature on the clinical education process, the clinical educator’s role and responsibilities, clinical educator’s preparedness, and the benefits and challenges of clinical education, very little has been published about the ethical responsibilities and issues associated with clinical education in occupational therapy. In the context of this paper the term ‘clinical education’ has been favoured over the term ‘clinical supervision’ as literature suggests the clinical or professional supervision is a process of professional development appropriate to qualified professionals while clinical education is the process of learning that applies to students as they gain clinical competencies from clinical experience.

While all occupational therapy students have instruction on legislation, ethics, professional conduct and etiquette embedded in their theoretical curriculum, competence in every day ethics is gained in the clinical context. Ethical and professional behaviour in the context of clinical education brings together a complex inter-action between legislation and professional ethics associated with client care and the teaching and learning of a developing professional. The literature reports that ambiguity exists as to how an occupational therapy student’s ethical competencies are developed and as a result the responsibilities and expected outcomes for both the clinical educator and student are ill-defined. This is due to ethical standards, reasoning and behaviours often being covert and understood rather than spoken about. This results in ethical learning developing through professional socialising and role modelling, rather than as a considered, reflective cognitive process. To facilitate a student’s ethical learning requires the clinical educator be aware of, explicitly identifying and discussing ethical related issues as a routine part of client centred discussion and clinical teaching. The importance of this was highlighted in a study by Hyrkas and Paunonen-Liimonen who found that long term ethical competence and quality of care, is positively influenced by the nature of clinical education students receive.

This paper considers the ethical concerns which were raised in a study, completed within the Department of Occupational Therapy at the University of the Witwatersrand, to determine various barriers and facilitators to clinical education. The study did not explore the ethical issues associated with clinical education per se, but issues relating to ethical and professional behaviour in the clinical education context were raised as a concern in many parts of the study. Thus this paper does not report on a specific study but gives a commentary on ethics and professional behaviour as it may impact on the clinical education process of students. This paper does not imply that unethical and unprofessional behaviour is wide-spread in our clinical training contexts, but that it is an element of professional education that requires more attention as competence in ethical practice and professional behaviour is an outcome of occupational therapy education.

Since every interaction between a student and a client demands ethical and clinical decision making, consideration of the client’s rights and needs, and the clinical site’s health and service delivery policies, resources and costing structures in the context in which the clinical education takes place, need to be understood and the implications for patient care overtly discussed. While clinical staff...
are best placed to inform students of the factors that might affect the rehabilitation of patients, deciding on who is in the best position to discuss the ethical implications of premature discharge due to medical funds being exhausted or pressure on beds or who is responsible or accountable when there is no splinting material, gloves, bandages, bedding and even food, is far less clear. Students are often not privy to service delivery issues that impact on the ethical and professional care of patients particularly those that are intrinsically tied to political, financial and management issues, so it makes service limitations difficult to understand from a professional and ethical point of view. When students work in departments for an extended period of time they sometimes also become aware of professional practice, leadership and management incompetency’s which are known and never spoken about. It is not clear how this should be dealt with in the context of professional education.

In the context of the Wits occupational therapy programme, clinical education is embedded in the curriculum at strategic points to link the theory to practice. Clinical work is introduced in first year but increases in time over the four years so that the final year could be considered a clinical year. All students complete the following blocks varying from a total of four to nine weeks in each of the following fields of practice: mental health, physical, paediatrics (learning disabilities and cerebral palsy) and public health in a community site (urban and rural). In this clinical placement, students work under the guidance of an on-site occupational therapist who is also the clinical educator.

The Wits occupational therapy clinical training platform includes some 44 clinical education sites in four provinces of South Africa. These sites are used more or less exclusively by Wits occupational therapy students. The profile of the on-site clinical educators developed during the time of the study indicated that approximately 48 to 55 qualified occupational therapists were involved in the clinical education of Wits students. Eighty five percent were between 20 and 30 years of age and the majority had had less than 3 years of clinical experience. Fifty five percent of these clinicians classified themselves as novice or advanced beginners in their professional development as clinical educators based on Brenner’s five stages of development\(^ {21,22}\). Over 55% of these clinicians did not really want to take on the clinical educator role but did so as it was part of the job, although 95% of them felt it was their professional responsibility. Most felt they derived some personal benefits from involvement in clinical education. These benefits included keeping up to date (93%), receiving continuing education units (CEUs) (69%) needing to retain their registration with HPCSA and being exposed to new ideas (85%). Clinical educators also felt that there were some service benefits that the students provided, including being an extra pair of hands in the occupational therapy departments and that they could be assigned to do the jobs that clinical staff does not have time to do. The students were also able to give clients more individual attention.

**METHODOLOGY**

The study that raised the concerns around ethics and professional behaviour in clinical education was a large exploratory sequential mixed method study designed to examine the clinical education of final year occupational therapy students on the Wits clinical training platform. In keeping with the exploratory mixed methods design the data collection started with focus groups of all the clinical education stakeholders: 4th year occupational therapy students, on-site clinical educators and university staff. This was followed by two quantitative studies where on-site clinical educators and department managers also completed a questionnaire pertaining to training in clinical education, support for clinical education as well as the perceived challenges and benefits attached to the fulfilment of this role.

As described above the purpose of this paper is not to report on the study but to describe some of the ethical concerns raised by the all participants, which have been extracted and analysed. The roles of both the on-site clinical educators, as clinician and teacher, and the student as a developing professional and learner in clinical education, were considered. The legal and ethical practice as well as professional behaviour and etiquette associated with the teaching and learning domain and clinical domain will be discussed in relation to these roles. While the exclusion of the voice of the university educator may be a limitation to this paper this will be discussed in a subsequent article.

The purpose of this report was not to criticise but to stimulate some professional debate around the role of a clinical occupational therapist as a clinical educator which creates an additional dimension to ethical behaviour, ethical dilemmas and professionalism in occupational therapy.

**REVIEW OF THE LEGAL AND ETHICAL PRACTICE IN CLINICAL EDUCATION**

A review of the literature on clinical education was conducted. Ethical and professional concerns in clinical education are reflected in Figure 1 which depicts the interdependent roles of the clinical educator and the student in clinical education.

![Figure 1: Framework for legal and ethical practice within Clinical Education](image)

**CLINICAL EDUCATOR AS A CLINICIAN**

Ethical practice is central to service delivery excellence by all health practitioners including occupational therapists. Ethical practice is guided by a complex and sometimes difficult decision making process which is based on professional judgement in keeping with a complex legislative and professional ethical framework within countries\(^ {14}\). Professional judgement involves observing, thinking, reflecting, interpreting, arguing and evaluating the best intervention options available, appropriate and acceptable to the client, his care givers and his context in keeping with the law, ethical principles, the service provider resources and policies. Such decisions must be rational, defensible, properly recorded and wherever possible based on best evidence\(^ {6,18,23,24}\). Clinical decision making using professional judgement has been described as crucial to professional autonomy\(^ {6,24}\), and has been shown to mature with experience and the development of expertise. Novice therapists tend to use mainly informative factors and reflection-on-action to inform their clinical decision making while experienced therapists tend to use more directive factors which allows for more reflection-in-action—resulting in more immediate decision making\(^ {24}\). As most of the clinical
educators on the Wits clinical training platform can be considered novice therapists, this lack of maturity in clinical decision making and professional judgement may be reflected in the role modelling of professional ethical behaviour which is what students observe and become as the example of appropriate ethical and professional behaviour.

Professional and moral values are demonstrated by the manner in which occupational therapists demonstrate a passion for the profession and approach their working context. These values are also reflected in their relationships, concern for the clients and their caregivers and co-operation and collaboration with team members through their professional behaviour and professional etiquette. Legal and ethical knowledge is practically demonstrated through their understanding and consideration of the client’s right to an appropriate and equitable occupational therapy service, understanding of policies and regulations related to health care provision relative to the context and how this influences the therapeutic relationship and decisions around appropriate occupational therapy intervention. Ethical practice includes daily practice of the universal ethical principles: informing clients of their intervention options and respecting their right to critical, honest information about their condition and their treatment so they can make an informed decision about their health and their health care needs (autonomy and veracity); gaining of informed consent; practicing confidentiality and protecting clients’ personal information (confidentiality); working within the professional scope and referring to others when appropriate; doing the very best for clients under all circumstances (beneficence); ensuring all clients have equal access to treatment resources (distributive justice) keeping acceptable client records; billing appropriately; not over-serving but advocating for additional services should the client need these.

Legal and ethical behaviour is demonstrated in the occupational therapy process by completing accurate assessments that identify the occupation-based needs and deficits of the client in such a way that appropriate intervention can be planned and executed. Intervention must be relevant to the client and his context, respect his values, cultural beliefs and practices, occupational profile and values (respect), aim to do good, protect the client from harm (beneficence), not to deliberately cause harm to the client (non-maleficence) and fulfill the client’s need for service equitably (duty and justice).

It was clear from the participants in the study that a number of legal/ethical issues related to clinical practice are of concern in the settings where clinical education takes place. The occupational therapists working in the private and public sector reported facing ethical dilemmas on a daily basis. These ethical dilemmas often depended on the manner in which they generate an income. Professional behaviours is complex and is seldom overt. Professional and moral values are demonstrated by the manner in which occupational therapists demonstrate a passion for the profession and approach their working context. These values are also reflected in their relationships, concern for the clients and their caregivers and co-operation and collaboration with team members through their professional behaviour and professional etiquette.

Occupational therapists in the private sector - where earnings are secure - experienced other ethical dilemmas such as over-involvement in administrative tasks and meetings, so that little time is available to provide services. Choosing not to treat clients or putting off treating clients in favour of other activities of a more personal nature such completing academic assignments that have limited relevance to the workplace, playing computer games, and even nail-care and shopping were reported. Other issues raised included: early and unexpected discharge where the client is discharged without prior warning, resulting in no plan having been made for the client to receive essential rehabilitation on the primary care platform or for the client to return for follow up. Concerns related to limited availability of essential resources such as standardised tests, assistive devices and wheelchairs as well as expendable materials, tools and equipment to engage in occupation-based interventions were also noted. The non-compliance of clients with intervention regimes such as splinting and home programmes and non-return for follow up is also affecting service delivery negatively; resulting in frustration, failure to achieve desired treatment outcomes and sometimes punitive action such as making them wait an unacceptably long time before getting attention or sending a patient away for missing or being late for an appointment.

Occupational therapy clinicians reported that there are also some clinicians that do not always practice within the scope of the profession and therefore the therapy provided was not professionally appropriate, difficult to distinguish from physiotherapy and psychology and hard to recognise as occupational therapy. The fact that clinicians were reported to seldom have the time or access to the resources to seek evidence to support their practice, resulting in out-of-date practices was also raised and has been supported by some professional literature.

Students are acutely aware of these issues in the clinical settings. If these issues are not discussed openly, and the professional behaviour and the clinical decision making overly challenged, students draw conclusions from their own experience and assumptions about what is or is not appropriate professional behaviour. Students are observed to sometimes either simply copy the professional behaviour that they see, accepting powerlessness and assuming that this is just how it is (right or wrong) or they become uneasy and sometimes hypercritical when they observe behaviour that is contrary to what they believe is acceptable professional practice. They are often uncertain as to what action they should take and what the consequences might be (considering their ‘vulnerable’ position as students).

**CLINICAL EDUCATOR AS A TEACHER**

The important role that clinical educators play in the development of an occupational therapy student’s professional and clinical skills cannot be over emphasised as this has implications that extend far beyond their student years.

In South Africa, unlike some countries in the occupational therapy world, there is no formal or accredited training for clinical educators and therapists with only six months experience are often called upon to supervise students. The majority of clinical educators at the clinical training sites on the Wits training platform are young and inexperienced occupational therapy clinicians. In addition they are ill-prepared for the educational role they take on when they are still in the novice stage of developing their own professional behaviour and ethical practice in dealing with ethical dilemmas. The clinical reasoning and decision making that informs professional behaviours is complex and is seldom overt.

Role modelling accompanied by reflective discussions has been reported as the best method of teaching professional ethical behaviour and reasoning. However to do this, clinical educators need to reflect on their own personal and professional values and beliefs and then review how these influence and are enacted in their daily work. In addition they should reflect on the legal and ethical factors that impact on professional and clinical decision making and these reflections should form the basis of discussion and teaching of students. These reflections should be used to support and guide the students’ developing perception of the realities of practice, which sometimes challenge their ideals.

Clinical reasoning and reflective practice is needed to provide the clients with the best available intervention in the light of contextual constraints and limitations/challenges, and the students with the best clinical education and learning opportunities.

Thus it is easier for clinical educators, especially those that lack experience, to assist students to use their theoretical learning to make sense of practical clinical skills - such as how to help a client to transfer - more easily than making sense of ethically based clinical reasoning, that informs professional and ethical behaviour.

Research by Carrese et al. found that clinical educators seldom addressed ethical issues with students. These researchers
postulated that reasons why clinical educators did not explicitly discuss professional and ethical clinical reasoning with students was related to time pressures; that they felt these issues were obvious to the student; that the clinical educators did not recognise these issues as relevant or immediately associated with client management; and that clinical educators were ill-prepared for this kind of teaching\(^7\). However, professional behaviour and ethical practice is always evident to students through the professional behaviours that they observe and they draw independent conclusions about clinical practice without guided reflection and sometimes take a very narrow view of professional behaviour and ethical dilemmas without taking all the contextual or more macro issues into account.

Clinical educators are also reported to act as gatekeepers for the profession and have a responsibility to ensure that the students they supervise have an acceptable level of professional behaviour, clinical competencies, and ethical clinical reasoning and decision making\(^7\). Clinical educators are expected to guide the students and their expectations should be consistent with the students’ level of professional development. Different models can be used to understand what can be expected of the student such as the Stages of Ego Development described by Loevinger where Stages 3/4 (Explorer) and Stage 4 (Achiever) have been associated with senior students’ level of clinical reasoning\(^7\).

Clinical educators also need to consider that students as learners have legal and moral rights while completing a fieldwork block which is considered an essential part of an education programme. These include the right to supervision/guidance appropriate to their level of clinical competence to ensure safe and effective service provision and to avoid harm or breach of the professional standards\(^7\). They have the right to due process which describes making the student aware of professional and educational expectations within the setting. These include clinical site policies/procedures for administration of professional services such as billing and recording of therapy units, use of expendable materials, recording of patient information and organisational policies that influence intervention times. Students also need to understand reporting lines, clinical education and evaluation activities and times; policies around critical incidents such as a client falling or being injured and needle-stick or other injuries to staff and students\(^7\).

While some students reported outstanding clinical education opportunities and experiences, other students felt that their clinical learning had been compromised by complex clinical educator–student relationships and contexts that did not support the teaching and learning process. Some students reported situations where occupational therapists demonstrated what they believed to be inappropriate ethical and professional behaviour as clinical educators by evaluating/marking clinical learning activities that were not observed, not providing timely feedback on clinical performance or opportunities to learn, as well as giving feedback that students perceived as being personally demeaning and disrespectful.

Therefore it is evident that not all clinical educators are aware that students believe they are entitled to respect and to the answering of their clinical questions in a way that assists them to understand concepts and in solving complex problems. Students report that they are especially sensitive to be given feedback about their performance in front of clients or other students and in a manner which is unconstructive to their learning process. Students believe they have a right to being treated equitably and fairly with respect to feedback and evaluations, should not be compared to other students, evaluated in accordance with their level of development and not be expected to know what the clinical educator knows or thinks they should be able to do. University departments have some responsibility for ensuring that clinical educators are aware of the clinical learning that is required and how this clinical learning is supported by the classroom teaching. This is especially true when classroom teaching includes new professional terminology and practices that is innovative and is supported by new evidence. The university’s responsibility may also extend to providing clinical educators with some educational knowledge and skills to facilitate student teaching and learning.

The position of the students should not be abused by assigning tasks outside of the professional scope, that are punitive and that the qualified staff would not or do not wish to do. Students also find it difficult to deal with clinical educator criticisms of what they have been taught in previous blocks and by the university staff. In keeping with the fidelity principle and collegial relationships, clinical educators should discuss such issues with the persons concerned rather than the student. The right to confidentiality - especially about students’ educational challenges and any personal problems which they may reveal - also needs to be adhered to and disclosed with consent of the student to identified persons only.

**STUDENT AS A LEARNER**

While basic education is determined as fundamental right in term of Chapter 2 of the Constitution of the Republic of South Africa, the Bill of Rights, tertiary education is considered to be more of a privilege than a right\(^7\). However students pay for their tertiary education, some more directly than others, but they all have some expectation that they will receive a quality education both in the classroom and in the community. While a student can hold the university accountable for the quality of the classroom education, accountability for clinical teaching is much less straightforward as the Memoranda of Understanding that oversee the provincial responsibility for clinical education in the public sector training sites are vague and difficult to enforce.

Although the Wits occupational therapy department has long-standing and co-operative relationships with all sites on the Wits clinical teaching platform, reports from students of challenges related to their clinical education have been increasing in number over the past 10 years. A survey completed by two consecutive final year student cohorts identified almost identical challenges with regards their clinical education in the clinical education sites: Limited availability of the clinical educator and therefore a lack of clinical education opportunities; concerns about evaluation and how marks were derived, as well as the fairness and consistency of the evaluation processes; negative attitudes towards the students which had some negative gender and racial overtones and the inexperience of many clinical educators with students perceiving that there was nobody to learn from. Finally, a lack of professionalism by the clinical educators was raised as a challenge 50% of the respondents. Students reported this to be clinical educators’ attitude to the profession, practicing outside of the ‘scope’, work ethic issues, out of date practice, poorly managed departments and unprofessional behavior.

While challenges have been noted (especially in relation to the staff profiles as reported above, staff shortages, resource constraints and service delivery pressures), clinical education remains essential so as to develop an appropriate human resource pipeline for the profession. It is evident that occupational therapy students can only gain clinical competencies in a clinical setting and on-site occupational therapists are best placed to facilitate this process. Thus it would seem reasonable that if a clinical site accepts students to complete their clinical education, then a student could expect that there will be a qualified occupational therapist to direct the clinical education of junior students or guide the clinical education of senior students\(^1\). On a practical and moral level this implies that students could expect the clinical educator to be clinically competent, understand her clinical educator role and carry out the responsibilities associated with this role. These include ascertaining the strengths and limitations of the student’s current clinical skills and their clinical learning needs that have to be facilitated in order to meet the clinical block (placement period) outcomes\(^7\).

Students could also reasonably expect a conducive clinical learning environment and that appropriate clinical learning opportunities will be planned\(^1\). An appropriate clinical educator – student relationship should be formed as central to the clinical education process and the clinical educator should role model professional,
ethical behaviour and best practice. Student’s can also expect that reasonable but designated time will be made available to direct the clinical learning to assist them in developing appropriate clinical skills through discussion and observing and not just from the marking of written reports. It is expected that they should also be provided with fair, equitable, appropriate and timely formative and summative feedback and that their performance will be evaluated and marks recorded in the designated manner6,34.

Occupational therapy students on the other hand are adults and are responsible for their learning. In order to transition their classroom learning into practice they need to have reasonable grasp of the theory and if they are aware that this is not the case then it is the ethical responsibility of the student - towards the clinical educator as well as to any client they might assess or treat - to plan and implement some action to remedy this55.

Clinicians reported problems with some students not being adequately prepared when arriving to treat patients, having inadequate theoretical knowledge, being unable to manage their time in terms of meeting written requirements and copying other students’ work. It is clear that the ethical responsibility also extends to academic honesty. A study by Rozmus and Carlin18 reports an increase in student cheating and dishonesty through the use of technology which includes a disregard for confidentiality, plagiarism, and cutting and pasting of other student’s work. Whether this is a time management strategy or an action to support a struggling peer, it is nonetheless unethical and will have consequences if identified.

Thus in order to learn, students must plan, allocate and manage time to actively engage with the learning opportunities, to perhaps not be so focused on the written tasks associated with learning but be open to clinical opportunities that will extend their professional development. However, permanent and effective learning requires students to critically reflect on their professional knowledge, skills and values, identify the gaps and use a self-directed approach to master the required knowledge, seeking help and support when necessary31.

STUDENT AS A CLINICIAN

In order for an occupational therapy student to learn clinical competencies they must participate in and apply the occupational therapy process, both individual and group, to real live clients and in so doing become a ‘clinician under the direction of a qualified occupational therapist’34-36. This requires that a student is ethically answerable to the qualified occupational therapist, who is ultimately and vicariously responsible for client care and service provision, on any issue related to the care of that client(s). Students - just like qualified staff - have a duty of care and if this is not met then they are answerable to the qualified occupational therapist, who is ultimately responsible to the client and responsible for care for the patient once they left. This same research identified ethical dilemmas in health system care provision which students feel powerless to deal with: such issues as the finances that control the treatment a client can have based on their financial resources; availability of resources such as transport to health care centres, drugs and equipment availability. Time and health care providers’ schedules which limit availability of services due to meetings and other responsibilities, were also of concern19.

These same concerns were echoed by the students and clinicians that participated in the focus groups in this current research. Participants reported observing a lack of ethical and professional behaviour in some settings where clients were sent away when they were late for appointments or because the therapist wanted to leave early. There were also reports of clinical staff playing games on computers or cellular phones during working hours, interrupting therapy by taking personal calls on cellular phones; failing to treat clients appropriately and working outside the scope of practice. While participants acknowledged that there were centres of excellence, the incidents that they observed and had perceived to be unethical, even if they were irregular occurrences, were concerning and create troubling dilemmas for students as learners.

Critical review of all professional behaviour, both their own and that of others, is essential to professional learning. This review is the responsibility of clinical educators as well as academic staff. Helping students reflect on moral and ethical professional behaviour is as important as enabling students to voice their concerns about incidences that they perceive to be unethical. Discussion about what is ‘moral’ and ‘just’ versus ‘ethical’ and ‘unethical’ in the context of professional practice provides rich learning opportunities which help students to consider professional behaviour holistically as well as the reasons behind professional behaviour and the context within which they are taken.

CONCLUSION

The purpose of this paper was to highlight and discuss the ethical responsibilities that clinical occupational therapists and students take on in the clinical education context. In addition the paper proposes to raise the awareness of how clinical educators can assist occupational therapy students to engage with ethical and professional behaviour issues in the clinical context so as to become critically thinking and reflective practitioners.

REFERENCES

ABSTRACT

Occupation-based hand therapy (OBHT) is an approach to practice that integrates multiple frames of reference, while remaining rooted in an occupational therapy perspective. There are a number of benefits and challenges that have been recognised in hand therapy settings. The use of an occupation-based approach in the field of hand therapy is of interest to all occupational therapists practising in this field. This commentary explores the challenges and opportunities of OBHT as an approach in the assessment and treatment of clients with hand conditions in the South African context. The authors describe OBHT, explore the barriers in practice and propose guidelines for such an approach in our context. Recommendations are made to enhance the understanding and practice of an OBHT approach in everyday hand therapy practice within South Africa.

Key words: Occupation-Based Hand Therapy, Client Centred practice

INTRODUCTION

Occupational therapy services for clients with hand conditions aim to restore and rehabilitate the primary tool of function; the hand. Hand function is important for participation in daily occupations and in most cases requires a specialised treatment approach. In South Africa, three universities offer post-graduate qualifications in the field of hand therapy towards fostering and developing the specialised skills required in this field.

The South African Society of Hand Therapists (SASHT) defines hand therapy as:

“...the art and science of rehabilitation of the upper limb - from the shoulder to the hand. Hand therapy assists a person to regain maximum use of his or her upper limb after injury, surgery or the onset of disease. Hand therapists treat with exercises and activities, apply modalities and create custom-made splints to help the hand heal and protect it from additional injury. Although the physical treatment entails treatment of the upper limb, emphasis is placed on reintegrating into the work place, activities of daily living and leisure time pursuits.”

Occupational therapy beliefs and theory advocate the use of occupation as a means to an end and an end in itself. In addition, occupational therapists employ biomechanical approaches in order to achieve treatment goals. A balance in occupational therapy intervention can be achieved when considering the dynamics as outlined in the International Classification of Functioning, Disability and Health (ICF) (Figure 1).

The ICF considers the person together with her/his health condition within a specific environment, influenced by contributing factors that emanate from inside and outside the particular individual. The "inside factors" comprise those from the body, mind and what the ICF calls the "personal factors." The health condition in question in this commentary comprises some pathology/disorder of the upper limb affecting body function and structure, for example range of motion and muscle strength, associated with restrictions in activity and participation, for example the ability to brush your teeth or participate in the realms of work and leisure. In Figure 1 above, “activities” is central and the arrows “point in both directions” indicating a dynamic relationship between the health condition (together with body structure and function) and activities; and
by virtue of similar interaction between activities and participation. Participation in real-life activities in the different realms of human endeavour also influences/affects the health condition (and body structure and function).11

In occupational therapy all components of the ICF framework (Figure 1) have to be considered and addressed, more or less at the same time during assessment and treatment. The person must be viewed through a sound and detailed understanding of their activity limitations and participation restrictions. For this, an occupation-based approach to hand therapy should be adopted. Amini7,8 describes an occupation-based approach to hand therapy as a balance between the significance of occupation as a treatment modality and the use of biomechanical approaches and principles. An occupation-based approach does not negate the role and impact of the biomechanical frame of reference, but rather promotes the use of occupation as a framework within which biomechanical approaches should be applied. This client-centred approach should however be grounded in a sound knowledge of and insight into anatomy, patho-physiology and biomechanics. However, it seems that the primary focus of current occupational therapy assessment and treatment for these clients, remains on body structure and function.4,4. This is also true in South Africa.9 Occupational therapy modalities and techniques within a biomechanical approach include splinting and physical agent modalities. These are all essential in the treatment of clients with hand conditions, but should not be applied without careful consideration of the person and their occupational roles, needs and goals. A minimum requirement for meaningful intervention is facilitating the realisation of clients’ priorities for activity participation.

According to Cooper,10 the practice of OBHT has at its core a client-centred and holistic approach that includes and considers the psychological aspects that may be impacted by a hand injury. In addition, Colaianni and Provident11 point out that an OBHT approach facilitates holism. The therapist-client relationship is essential in establishing the occupational goals, through interview, observations and assessments such as the Canadian Occupational Performance Measure (COPM).4,8

The South African Context

Occupational therapists in South Africa practice hand therapy in a variety of settings. These settings include hand therapy services in private practice and public health facilities that range from diverse nature of the physical, social and attitudinal environments in which we practice, and the patient population served, restrict potential for the provision of routine occupational therapy services. In some settings poor implementation of health policies, intended for improved service delivery still continues.13 The dearth in suitable human resources in health care settings also hinders adequate service delivery.14 It seems therefore that the South African context imposes barriers to the application of an OBHT approach that is unique to this country’s context.

Aim

This commentary aims to explore some of the barriers internationally, unpack the perceived local barriers and to make recommendations for drafting OBHT guidelines and for future research needs in South Africa.

Barriers to Occupation based hand therapy – internationally

In order to contextualise the perceived barriers to an OBHT approach in South Africa, we first had to familiarise ourselves with the international barriers. The effectiveness of an OBHT approach is a potential barrier to implementation. Robinson, Brown and O’Brien14 confirmed a paucity of evidence for the effectiveness of an occupation-based approach in the field of hand therapy. All evidence published over the past 10 years emanate from so-called developed countries.7,8,11,15,16, Daud et al17, did however, undertake a randomised controlled trial in Malaysia, which is regarded as a developing country. They investigated the effectiveness of an OBHT approach and therapeutic exercise (TE) as compared with TE only in the rehabilitation of hand injured clients and reported improved outcomes in the group that received both OBHT and TE.17

In addition, the authors reviewed international findings with regards to barriers experienced by occupational therapists aiming to adopt OBHT. Here again, evidence was limited to developed countries with three studies available for review. Colaianni and Provident11, Golaiani et al18 and Grice explored the reasons for therapists who do not adopt OBHT in routine hand therapy practice. Both quantitative and qualitative research approaches were included in the search. The findings are outlined in Table 1.

Table 1: Barriers to an Occupation Based Hand Therapy approach

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Reasons given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time1,11,16</td>
<td>Lack of time was the most commonly cited reason for not using an occupation-based approach. Therapists stated that it was often quicker in busy clinical settings to identify specific limitations in body function and structure and then address those, not taking into account the complexity of the client’s environment. An increase in caseload had increased the demands on therapists’ time. Golaiani et al18 reported on the pressure for productivity, overbooked schedules and referring doctors sending patients without prior warning; impacting on therapists’ time.</td>
</tr>
<tr>
<td>Physical work environment and available equipment1,11,16</td>
<td>Restrictions in their physical environment prevented therapists from using OBHT. They reported that their practice settings are often not suited or equipped to adopt an occupation-based approach, due to lack of space and/or equipment. A participant in Golaiani et al’s18 research of occupation-based hand therapy stated that: “it [OBHT] is difficult in an outpatient setting focusing on the plastic and orthopaedic concerns… The necessary items to simulate or practice occupations are not easy to keep or use”.</td>
</tr>
<tr>
<td>Reimbursement issues11</td>
<td>Concerns were expressed that in the developed country in which Golaiani &amp; Provident11 investigated the barriers to OBHT, medical insurance companies do not pay for an occupation-based approach. Difficulty in documenting OBHT outcomes to ensure successful claims for reimbursement, is reported as an important factor.</td>
</tr>
<tr>
<td>Treatment protocols11,11</td>
<td>The stages of wound healing and restrictions and/or precautions imposed by the healing process, for example in flexor tendon rehabilitation, were reported as barriers to OBHT.</td>
</tr>
<tr>
<td>Unfamiliarity with occupation based assessment and treatment approach1,11,16</td>
<td>Colaianni &amp; Provident11, Golaiani et al18 and Grice1 reported that therapists were mostly unfamiliar with an OBHT assessment and treatment approach. Therapists use what they are familiar and/or comfortable with and what is available in their practice settings.</td>
</tr>
<tr>
<td>Therapist preference1</td>
<td>Even though therapists acknowledged the benefits of OBHT, Grice1 reported that traditional approaches were still found to be therapists’ preference in routine daily practice.</td>
</tr>
</tbody>
</table>
Perceived Barriers to occupation-based hand therapy in the South African context

In our opinion the South African context varies from that of the developed countries reported on in the literature above. South Africa is reported to face an “unprecedented burden of morbidity and mortality arising from violence and unintentional injuries” (that often result in hand injury) was the second leading cause of all death and disability-adjusted life years lost in South Africa in 2000. In addition, there continues to be health inequities, despite rigorous work towards the right to health for all. It can therefore be argued that due to these contextual considerations, hand therapy practice in the South African context is bound to be different to that of developed countries. It is important to consider the contextual barriers faced in this (the local) context. Even though the authors have not formally investigated the barriers to OBHT in South Africa, from practice experience, both internationally and nationally in both private and public health care settings, we propose the following common and additional barriers to those experienced internationally (see Table 2).

Guidelines for an OBHT approach:

Amini, Grice and Golaianni and Provident have suggested several guidelines for the adoption of an OBHT approach in routine daily practice. We reviewed these guidelines taking into consideration our conceptualisation of the perceived barriers to an OBHT approach in South Africa and propose the following guidelines for the South African context:

- The use of existing client-centred assessments, including - but not limited to - patient-rated outcome measures such as the Disabilities of the Arm Shoulder and Hand Questionnaire (DASH) or the COPM. Therapists should explore the limitations in activity and participation in addition to body function and structure and develop client-centred treatment goals. These assessments should then be used to document the outcome of therapy.
- Therapists are encouraged to communicate to the best of their ability, and effectively. Communicate clearly what clients can expect during OBHT. Foster conversation, interaction and communication between the therapist and the client to avoid making assumptions about the impact of their hand injury on their occupational performance. In the context of client-centred goals, the therapists must ensure that the client contributes meaningfully to prioritising treatment goals. An effort must also be made to apply appropriate adult learning principles.

OBHT must include sound knowledge and understanding of the requirements of an activity, task or occupation. Activity analysis contributes to successfully facilitating the transition between the clinical setting (therapy practice) and the client’s real-life environment. Meaningful occupations can be used to motivate clients to integrate improvements in body structure and functions at home. In addition, as described by Amini, occupations can be used to assist a client to return to psychosocial well-being while they await improvement in the affected body function or structure.

- Therapists should continue to employ biomechanical approaches, but make a transition to include and occupation-based approach in routine

| Table 2: Perceived barriers to Occupation-Based Hand Therapy in the South African context |
|-----------------------------------------------|---------------------------------------------|
| Perceived barriers | Reason |
| Time | Similar to the finding reported by authors from developed countries above, therapists practicing in South Africa are often confronted with high caseloads and quick turnover of referrals. Medical aid limitations exist with regards to the amount of time that can be spent per client, to comply with the rules for billing. Therapists often do not have prior knowledge of the referral and are therefore unable to allocate adequate time for an occupation-based approach to hand therapy. This is further complicated by the fact that the therapists do not have sufficient time to prepare for therapy sessions. |
| Perceptions from colleagues | Perceptions regarding the credibility of an OBHT approach are of concern. We have experienced this from colleagues within our own profession and from other professions. In busy clinical settings, colleagues might perceive OBHT as more time consuming and therefore it wastes time that could have been used for accommodating additional clients. |
| Expectations of doctors | Doctors, often the first contact for the client and source of referral to the occupational therapists, in some instances dictate the length and nature of overall occupational therapy intervention. Expectations from the doctor, imposed on the client, might be that once body function and structure goals have been reached, the client is discharged from treatment and in effect occupational therapy. In many such instances there might be persistent problems in occupational performance, which could have been addressed by an OBHT approach over a longer time period. |
| Client follow up | There are multiple complications with regards to client follow up. In South Africa follow-up appointments are often restricted by limitations in transport and financial constraints on the client. Due to the nature of national health departments and the different levels of care, there are no established referral pathways, have often not been established or are ineffective. This could result in the client not being followed up. |
| Physical environment | Lack of space and resources is a reality in many settings, a shared barrier with developed countries. In the private sector therapists pay for treatment space, and often are unable to afford adequate space to house simulated environments. The same goes for many government settings where space is often shared with other members of the multi-disciplinary team. |
| Knowledge | We postulate that therapists in South Africa, like our counterparts in the developed countries, may be unaware of the body of knowledge on the assessment and treatment approaches reflecting OBHT. There is limited access to resources and academic information. An additional perceived barrier to OBHT is the lack of understanding and/or appreciation of the occupationally and culturally varied context within which we practice. |
| Language | The authors believe that language barriers in South Africa could be a contributing barrier to an OBHT approach, as communication is key to a client-centred, occupation-based approach. |
hand therapy practice. An OBHT approach should not be separated from biomechanical principles. Amini provides a case example of a 54 year old self-employed plumber with a zone II flexor tendon injury to his dominant little finger. Through the use of the COPM the identified problems were prioritised by the client and were formulated in the following treatment goals: 1) Improvement in body function and structure (range of motion and muscle strength) of the affected finger and 2) full independence in activities of daily living (ADL) one month following surgery. Therapists simultaneously addressed the limitation in activity and participation and body function and structure. Body function and structure goals were addressed by attending to the wound, addressing oedema, introducing the flexor tendon regimen and splinting. Limitations in activity and participation were addressed by modification of the activity and the use of adaptive skills and equipment to ensure independence in bathing, toilet hygiene and dressing.

Jack and Estes propose that therapists should not wait until biomechanical approaches fail before introducing an occupation-based approach in intervention. They suggest that these approaches should occur simultaneously as was proposed above. The case study in their article describes how initially the client goals were set within a biomechanical frame of reference without using tools such as the COPM or the DASH. The body function and structure limitations of this client persisted and functional goals important to the client were not documented. It was only when a shift was made to an OBHT approach that improvement was noted. Through thorough consideration of the client’s activity and participation needs and goals the clients’ motivation improved and significant functional progress was documented.

**RECOMMENDATIONS**

We recommend the following for education, research and practice.

**Education:**
- Undergraduate and postgraduate teaching in the field of hand therapy should be framed by an occupation-based approach.
- Bodies such as the South African Society of Hand Therapists and the Occupational Therapy Association of South Africa should be encouraged to offer courses towards the advancement of OBHT in South Africa.

**Research:**
- The perceived barriers to an OBHT approach are often experienced as not fully under the control of therapists. The authors suggest cost effectiveness studies to convince management and medical aids of the benefits of OBHT.
- There is a need for qualitative research for investigating OBHT to (i) demonstrate the validity of such an approach towards enhancing quality of life and (ii) explore the relationship between physical and psychological recovery.
- Documenting occupation as a treatment modality, using appropriate occupation-based outcome measures would be useful in gathering evidence for quantitative research activities on the effectiveness of occupation-based hand therapy.

**Practice:**
- Recording outcomes that embody an OBHT approach in routine daily practice is essential.
- Using language in daily encounters with colleagues to reflect the occupational goals of clients and to not limit the conversation/reporting to body function and structure.
- Therapists wanting to adopt an occupation-based hand therapy approach should seek mentorship and collegial support. This would enrich the knowledge and expertise available on this topic in South Africa.

**CONCLUSION**

Practicing OBHT in South Africa is challenging. A strong argument can be made for the use of occupation-based interventions in routine daily practice and research in this field. The domains of activity and participation are at the core of occupational therapy services, and it is therefore our responsibility to ensure that hand therapy practice is occupation-based. The use of an occupation-based approach fosters an understanding and appreciation of the impact of the hand injury on the person, their activity and participation needs and goals, within their environment. We acknowledge the barriers faced by occupational therapists in both public and private sectors but also accept that it is therapists’ responsibility to bridge the gap between the biomechanical frame of reference and a holistic occupation-based approach. We have begun to speculate on barriers that may exist in South Africa and suggested initial guidelines for an OBHT approach and made recommendations.

**REFERENCES**


Corresponding Author
Susan de Klerk
sdk@sun.ac.za
Background: Down syndrome is one of the most investigated and well discussed syndromes related to intellectual disability, yet little can be found in literature of the impact that sensory processing difficulties or disorders have on the functioning of individuals with Down syndrome. This study investigated the sensory processing, praxis and related social participation of children with Down syndrome with the purpose of contributing to a better understanding thereof and heightening awareness of the importance of including sensory integration therapy as part of intervention.

Methods: The study was conducted by using a cross-sectional, quantitative, descriptive study design. The Sensory Processing Measure (SPM) Home Form was used to collect information regarding the children's sensory processing, praxis and related social participation. The questionnaire was completed by a parent or caregiver of a child with Down syndrome (n=15).

Results: The majority of the children with Down syndrome included in the study experienced vulnerabilities in social participation (53.3%) and praxis (80.0%), whereas 100% of the children experienced vulnerabilities in sensory processing.

Conclusion: The results of this study contribute to the emerging understanding of the sensory processing, praxis and related social participation of children with Down syndrome. The findings may be taken into consideration by occupational therapists delivering services to children with Down syndrome to ensure optimal intervention. It is recommended that further studies on larger samples investigate this topic to corroborate these findings.

Key words: Sensory processing; social participation; praxis; Down syndrome; sensory processing measure

Deficits in sensory processing, praxis and related social participation influence an individual's engagement in everyday occupations such as eating, dressing, grooming, playing, social interaction and schooling. This together with the already mentioned difficulties children with Down syndrome experience lead to the question of whether they struggle with sensory processing, praxis and related social participation which in turn, can interfere with their engagement in activities of daily living.

The possible implications of sensory processing difficulties do not only have relevance for individuals with Down syndrome, but also for occupational therapists' intervention for this population, if best practice is endeavoured in terms of service delivery. The researchers therefore attempted to address a gap in the literature regarding the sensory processing, praxis and related social participation of children with Down syndrome. Limited studies have been done on sensory processing and children with Down syndrome in the United States but no such research on South African children with Down syndrome could be found.
LITERATURE REVIEW

Down Syndrome

According to Down Syndrome South Africa, the incidence of Down syndrome is estimated to be one in 1000 live births in developed countries, one in 650 live births in developing countries, and approximately one in 500 live births in South Africa.

Down syndrome is a chromosomal disorder most commonly associated with an additional copy of chromosome 21 (trisomy 21). Hypotonia, facial and hand features, such as a depressed nasal bridge and a single deep crease across the centre of the palm of the hand, are typical physical characteristics of children with Down syndrome. Congenital heart disease, immune and endocrine system abnormalities are medical complications that occur in these children. In addition, children with Down syndrome may exhibit developmental delays with regards to motor, sensory, cognitive, language and social developmental milestones, as well as stunted physical growth. It has been noted that children with Down syndrome experience challenges with adaptive behaviour, such as social skills, and therefore struggle to adjust their behaviour and/or responses. Motor delays are also of particular importance for occupational performance in areas such as school and play.

Sensory processing

Initially the paradigm of sensory integration was constructed by Dr. Jean Ayres, aed on her work on patterns of perceptual-motor dysfunctions. According to Ayres (cited by Schaaf and Smith Roley), sensory integration is a neurological process that allows for “the organisation of sensations for use” and thus the integration of sensations from one’s body and from the environment makes it possible to use the body effectively in the environment. A group of occupational therapy researchers proposed a paradigm shift in 2007 regarding the terminology, suggesting that sensory integrative dysfunction be referred to as sensory processing disorder. Another description of sensory processing is that it involves the neural processes of receiving, registering, modulating, organising, and integrating sensory input in order to execute successful adaptive behaviours for daily activity. Therefore, sensory processing can be used as an umbrella term for the processes of sensory discrimination, sensory modulation and praxis.

Although not all occupational therapists and authors may agree, it has been suggested in recent years that sensory processing and sensory integration may be used interchangeably. For the purpose of this study, the terms “sensory integration” and “sensory processing” have been viewed as equivalent and as such, “sensory processing” will be used throughout.

Sensory processing and function

Difficulty with sensory processing negatively influences a wide variety of basic skills, resulting in problems with everyday activities such as self-care, play, social participation and school. Interactions between the sensory systems such as auditory, vestibular, proprioceptive, tactile and visual provide integrated information that contributes to progressively more complex behaviour. An example of such an interaction is the contribution of the vestibular and proprioceptive systems to the ability to develop effective postural balance, gravitational security, and muscle tone.

These sensory systems simultaneously interact with the tactile system to support the development of body awareness, bilateral co-ordination eye-hand co-ordination and praxis. Consequently, these abilities enable the opportunity for engagement in meaningful and purposeful activities that require motor actions.

The term modulation, also referred to as self-organisation, is a brain process of increasing or reducing neural activity in order to maintain balance between all functions of the nervous system and allows for an individual to be in an optimal state of arousal for engagement in activities. Sensory discrimination and perception contributes to refined organisation and interpretation of sensory stimuli that in turn allow for a more refined use of the body during engagements in activities.

Praxis is a term used to describe the ideation (planning), execution, and sequencing of novel motor actions. Praxis is a prerequisite for participation in activities of daily living such as dressing and playing. Although the literature indicates that individuals with Down syndrome have motor deficits, there is a lack of detailed information regarding their praxis abilities. The social environment and social demands are constantly changing and involve unpredictable human interaction and unspoken rules. Children with sensory processing difficulties are more often challenged by social participation, which influences the child’s ability to engage with others.

The authors are of the opinion that the sensory processing difficulties experienced by children with Down syndrome do not always receive the necessary acknowledgement — and therefore limits sensory integration intervention for this population. With this study an attempt is made not only to focus on children and the sensory processing dysfunctions/difficulties they experience but also to add to the limited body of knowledge regarding the specificity thereof.

AIM

The aim of the study was to describe the sensory processing, praxis and related social participation of a selected sample of children with Down syndrome 5–12 years of age, attending educational facilities in Bloemfontein.

METHODOLOGY

This research study made use of a cross-sectional quantitative, descriptive study design to investigate the sensory processing, praxis and related social participation of a selected sample of children with Down syndrome.

Population and sampling procedures

The population that was considered for this research was children with Down syndrome aged between 5–12 years, attending educational facilities in Bloemfontein.

Inclusion criteria

- Children with Down syndrome aged 5 to 12 years and their parents or caregivers attending identified educational facilities in Bloemfontein. The SPM Home Form was standardised for this age group.
- Parents or caregivers who were verbally proficient in English. The SPM is currently available only in English and may not be translated due to copyright. Time limitations did not allow for the lengthy process of obtaining permission from the publishers and then translating the questionnaire if permission had been granted. The researchers were, however, available throughout the completion of the questionnaire to explain any words which caused confusion or needed clarification.

Exclusion criteria

- Children with co-morbid diagnoses such as attention deficit disorder and hyperactivity (ADHD) and autism were excluded due to possible influences on the results. (Congenital heart defects and mental retardation were not excluded as these conditions are common among individuals with Down syndrome).
- Children that at the time of the study received or had previously received sensory integration therapy from a trained
Ayres Sensory Integration (ASI) occupational therapist were also excluded due to the influence thereof on the results.

Data collection instrument and procedures

The Sensory Processing Measure (SPM) was developed to obtain a profile of how a child processes sensory information, plans, executes and sequences motor actions, and how they participate in social circumstances. Although this instrument was standardised on an American population, no such instrument has been standardised on a South African population, making it the best available option for this study. The SPM was regarded by the authors as the most valid and reliable instrument for use in this research.

For the purpose of this study, the researchers only made use of the Home Form, as the other two forms, namely the Main Classroom Form and Environment Difference Form, contain questions that are not relevant for all the children with Down Syndrome in the South African context as some of the children are in schools for children with special needs or have received school exemption.

Each of the 75 test items represents a question related to a variety of behaviours and characteristics that are evidence of the child’s sensory processing, praxis abilities and related social participation. Each item is rated on a 4-point Likert scale according to the frequency at which the behaviour occurs. The 4-point scale includes the following response options: “never”, “occasionally”, “frequently” and “always”. These responses are numerically represented from 1 to 4 depending on the wording of the test item, with 4 always representing a most definite dysfunction. However, for the purpose of interpretation of the results, the SPM manual specifies that a score of 3 and 4 demonstrates a problem or vulnerability.

The SPM Home Form yields a total of eight norm-referenced standard scores, namely ‘social participation’ (SOC), ‘vision’ (VIS), ‘hearing’ (HEA), ‘touch’ (TOU), ‘body awareness’ (BOD), ‘balance and motion’ (BAL), ‘planning and ideas’ (PLA) and ‘total sensory systems’ (TOT). It is important to note that ‘planning and ideas’ is used in the SPM as the lay term for praxis. The standard scores of the SPM make it possible to classify a child’s functioning into one of the following three ranges: ‘typical’, ‘some problems’ or ‘definite dysfunction’. Sensory processing was measured through the use of five system scales, namely vision, hearing, touch, body awareness (proprioception), balance and motion (vestibular). A total score of these five system scales was calculated into the total sensory system score.

The questionnaire was completed by the parents or caregivers, or verbally answered where one of the researchers then filled in the form. A suitable time was arranged with parents or caregivers for completion of the SPM questionnaire at the relevant facilities, as these settings were familiar, accessible and convenient for them.

Analysis of data

The scoring of the response forms was completed by coding the data, combining the total results for each section of the questionnaire and then plotting these raw scores on the Home Form Profile Sheet to obtain the percentiles and T-scores, as well as the interpretative range for each of the eight mentioned areas. The coded demographics questionnaires as well as the coded SPM Home Forms were then analysed.

Descriptive statistics namely medians and ranges, were calculated for continuous data. Frequencies and percentages were calculated for categorical data. The Statistical Analysis software (SAS) version 9.2 was used for analysis. The analysis was done by the Department of Biostatistics, University of the Free State.

Reliability of the study

The reliability of this research study lies in the use of a standardised questionnaire and the fact that the researchers were all formally trained in the administration, scoring and interpretation of the questionnaire. One of the researchers is also an occupational therapist well versed within the field of sensory integration.

Methodological errors

Possible methodological errors were identified and are summarised in Table 1.

<table>
<thead>
<tr>
<th>Possible errors</th>
<th>Ways to address</th>
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<tbody>
<tr>
<td>1. Incorrect interpretation of the questions in the SPM due to uncertainty regarding terms used in the Home Form.</td>
<td>The questionnaire was developed in USA, therefore there could have been terms in the test that were unclear to the participants in South Africa. Although the questionnaire could not be altered in any way as it is a standardised instrument, the researchers were present when the participants completed the form in order to clarify and elucidate on any uncertain terms as this is allowed for clarity according to the administration process of the SPM. This potential methodological error was further addressed by excluding individuals who were not proficient in English.</td>
</tr>
<tr>
<td>2. The inability of the test to effectively identify sensory processing difficulties in the South African population since the test was standardised on children from an American population.</td>
<td>The only other similar instrument that is available was also developed in the USA, but it does not assess social participation and praxis. The researchers decided to use the SPM as the preferred measuring instrument, and were therefore not able to control this factor.</td>
</tr>
<tr>
<td>3. Parents’ own perceptions of questions.</td>
<td>The nature of the standardised instrument requires parents or caregivers to complete a form regarding the child’s behaviour, thus all answers are the parents’ or caregivers’ own perceptions of the child’s behaviour, which could not be controlled.</td>
</tr>
<tr>
<td>4. Incorrect transfer of data.</td>
<td>When making use of a questionnaire data are required to be transferred to a coding form. Consequently, the risk of errors exists during the transfer of data. This was avoided or decreased by including coding blocks on the scoring sheet of the questionnaire that are in line with each question. Data were therefore less likely to be incorrectly captured during coding. A biostatistician then entered and analysed the data.</td>
</tr>
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</table>

Ethical aspects

Permission was obtained from the Ethics Committee of the Faculty of Health Sciences at the University of the Free State to conduct this research.

All other relevant ethical procedures were followed by obtaining permission from the Free State Province Department of Education, the relevant authorities of the educational centres, and the participating parents/caregivers.

Avoidance of discomfort

Due to the sensitivity of the topic under investigation, emotional discomfort could have been endured by the parents or caregivers during the completion of the SPM Home Form and the feedback session. The researchers arranged with a qualified occupational therapist, trained in sensory integration, to be on call during all data collection sessions in case counselling was necessary.
Voluntary participation

Participation in the study was voluntary and participants were informed upon giving consent for participation that they could withdraw from the study at any time without being penalised in any manner.

Informed consent

The proceedings of the research were explained in detail to all participants by means of an information sheet. It was ensured that individuals agreed to participate and signed an informed consent form. All consent documents were made available in the three most predominantly spoken languages in Bloemfontein, namely English, Afrikaans and Sesotho, to ensure that potential participants had a clear understanding of what participation in the study would require of them.

Misleading participation

The participants were provided with an information document prior to providing consent for participation in the study. This document included all information necessary for the participant, such as that compensation would not be provided for participation and that the study included assessment only and did not imply that treatment would be provided by the researchers or any other qualified occupational therapist. This information document indicated that information obtained from the study would be used for research purposes only. Consent was also obtained to publish the findings in a relevant journal and present the results on relevant research platforms.

Privacy, anonymity and confidentiality

To ensure confidentiality, each participant was allocated a participant number which was indicated on their demographics questionnaire, as well as a participant name and number form, and only this number was indicated on the SPM Home Form, which substituted the participant’s name. The name and number form was handled by only one researcher to ensure confidentiality. The researchers had to be able to identify which questionnaire correlated with which participant, in order to provide accurate feedback to the parent or caregiver on completion of the study.

Since the research involved human beings and was required to be conducted in line with ethical guidelines, it was important that the researchers not only provided the parents or caregivers with information regarding the results of their particular child, but also to inform them on the results of the entire study. Scheduled feedback sessions were held, one at each individual institution, after the results were obtained. In instances where a child presented with sensory processing issues, it was in the participant’s interest that the researchers informed the relevant educational facility’s occupational therapist for further attention. This allowed for the issues to be addressed should the parents or caregivers have chosen to do so. A list of names and contact details of qualified occupational therapists practicing in Bloemfontein, was made available to parents or caregivers during the feedback session should they have wished to consult a private occupational therapist trained in Ayres Sensory Integration.

Compensation

Participation in this study was voluntary and the participants were informed before consenting to participation that they would only be provided with compensation for travelling costs to and from the relevant institution, in the case that the travelling was for the sole purpose of the research and not for another appointment/visit. Study participants were also informed that compensation would have a maximum cut-off point.

### Table 2: Demographic information of participants (n=15)

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Participants (n=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9 (60.0%)</td>
</tr>
<tr>
<td>Female</td>
<td>6 (40.0%)</td>
</tr>
<tr>
<td>Median age (range)</td>
<td>8.27 years (5–12 years)</td>
</tr>
<tr>
<td>Home language</td>
<td></td>
</tr>
<tr>
<td>Sesotho</td>
<td>6 (40.0%)</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>6 (40.0%)</td>
</tr>
<tr>
<td>Zulu</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>English</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Setswana</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Relation to the child</td>
<td></td>
</tr>
<tr>
<td>Parent</td>
<td>14 (93.3%)</td>
</tr>
<tr>
<td>Caregiver</td>
<td>1 (6.7%)</td>
</tr>
</tbody>
</table>

### Table 3: Results of the subscales of the SMP for children with Down syndrome 5–12 years of age (n=15)

<table>
<thead>
<tr>
<th>Scales of SPM</th>
<th>Typical n (%)</th>
<th>Some problems n (%)</th>
<th>Definite dysfunction n (%)</th>
<th>Total of vulnerabilities n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social participation</td>
<td>7 (46.7)</td>
<td>7 (46.7)</td>
<td>1 (6.7)</td>
<td>8 (53.3)</td>
</tr>
<tr>
<td>Vision</td>
<td>2 (13.3)</td>
<td>7 (46.7)</td>
<td>6 (40.0)</td>
<td>13 (86.7)</td>
</tr>
<tr>
<td>Hearing</td>
<td>1 (6.7)</td>
<td>6 (40.0)</td>
<td>8 (53.3)</td>
<td>14 (93.3)</td>
</tr>
<tr>
<td>Touch</td>
<td>1 (6.7)</td>
<td>14 (93.3)</td>
<td>0 (0)</td>
<td>14 (93.3)</td>
</tr>
<tr>
<td>Body awareness</td>
<td>2 (13.3)</td>
<td>11 (73.3)</td>
<td>2 (13.3)</td>
<td>13 (86.7)</td>
</tr>
<tr>
<td>Balance and motion</td>
<td>5 (33.3)</td>
<td>8 (53.3)</td>
<td>2 (13.3)</td>
<td>10 (66.7)</td>
</tr>
<tr>
<td>Planning and ideas</td>
<td>3 (20.0)</td>
<td>10 (66.7)</td>
<td>2 (13.3)</td>
<td>12 (80.0)</td>
</tr>
<tr>
<td>TOT* scores</td>
<td>0 (0)</td>
<td>11 (73.3)</td>
<td>4 (25.7)</td>
<td>15 (100)</td>
</tr>
</tbody>
</table>

*TOT* = total sensory systems

### RESULTS

Fifteen parents or caregivers who met the inclusion criteria participated by completing the SPM Home Form questionnaires, and all the questionnaires were eligible for analysis. Table 2 summarises the demographic information of the participants.

Of the 15 study participants, 14 were parents and one was a caregiver. The children had a median age of slightly over eight years, with nine of them being male.

All children scoring in the ‘some problems’ and ‘definite dysfunction’ range were regarded as experiencing vulnerabilities, and although the results of the SPM Home Form of all participants are reported in Table 3, only those scores indicating vulnerabilities will be discussed.

Results regarding social participation indicated that seven (46.7%) of the children scored within the typical range, while eight (53.3%) presented with vulnerabilities regarding social participation.

It was found that 13 (86.7%) of the children experienced vulnerabilities with regard to vision, and 14 (93.3%) children presented with vulnerabilities related to hearing. Fourteen (93.3%) children also presented with vulnerabilities with regard to touch, while 13 (86.7%) children experienced vulnerabilities with regard to body awareness. Vulnerabilities with regard to balance and motion were observed in 10 (66.7%) of the children.

The praxis (planning and ideas) results indicated that three (20.2%) of the children scored within the typical range, while the remainder (n=12; 80.0%) experienced vulnerabilities pertaining to planning of motor action and the generation of ideas regarding body use.
DISCUSSION

Visual input is essential for the integration of various sensations and appropriate functioning at every level of the brain in order to "see" meaning in the environment, especially on a two-dimensional level, for example, the pages of a book. The study found that the majority of the children (n = 13; 86.7%) experienced vulnerabilities with vision. One question in particular indicated that they enjoyed looking at movement, such as spinning objects, which could be interpreted according to the SPM Home Form as "sensory seeking behaviour". This seeking behaviour can at times appear inappropriate to those around them. Although no other studies could be found on sensory processing of visual stimuli as such, the literature does indicate that children with Down syndrome experience difficulties with regard to vision, in terms of visual acuity, refractive errors, strabismus ("squint") and accommodation.

The auditory system contributes to the functions of hearing, speech and language. The majority of the children in this study (n = 14; 93.3%) presented with vulnerabilities in terms of hearing. Although it was reported that some sounds were disliked and could cause distress to individual children, the participants tended to repeatedly engaged in activities that produced certain sounds, such as flushing the toilet, indicating sensory seeking behaviour. These findings are supported by both Chen and Fang who reported that children with Down syndrome generally experienced definite arousal system. Fourteen (93.3%) children experienced vulnerabilities with regard to touch, and preferred touching rather than to be touched. The only comparable study that could be found was conducted by Bruni et al. on the sensory processing of children with Down syndrome aged 3–10 years, who found that children with Down syndrome responded either typically, enjoying sensory play, or with seeking behaviour in terms of tactile input by touching people and objects.

The functional purpose of the vestibular and proprioception systems is to develop effective posture, balance, gravitational security and muscle tone. In previous studies where the SPM was used, muscle tone and flexibility were identified as common problems among children with Down syndrome, and therefore the results of the body awareness and balance and motion scale items should be interpreted with caution. Taking this into consideration, we found that 10 (66.7%) children presented with vulnerabilities in the area of balance and motion. Contrastingly, Bruni et al. reported that movement sensitivity was common in 64% of their study population, and over-sensitivity to movements was experienced by only 13% of children with Down syndrome. Body awareness, otherwise known as proprioception, is a manner through which the muscles and joints receive sensory stimuli to provide information regarding the position and movements of the body and limbs. Eleven (86.7%) of the children in our study experienced vulnerabilities in this area. Common behaviour that was identified, indicating vulnerability, was that the children tended to hold items/objects too tightly or too loosely, contrary to Bruni et al. who found that only 39% of study participants held items too tightly or too loosely.

Praxis is necessary for executing new and novel activities and also for engaging in activities of daily living independently, such as eating, dressing and brushing teeth. With regard to praxis, an area in which 12 (80.0%) of the children in our study showed vulnerabilities, these children found it challenging to build a replica of a model and coming up with new ideas (ideation). Our findings are in accordance with a study by Fidler et al., who also found that children with Down syndrome generally experienced definite dysfunction within this area.

Lastly, social participation forms a part of everyday activities such as play and schooling, and is an important performance area for all children, including those with Down syndrome. The results indicated that the children who participated in this study interacted appropriately with adults, easily joined others in play without causing disruption, and maintained eye contact. It was also reported that they participated acceptably during family outings and gatherings. Comparably, Sadock and Sadock indicated that language had been identified as a relative weakness in children with Down syndrome, whereas social relations had been identified as a strength.

CONCLUSION

This study aimed at determining the sensory processing, praxis and related social participation of children with Down syndrome. Results of this study revealed that 100% of children with Down syndrome experienced vulnerabilities in sensory processing, 80.0% of the children with praxis and 53.3% with social participation. This study is the first of its kind done on a South African population, and the results contribute to the emergent understanding of the sensory processing, praxis and related social participation of children with Down syndrome within the South Africa context. These results need to be taken into consideration by occupational therapists delivering services to children with Down syndrome to ensure optimal intervention. Further research on larger samples is recommended.

ACKNOWLEDGEMENTS

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Corresponding Author

Ms Annamarie van Jaarsveld

gnatavj@ufs.ac.za
Stroke Management and functional outcomes of stroke survivors in an urban Western Cape Province setting

Judy Cawood, BOT (SU), M Phil (SU) — Private practice

Suraan Visagie, BSc Physio (SU), MSc and Phd (Health Sciences) (SU) — Post-doctoral fellow, Centre for Rehabilitation Studies, University of Stellenbosch

ABSTRACT

Introduction: Long-term disability caused by stroke can be decreased through comprehensive rehabilitation. Aim: This article aims to describe the functional outcomes achieved by stroke survivors in an urban Western Cape Province setting to add to the information on stroke management.

Methods: A descriptive mixed methods study was done. Proportional, stratified random sampling was used to select 53 participants from a population of 267. Quantitative data were collected with the Stroke Impact Scale Version 3.0 and the Modified Barthel Index, and analysed with the Mann–Whitney test. A p value of < 0.05 was deemed statistically significant. Five of the 53 participants were purposively sampled for the qualitative phase of the study. Qualitative data were analysed according to predetermined themes.

Results: Seventy-five per cent of participants were managed in a general medical ward. Four were admitted to a specialised inpatient rehabilitation centre. Eighty-three per cent received physiotherapy, 62% received occupational therapy and 57% received both physio- and occupational therapy. Fifty-one per cent experienced communication difficulties, but only 18% received speech therapy.

Conclusion and recommendations: Sufficient inpatient therapy (preferably in a stroke unit /ward) and family education /training should be received before discharge. Occupational therapy, speech therapy, physiotherapy as well as psychological, social work, vision screening and dietetic services should be expanded at both hospital and community level.

Key words: Stroke, rehabilitation, occupational therapy

INTRODUCTION

While stroke often leads to death its true impact has not been realised if the extent of disability (often long term or permanent) is not taken into account. Stroke is ranked 9th in terms of major causes of disability in South Africa. A lack of basic medical and diagnostic services as well as a lack of access to therapy and rehabilitation in middle and low-income settings such as can be found in South Africa, impact negatively on stroke outcomes. These factors can lead to higher than expected mortality and disability rates amongst stroke survivors. According to “The South African guideline for the management of ischemic stroke and transient ischemic attack” by Bryer and colleagues (2011), acute stroke care should be provided by a transdisciplinary team of trained professionals who have a special interest in stroke care, in a designated space, with beds reserved for stroke care. Comprehensive assessments, skilled nursing care, early mobilisation, initiation of strategies to prevent secondary complications, early discharge planning and an early start to rehabilitation, are recommended. These guidelines are not achieved in South Africa: Management of persons with stroke is more common in general medical wards instead of dedicated stroke care wards and stroke survivors are not always referred to therapy.

Stroke can cause multiple impairments which might necessitate a variety of rehabilitation interventions. Therefore it is often necessary for stroke rehabilitation to be provided by service providers from different professions working together, preferably as an interdisciplinary team. Rehabilitation plays a vital role in lessening the effects of impairments and activity limitations and in facilitating the return to active participation in community life and economic self-sufficiency after stroke. A longitudinal, observational study showed a clinically and statistically significant (p<0.01) improvement (mean Barthel Index score improved with 23% from 58.85 to 81.59) in functional outcomes of stroke survivors who received inpatient rehabilitation at the Western Cape Rehabilitation Centre (WCRC). The WCRC is a specialised, dedicated rehabilitation facil-

"The three teamwork approaches referred to in this article are defined here to ensure clarity.

Multidisciplinary teamwork "refers to activities that involve the efforts of individuals from a number of disciplines. These efforts are discipline-orientated and, although they may impinge upon clients or activities dealt with by other disciplines, they approach them primarily through each discipline relating to its own activities".

Interdisciplinary teamwork requires of “individuals...the skills of their own disciplines [and] the added responsibility of the group effort on behalf of the activity or client involved. This effort requires the skills necessary for effective group interaction and the knowledge of how to transfer integrated groups activities into a result, which is greater than the simple sum of the activities of each individual discipline. The group activity of an interdisciplinary team is synergistic, producing more than each individually and separately could accomplish.”

In Transdisciplinary teamwork “one member of the team acts as a primary therapist, with the other members feeding information and advice with regard to management through a single primary person... all borders are broken between the individual professionals.”
ity in the Western Cape province of SA\(^1\). The functional status of 67 stroke survivors, of whom 63 received occupational therapy, was measured directly after admission and within two days prior to discharge. No information on the nature of the occupational therapy intervention or general rehabilitation was provided by the authors; neither was the impact of any of the therapies on function directly assessed.

Unfortunately South African stroke survivors are not always referred for in- or outpatient rehabilitation. None of the 30 consecutively sampled stroke survivors who participated in a longitudinal descriptive study performed in rural KwaZulu-Natal in 2007 were referred for rehabilitation after discharge\(^1\). What little support they got came from community-based workers trained to manage HIV, a visit from a physiotherapist (30%) and consulting social workers (7%). They showed some functional improvement at follow-up assessment three months post discharge, with an average increase of 9% on the Barthel Index, but their ability to do housework and participate in cultural and social activities were severely impaired. In contrast, many of the 196 stroke survivors consecutively sampled between 2004 and 2006 in a district hospital in the Western Cape Metro health district, to participate in a longitudinal, observational study, were referred for in- or outpatient rehabilitation\(^3\). Those who were immobile and dependent for activities of daily living, but with the potential to recover functionally were referred for inpatient rehabilitation, those who were mobile were referred for outpatient rehabilitation and those who were dependent prior to the stroke were referred for home based care. Those referred to outpatient rehabilitation received approximately 30 minutes individual therapy per week or fortnight. (This excluded speech therapy that was unavailable.)

A 2009 study found that 97% of their participants received physiotherapy, 35% occupational therapy and 8% speech therapy in the first 6 months post-stroke, at community health centres (CHCs) in the Western Cape Metro\(^1\). To some extent these findings reflect the availability of service providers. All CHCs in the Western Cape Metro health district provided physiotherapy services, 50% had an occupational therapist, and only 1% had a speech therapist\(^1\). The majority of participants had between one and five therapy sessions.

One South African study, an observational cohort study, statistically analysed the impact of physiotherapy provided at a CHC on the functional outcomes of stroke survivors (n=25)\(^13\). No information on the location of the study is provided. The authors reported that an hour of physiotherapy (exercises including rolling with momentum, bridging, trunk rotation, joint approximation exercises in sitting and standing, ball therapy for shoulder and trunk, hand activities and gait re-education) every fourteen days did not have a clinically (the average mean BI score improved with 5%) or statistically significant impact on the function of participants. The article does not provide any information on whether participants received input from other team members such as an occupational therapist.

**METHODS**

A descriptive mixed methods study with a sequential exploratory strategy as described by Kroll et al\(^14\) was done. Qualitative measures (phenomenology) were used secondary to cross sectional, descriptive quantitative methods, to contextualise and explore the quantitative findings, and to highlight individual perceptions and experiences. The study population included people living in a section of the eastern, sub-district of the Western Cape Metropole Health District, who had strokes in 2009 and 2010, and who had accessed public health services. Participants were at least six months post stroke at the time of data collection since the first six months post stroke is considered to be the period of fastest recovery\(^15\). People younger than 18 and those who received health care and rehabilitation through private health care services were excluded. The study population was identified from the records of a public hospital, CHCs and various non-governmental organisations (NGO). With the assistance of administrative staff at these institutions, 326 potential participants were identified of whom 59 were excluded since they resided outside the study area. This left 267 potential participants of whom 53 were selected to participate in the study through proportional, stratified random sampling. The primary author in consultation with a statistician decided that approximately 50 participants would allow completion of the study within a reasonable timeframe (extensive data were collected from each participant) while ensuring a large enough sample to allow statistical analysis of quantitative data. Strata were formed according to the geographical areas in which people lived to ensure that participants from all communities in the study setting were represented. The names of stroke survivors were placed alphabetically in each stratum and numbered. Random numbers generated by computer were drawn by a statistician for inclusion.

Data were collected by the primary author between March and August 2011. Depending on their choice, data were collected either at participants’ homes or at a central venue. Transport was provided where required. Data collection tools included a data coding form, the Sickness Impact Profile (SIP) Version 3.0\(^16\), and the Modified Barthel Index (MBI)\(^17\).

The 58-item SIP was selected since it is completed by the stroke survivor and provides information from their perspective on eight domains i.e. strength, hand function, mobility, activities of daily living, emotion, memory, communication and social participation, through a five point Likert scale. A score between 0 and 100 can be achieved\(^18\). Duncan et al\(^18\) showed that all SIP domains (Cronbach coefficients ranged from 0.83 to 0.90) bar emotion (Cronbach co-efficient 0.57) have excellent reliability. Validity scores ranged between 0.82–0.84 for mobility and activities of daily living and 0.44–0.58 for memory and communication when comparing the SIP to other tools. Participation domain scores correlated moderately with the Short Form Health Survey (SF-36)\(^18\). According to Carod-Artal et al “…the…SIP 3.0 is a psychometrically robust specific health related quality of life measure that may be useful to evaluate the consequences of stroke in different cultural contexts.”\(^16\)\(^349\).

MBI scoring was done through observation of the activities and according to the guidelines provided by the Australian Government Department of Health\(^10\). For certain domains (bladder and bowel) where it was not possible to observe the activity, self-reported was done by the index person (stroke survivor) or the proxy care-giver. The MBI assesses 10 domains i.e. personal hygiene, bathing, feeding, toilet, stair climbing, dressing, bowel and bladder control, ambulation, wheelchair mobility and transfers\(^20\) and is often used in studies with stroke survivors\(^21\). Items are scored numerically to a maximum of 100. Scores of 0–24 denote total dependency, 25–49 severe dependency, 50–74 moderate dependency and 75–90 little dependency\(^20\). Internal consistency and validity of the MBI is well established as excellent\(^21\).

Although the primary author, who collected all data, speaks a limited amount of isiXhosa and has a reasonably good understanding of the language, a translator was used with isiXhosa-speaking participants to ensure questions were clearly understood and answers were interpreted correctly. Quantitative data were entered onto a spreadsheet and statistically analysed with STATA. Data were analysed to provide descriptive statistics (range, means and standard deviations) and statistical significance was determined using the Mann-Whitney test. A p value of <0.05 was deemed statistically significant.

A homogeneous group of five participants (two women and three men) was purposively sampled for the qualitative phase of the study. This was based on the perception of the primary author that they would be able to provide rich, nuanced information which could enhance understanding of the quantitative figures. Their ages ranged from 44 – 69 years. They had varying functional ability, from needing assistance with all activities to being totally independent. One was employed. Three of the participants had their spouses present who acted as proxy respondents. These
three participants were encouraged to participate in any way they could. (E.g. A participant with aphasia was asked to raise her hand if she did not agree with what her husband said.) Data were collected through semi-structured interviews guided by an interview schedule that focused on the following aspects:

- Causes and prevention of stroke.
- How they managed at home.
- Role and importance of therapy and rehabilitation.
- Access to therapy and rehabilitation.
- Sufficiency of therapy and rehabilitation.

Qualitative data were analysed through content analysis by the primary author according to predetermined themes based on the study objectives. The themes were:

- Participants understanding of the causes and prevention of stroke (not dealt with in this paper).
- Environmental barriers experienced by participants.
- Therapy and rehabilitation received by participants.
- Participants perception of therapy and rehabilitation.
- Barriers to accessing therapy and rehabilitation.

On reading the transcripts, narratives that addressed specific themes were coded. These were then ordered under the themes.

Participation in the study was voluntary and participants signed informed consent forms in order to participate. They were assured that all personal or identifying information would be kept confidential. Approval for this study was obtained from the Committee for Human Research at Stellenbosch University (Ethics clearance number: N10/11/375). Permission to acquire the names and contact details of people who had strokes in 2009 and 2010 was obtained from the Western Cape Department of Health, the relevant points of service delivery and NGOs. To minimise selection bias, the primary author accessed various sources in order to identify as many uninsured people who had strokes in 2009 and 2010 as possible. In addition, stratified random sampling was used, to ensure inclusion from participants of all communities since services and access might differ in the different communities. The SIS and MBI are reliable valid instruments as discussed earlier. The purpose of the qualitative data was to provide possible explanations and further explore quantitative findings. Thus the traditional practices of ensuring rigour, such as data saturation and member checking were not done. Triangulation of the different methods showed that qualitative findings confirm quantitative findings and thus enhanced the credibility of the findings.

RESULTS

Demographic profile
The ages of the 53 participants ranged from 29-years to 94-years old. The mean age of participants was 62.56 (SD 12.08). Educational levels were generally low, with 45% of participants having a primary school education and 11% having no formal education. Poverty was common with 57% of households surviving on less than R3 000 per month. Table 1 provides further demographic information of study participants.

Hospitalisation during the acute phase
Initially the majority of participants (40; 75%) were managed in a general medical ward at the district hospital in the study setting, while six (11%) were managed as outpatients at CHCs. Four (8%) accessed a tertiary hospital, two (4%) did not seek immediate medical intervention and one (2%) was first managed at a private hospital and then transferred to a government hospital. As indicated in Figure 1, 42% of participants were hospitalised for more than 14 days while 19% were not admitted to a hospital after the stroke.

Functional scores
The mean SIS score was 48.3/100 (sd 29.4). Scores ranged between 0 and 98. Mobility scores (as determined by the ability to balance in sitting and standing, move from bed to chair, walk indoors, walk/propel one block, climb one and more flights of stairs and get in and out of a car) ranged from 0 to 100 with a mean of 51.5 (sd = 28.6). The mean score for the Modified Barthel Index was 70.58 out of a possible 100 (Range 0 – 100). Figure 2 (on page 24) shows that more than 70% of participants were independent or only needed a little assistance with feeding, toileting, bladder and bowel control, walking and transfers. The two domains that created challenges for the largest number of participants were ‘wheelchair mobility’ and ‘stair climbing’.

Therapy and Rehabilitation
Physiotherapy was the most common therapy intervention with 83% of participants receiving physiotherapy as in- and/or outpatients. This was followed by occupational therapy, received by 62% of participants as in- and/or outpatients. Fifty seven percent of participants received both physiotherapy and occupational therapy. Seven (13%) participants reported that they received a home visit from an occupational therapist or physiotherapist. While SIS scores indicated that 51% of participants had some form of speech and communication difficulty post stroke, only 18% received speech therapy. The importance of speech therapy and the lack thereof in the study setting was highlighted by qualitative findings.
Speech therapy is very important. It is one of the first things that must be attended to after a stroke so that the patient can communicate... It is very difficult to get an appointment with the speech therapist at the hospital. One of the most difficult things at the State Hospital: perhaps you will get an appointment and that will be in about three months’ time. I can’t see how one appointment in three months can help. (Husband of 45-year-old female participant)

Input from social workers and dieticians were also limited (Figure 3). None of the participants received any intervention from a psychologist. With regard to hours of input none of those who did receive speech therapy, social work and dietary intervention received more than five hours’ intervention. Fewer than 20% of participants received more than 10 hours physiotherapy and occupational therapy respectively (Figure 3).

The average BI and SIS mobility scores of the participants who received occupational therapy at CHCs were higher than those who did not receive OT. BI average scores of those who did not receive OT were 62 versus 84 for those who did receive OT. SIS mobility average scores of those who did not receive OT were 44 versus 63 for those who did receive OT. The difference was statistically significant (BI; p = <0.01, SIS mobility; p = 0.02). Those who received physiotherapy at CHCs did not show statistically significant higher functional scores as measured by the BI (p = 0.04). However, clinically, participants who received physiotherapy had higher average BI scores than those who did not receive (74 versus 67). Those who received physiotherapy also did not have a statistically (p = 0.78) or clinically higher mobility score as determined by the average SIS scores (50 versus 52.5). Those who received both physio- and occupational therapy at CHCs had an average BI score of 82 versus a mean score of 76 for those who did not receive both therapy interventions. BI scores for the group who received both therapies ranged from 32 - 100 and for those who did not receive both interventions scores ranged from 0 - 100.

Lack of access to ophthalmology and/or optometry services further created challenges for many participants. Vision impairments were common and included hemianopia (8%), double vision (6%), diabetic retinopathy (11%), cataracts (19%) and progressively poorer vision with age (66%). This was recorded as presbiopia, but would need to be confirmed by an ophthalmologist as it is possible that these vision impairments could be related to cataracts, diabetic retinopathy or other visual impairments. Participants struggled to access vision services and at the time of the study the study had to travel approximately 35 - 50 kilometres (depending on where they were living) for vision testing and obtaining spectacles through government services.

Comprehensive inpatient rehabilitation

According to participants, ten (19%) of them were referred for comprehensive rehabilitation at an inpatient rehabilitation centre about 40km from the district hospital. Of these, four were admitted. Reasons for non-admission given to participants included:

- The stroke not being serious enough: They told us it is only for people with more serious strokes – people that can do nothing for themselves. (Wife of 54-year-old participant.)
- That the centre was only admitting younger people with the potential to return to work.
- The centre was at capacity and there were no beds available.

Transport challenges also made it difficult for participants to access the facility.

According to a doctor at the rehabilitation centre, the centre admits patients from all over the Western Cape Province and is often at capacity. The centre does have admissions guidelines and preference is given to clients who require input from three or more disciplines, have the potential to return to work, require comprehensive rehabilitation, and/or do not have access to alternative rehabilitation services.

Reasons for not receiving therapy

Where therapy services were available, 55% of participants reported lack of referral or knowledge of the service as the reason for not receiving therapy:

If this happens for the first time – you are in the dark. You are somewhere where you have not been before. Now what is the next step? Is there someone that can help? You hear how someone says you must go and see that person. Guidelines – not just on paper, but that are practical – if you go from A to B that person will help you and tell you what the next step is. (Husband of 45-year-old female participant)

Transport created further barriers: 25% of participants did not receive therapy or only attended a few sessions because of the cost of transport while 23% said they had no transport. Thirteen percent of participants specifically reported on the lack of transport for wheelchair users.

Other reasons included:

- Caregiver strain.
- No one to accompany the person.

Transport created further barriers: 25% of participants did not receive therapy or only attended a few sessions because of the cost of transport while 23% said they had no transport. Thirteen percent of participants specifically reported on the lack of transport for wheelchair users.

Other reasons included:

- Caregiver strain.
- No one to accompany the person.
• The stroke survivor was too weak to go out or was not feeling well.
• Difficulty transferring and pushing overweight people to CHCs in a wheelchair.
• Other responsibilities like caring for grandchildren.
• Dissatisfaction with therapy. Reasons included therapist not keeping appointments and therapy being painful.

DISCUSSION
Current study participants were admitted to general wards of various hospitals and not managed in specialised units that provide organised stroke care by teams of suitably trained service providers, the gold standard for acute stroke management. While mean and median length of stay could not be determined from the data (answer options did not reflect precise numbers of days), it seems from Figure 1 as if length of stay might be in line with findings from two studies in the Western Cape Province, published in 2013 and 2011 respectively: mean inpatient length of stay of 10.4 days in a tertiary hospital and median length of stay of 8 days in a district hospital with a six bed stroke unit. A 2009 study in rural KwaZulu-Natal found an average inpatient length of stay of 6 days.

A short length of stay allows very little time for modification of the impairments, learning of compensatory strategies and training and education of family members and carers. In addition, difficulty getting off work, transport challenges, the condition of the stroke survivor and the initial shock experienced by family can combine to provide little opportunity for effective education and training. Family members must be actively involved in education and training, which should be provided on more than one occasion. In some instances current study participants/caregivers didn’t think physiotherapy/occupational therapy was necessary. The reasons for this are unclear. It might be that they did not understand the benefits, or that caregivers were so overwhelmed with day-to-day responsibilities that they were disinclined to make the effort to access existing rehabilitation services.

The information provided earlier on the lack of services at community level, and the finding that very few participants were actually admitted to the provincial rehabilitation centre, highlights two critical needs: for stroke survivors to receive as much inpatient therapy as possible during their stay in the acute hospital, and for family to receive sufficient education and training before discharge occurs. Early identification and treatment of certain lines and has shown improved outcomes in terms of decreased mortality and a lessening of anxiety and depression after stroke. Inpatient rehabilitation could further support improved outcomes as according to Walker et al, optimal recovery after stroke requires specialist hospital care in the acute phase and coordinated rehabilitation for many months after discharge. Acute care can be supported through the establishment of a stroke ward as described by De Villiers et al in a different secondary hospital in the same health district. According to the authors this was done with no extra staff and at no extra cost. Service delivery in this ward was based on the stroke management guidelines and has shown improved outcomes in terms of decreased mortality and more referrals for inpatient rehabilitation. Further exploration is needed to determine the way community stroke care should be organised in terms of type of provider, optimal length and intensity of interventions as it is unclear. Community stroke care in South Africa is often provided through therapists employed at CHCs. Current findings showed that these services seemed to be clinically beneficial. Established NGOs can play a positive role in counselling, providing a link between family and health care team and assessing the home circumstances and financial situation of stroke survivors. With their knowledge of the person’s socio-economic circumstances they are also ideally placed to advise the team on which patients need priority admission to inpatient rehabilitation facilities or should stay longer in hospital.

As visual impairments were common and vision problems greatly compound the difficulties faced by stroke survivors, the lack of services for visual screening is something that needs to be investigated further. Early identification and treatment of certain conditions can prevent blindness. Various visual aids can promote involvement in activities and promote participation in life situations. The study is not without limitations. It is generally accepted that the larger the sample, the greater the validity of a study and 53 participants may be considered a relatively small sample, especially since no power calculation to determine sample size was done. Due to the nature of the response options in the demographic data collection tool mean and median length of stay could not be determined. The amount and type of therapy or intervention received (physiotherapy, occupational therapy and speech therapy) and assistance from psychologists, dieticians and social workers were mostly obtained from information provided by participants and caregivers. Where uncertainty or discrepancies were apparent the researcher did verify information with the relevant facility or therapist with the permission of the participant. These limitations must be kept in mind when considering the conclusion and recommendations.

CONCLUSION AND RECOMMENDATIONS
The many challenges faced with regard to stroke care in South Africa - management of stroke survivors in a general medical ward, no dedicated beds, no or limited treatment protocols, lack of funding and human resources, early discharge due to pressure on bed numbers, too few neurological rehabilitation centres with demand exceeding supply, and limited therapy at community level - were all evident in the current study.

The feasibility of forming a stroke unit/ward at district hospitals according to guidelines provided by De Villiers et al should be in-
vestigated through further study. In the interim it is recommended that stroke survivors spend longer time as inpatients and receive stroke care in accordance with the guidelines published in 2011. Carers need to be involved actively with rehabilitation and receive training from physiotherapists and occupational therapists to assist from an early stage with mobility, transfers, and activities of daily living. A specific team member needs to be given the responsibility of contacting family members and ensuring that caregivers do come to the hospital to receive the necessary guidance and training. In particular, a concerted effort needs to be made to ensure that stroke survivors requiring comprehensive rehabilitation are referred and admitted to a rehabilitation centre.

Occupational therapy services in this and similar settings should be strengthened, expanded, and made accessible to more clients. This then would imply motivating for an increase in numbers of occupational therapists, as the study done at community health centres in the Western Cape Metro revealed that not all facilities that provided services to stroke survivors had an occupational therapist on staff.

Considering the devastating effect that speech and language disorders have on stroke survivors and caregivers it is imperative that speech therapy is available to stroke survivors. In view of the difficulties experienced with transport it would seem particularly important that these and other rehabilitation services be available at CHCs and clinics within various communities.

The prevalence, prevention and treatment of vision problems amongst uninsured populations in South Africa should be investigated in future studies.

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Corresponding Author
Judy Cawood
judycawood@gmail.com
A qualitative exploration of the characteristics and practices of interdisciplinary collaboration

Maria West
Occupational Therapy Honours Student, International Centre for Allied Health Evidence, School of Health Sciences, University of South Australia

Kobie Boshoff, BOT (UP), B Sc Psych (Hons) (UNISA), MA (AAC) (UP), PhD (UP)
Senior Lecturer: Occupational Therapy Programme, International Centre for Allied Health Evidence, School of Health Sciences, University of South Australia

Hugh Stewart, M App SC OT, B Ed, B App Sc OT (University of South Australia)
Programme Director: Occupational Therapy Programme, International Centre for Allied Health Evidence, School of Health Sciences, University of South Australia

ABSTRACT

The Children’s Centres in South Australia are examples of settings requiring the effective collaboration of disciplines from diverse backgrounds, such as staff from education, health and welfare. Working together across different professional groups is complex and challenging. Existing literature describing collaboration in early childhood settings focuses on exploring the concept from a single professional perspective, with limited exploration from multiple professional perspectives. The aim of this study was to describe the characteristics and practices of collaboration in well-established Children’s Centre teams from multiple professional perspectives. It is anticipated that this description can result in strategies for other teams in similar interdisciplinary settings.

A systematic review was conducted summarising the literature on the characteristics and practices of collaboration in Children’s Centres, followed by a descriptive qualitative study. Team members from two centres participated in focus groups, thematic analysis was undertaken and findings of both phases were integrated.

Characteristics and practices that support constructive teamwork were identified, with the central theme of leadership and the inter-related sub-themes including: development of team cohesiveness; supportive team processes, as well as working within and between government departments. The study contributes to the understanding of the complexity and inter-relatedness of the characteristics and processes involved in collaboration, highlighting the importance of leaders in supporting the collaboration of disciplines from different professional backgrounds.

Key words: collaboration, teamwork, Children’s Centres, qualitative, early childhood

INTRODUCTION

Providing integrated services by a variety of professionals such as from the fields of health, education and welfare, is a growing trend in children’s services internationally11. In South Australia, such an example is the Children’s Centres for Early Childhood Development and Parenting, referred to as Children’s Centres. These centres are funded by the state Department for Education and Child Development.

In Children’s Centres, multi-disciplinary teams work within an educational paradigm addressing families’ health, education and welfare needs. An integrated service approach aims to provide an early intervention focus to support the child within the family, resulting in increased support for families, decreased vulnerability and better outcomes for children1,2,3. The centres are generally located in areas where a high percentage of children are considered vulnerable and where families report a lack of access to many services1. Some of these vulnerabilities include children at risk of developmental delays; children with disabilities; children and families from indigenous or multi-cultural backgrounds and those under guardianship of the Minister1. Similar settings occur internationally for example, in England the Sure Start Children’s Centres, Toronto First Duty Sites in Canada and Early Head Start and Head Start, in the USA.

Providing a range of services integrated into a single setting and within a collaborative service framework is considered an effective service delivery model for complex and vulnerable population groups2. The team members at the South Australian Children’s Centres vary depending on determined needs of the community. Each centre has a Community Development Coordinator and a Director. Other team members may include a Family Services Coordinator (with a focus on child welfare), Allied Health staff (occupational therapists and speech pathologists), as well as Child and Family Health nurses, Education staff and Childcare workers3, amongst others3. The team members may come from different agencies. An inter-agency agreement exists for Allied Health staff, employed by the Department of Health, to deliver a tailored Children’s Centre Programme. The Department for Education and Child Development is responsible for the operational management of each Children Centre site.

Collaboration involves different professionals working together to improve outcomes for clients. Collaboration in health care is defined as “the process in which different professional groups work together to positively impact health care”4,5. Findings from studies within a combined health and education setting suggest that collaboration is considered desirable and necessary for successful client outcomes6,7,8,9. The importance of collaborative practice in teams with health professionals can be linked to the association shown between good collaboration and increased patient satisfaction10, staff satisfaction11, clinical outcomes10 including perceived effectiveness of practice11, and greater patient outcomes10,12. Good collaborative practice is however difficult to achieve across Health
and Education settings\(^5\). Whilst literature regarding collaborative practice related to health settings is available, less is known about collaboration spanning across different organisations and professions such as health, education and other professions.

Primary research on understanding the characteristics and practices related to this new and innovative setting within Children’s Centres in South Australia is limited, especially in regards to teams that work across a variety of disciplines in these centres. The purpose of this research project was to provide a description of collaboration in these centres, specifically in regards to characteristics and practices of well-established teams from multiple discipline viewpoints. It was anticipated that an increased understanding will enable the development of strategies for teams in similar settings.

**METHODOLOGY**

This study was conducted in two phases: Phase 1 comprised of a systematic review to explore the documented characteristics and practices of collaboration in Children Centre teams. In Phase 2, a qualitative descriptive approach was employed to gain a rich description of the topic of interest and to enable an understanding through the experience of the participants\(^13,14\). In this case, the rich description relates to the team members’ experiences at South Australian Children’s Centres. Focus groups are commonly used in descriptive qualitative research\(^15\) and were chosen due to the opportunities they provide for the collection of a vast range of information, as well as to gain the collective group perspective\(^16\) from team members’ multiple viewpoints.

**Phase 1: Systematic review**

The search terms for the review included:

- Inter-professional collaboration, interdisciplinary, intra-disciplinary, teamwork, collaboration, cooperation, interagency, agency cooperation, integrated services
- Children’s Centres or Sure Start, or Toronto First Duty Site, or Head Start


Figure I depicts the PRISMA Flow Chart\(^17\) to illustrate the search results and selection process. Inclusion criteria for articles were as follows:

- Peer-reviewed journal articles
- A description of practices and/or characteristics of collaboration or team working at the centres
- In English
- Obtainable through the University of South Australia library
- Included staff working at either a Children’s Centre; Toronto First Duty site, Sure Start site or Head Start site
- Had at least one Allied Health staff member as part of the team (to capture diversity in professional groups)

The selection and critical appraisals were conducted by two independent reviewers. During the critical appraisals, the McMaster University Critical Review Forms\(^18\) were utilized as well as the three items recommended by Pluye, Gagnon, Griffiths et al.\(^19\) for mixed methods research designs. Full agreement for both selection and critical appraisals were reached. Seven publications were included in this review. Data extraction was performed by the first author with review by the other authors.

**Phase 2: Focus groups**

**Sampling and Recruitment**

Purposive sampling\(^20\) was used, with specific inclusion criteria utilized to identify the centre teams. In order to enable information to be gained from interdisciplinary teams, Allied Health staff needed to be part of the team, in combination with any of the other disciplines. The team therefore had to include at least one Allied Health member (occupational therapist or speech language pathologist).

In addition, in order to ensure that experiences are gained from well-established teams, 50 percent of the team members must have been working at the centre for longer than 12 months.

The Allied Health Programme Coordinator purposefully selected two sites that met these criteria. Individual team members were invited to participate in the study by the Allied Health Programme Coordinator. Participants indicated their informed consent to the researcher, who had an independent relationship with the potential participants. The University of South Australia provided ethical approval for this study.

**Descriptions of Participating Teams**

Two teams participated in this research, each had four team members. One additional team member could not attend the focus groups and chose to provide responses in written form. The composition of the teams varied, but combined were comprised of the following disciplines: occupational therapy, speech language pathology, education, welfare, community development and nursing.

The duration of staff working at the sites ranged from six months to five years, with the majority working there for two to three years. Both centres were in low socio-economic areas. Statistics show that 20 percent to 23 percent of children attending the sites were considered vulnerable in one or more developmental domains\(^21\).

**Data Collection**

The framework provided by the Office of Education and Practice (OIEP)\(^22\) was utilised to develop the focus group questions – see Figure I: PRISMA Flow Chart. Adapted from Moher et al\(^17\).
The domains of the OIEP were created to provide guidance to steer education in healthcare teams.

The domains included mission and goals; relationships; leadership; role responsibilities and autonomy; communication; decision-making and conflict management; community linkages and coordination; perceived effectiveness and patient involvement22, 19.

A pilot focus group was initially conducted at a centre site not included in the main study, to test questions and group procedures, and subsequent changes were made to ensure that data were collected in line with the research aims.

The focus groups were conducted at the site location. Data were audio recorded for transcription and thematic analysis. Each focus group took between one to two hours. In both of the focus groups, the primary researcher led the group, with another researcher present to act as moderator and assistant. Field notes were taken during the focus group, to document observations such as team members’ non-verbal behaviour during the focus group.

**Data Analysis and Procedures**

A verbatim transcription of the audio data from each site was produced4, 20, 23. The field notes and observations were added to the transcription24. Thematic analysis was used to analyse data, which involved identifying themes and patterns from the data23.

Analysis was completed in sequential stages, as suggested in the literature24. Each transcript was read twice. From the second reading, notes or memos were written in the margin, consistent with guidance from literature24, 25 using line-by-line coding24, staying as true to the original data as possible and allowing for themes and categories to emerge23. Reflective practice was adopted26, particularly being mindful not to assume categories24. A second researcher analysed the data independently. Both researchers discussed themes and full agreement was reached. An audit of decisions made was kept. A summary of the themes and categories was prepared and distributed to the sites for member checking. The transcripts and summary documents were compared for similarities and to determine the final themes.

In the final analytical process, results from both the systematic review and focus groups were combined and integrated.

**RESULTS**

**Phase 1: Systematic review**

Seven studies met the selection criteria and were included in the review, all from Children’s Centres in the UK. The seven studies provided relevant background information and stated a clear purpose, provided in-depth discussion of the findings, made relevant conclusions and contributed appropriately to this review. The results of the critical appraisals indicated that the studies provided limited information relating to the context of each site discussed, for example the cultural population groups of each centre, the socio-economic status and how long the centres have been in existence. In considering the context, the UK centres are similar to the South Australian centres, in that they have been set up in locations considered to experience socio-economic disadvantage.

Four themes emerged from the data extraction and are provided in Table 1, namely: organisational aspects, working relationships, internal processes and working with external agencies.

**Phase 2: Focus groups**

The teams provided a rich description of characteristics and practices utilised by them. An overarching theme was identified: leadership that supports collaborative practice. This central theme was supported by three sub-themes: development of a cohesive team, supportive team processes and working within and across government departments.

**Leadership that supports collaboration**

Participants noted that leadership is important for facilitating constructive collaboration. The following quote highlights the influence of leadership: If you’ve got positive work culture from leadership down, most people will pick up on that. This theme was central to the other sub-themes, since leadership was described as playing a significant supporting role in enabling the other characteristics and processes to occur.

**Development of a cohesive team**

One team described themselves as a cohesive team, with personalities that want to work together and are committed to building the team. This cohesiveness was evident in the discussion with frequent laughing, gentle banter and supportive comments. This

<table>
<thead>
<tr>
<th>Phase 1: Systematic review theme and supporting review article</th>
<th>Phase 2: Corresponding focus group theme</th>
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</thead>
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<tr>
<td>Organisational aspects:</td>
<td>Leadership that supports collaboration (central theme)</td>
</tr>
<tr>
<td>• Working towards government targets</td>
<td>Working within and between government departments:</td>
</tr>
<tr>
<td>• Systems for collecting and sharing of information</td>
<td>• Funding from various sources</td>
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<td>• Shared funding structures from various sources</td>
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<td>• Co-location of professionals in same building</td>
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<td>• Leadership</td>
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<td>Internal working relationships</td>
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<tr>
<td>• Valuing and respecting each others’ knowledge</td>
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<td>• Sharing a sense of worth, vision and adventure</td>
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<td>Internal processes:</td>
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<td>• Referral processes</td>
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<td>• Shared interprofessional learning</td>
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Table 1: Combined results of Phase 1 (Systematic review) and Phase 2 (Focus Groups)
team also identified that they are flexible in sharing and learning from each other and value and respect each other’s contributions, including not overstepping boundaries. The teams articulated the characteristics of having a shared belief system, shared framework of understanding and shared purpose. The purpose was articulated as working together to provide support to children and families in their local communities. The following quotes provide examples:

And the beauty of our team, is that we all have our specialised areas that we all work within and all bring that to the whole.

We really value each other’s contributions and if we are not sure we all feel comfortable to go and speak to whoever in their role and we … share that information within a framework of shared understandings which I think makes us very strong in what we do.

Supportive team processes and structures
Processes discussed by the teams which facilitate team work include: building relationships within the team, informal discussion, meetings and team planning, building relationships with external agencies and families, referral processes and conflict resolution.

Building relationships within the team
The teams emphasised how important trusting relationships and good communication are for effective teamwork. The following quotes illustrate the theme:

A lot of communication is about the relationships you build.

I think a really important part of that is being present face to face to establish those relationships because of course, we have other ways of communicating as well by email and phone and so on, but until you have those relationships, you can’t have effective communication.

A challenge mentioned is where some staff, like Allied Health staff, spread their time between more than one Children Centre site, thus limiting their availability at each site. This impacts on the practices of building relationships as those team members have less time to collaborate within the team. Additionally, working across various sites means those team members need to adjust to working within multiple teams. The following quote highlights this: … working part time across different sites, different processes, different cultures, walking into a different workplace every day.

Some examples of practices used to build relationships include: informally sharing ideas and advice, running groups together, sharing the care and promoting the services to others together. In some instances, team members engage in joint visits to give different professional perspectives. One site discussed having occasional social events, such as lunches to bring everyone together. Whilst these are not done on a large scale, the team reports we do enough to keep the team feeling cohesive. Learning through team training days were emphasised as being valuable at one site.

Informal communication
Both sites recognised that most of their team’s communication happened on an informal basis. Informal discussion as a practice provides opportunity for information sharing, generating and sharing ideas, planning, inviting team member participation and relationship building. These tend to occur when trust and respect is there and when team members are open to engage in discussion. This is illustrated by the following quote:

I think most people are open to new ideas at the site. Like in having conversations with people about new programs and things like that – people are open to having a discussion.

Physical space is an important consideration for informal discussion. Debriefing sessions at one site occur regularly, particularly on the couch, over coffee. The open plan structure of both sites creates opportunity for team member discussion and collaboration on an informal basis. However both sites suggested that the separation of buildings between the Children’s Centre and the preschool created a sense of division. Informal discussion tends to happen throughout the day and can be a way to overcome some of the separation.

Whilst it is recognised that team members cannot be interrupted whilst engaged in running groups, the lunchroom is recognised as an effective space for informal discussion. The following quote illustrates this point:

We do get to talk around the table in the lunchroom and everyone’s got fairly good relationships in the centre so we do talk between ourselves and you know make it a, everyone makes it priority to know what’s going on.

Having staff available for informal discussion can be a challenge. One site suggested that whilst the lunchroom was opportune for catching up, it was difficult if team members were not on a break at the same time, or where staff members’ hours do not permit a break.

Meetings and team planning
Meetings are common practice of both sites. One example is site meetings that provide a platform for team members to get together, share ideas, create plans and discuss happenings at the site. One site discussed having fortnightly Case Review meetings, providing opportunity for team members to case manage clients. All meetings characteristically tend to be casual rather than formally structured.

However, whilst meetings are noted as valuable and give you a lot of energy to keep going again, both sites highlighted that the challenge of meetings relates to time and availability. Coordinating their timetables is challenging, with competing appointments. Allied Health staff members tend to be part-time and are required to work across a number different sites, according to their employment requirements. This arrangement is different for Allied Health staff compared to most other professions in the centres. Allied Health staff therefore may not make it to scheduled meetings. Consequently team planning, idea sharing and contributions from all team members in meetings are limited. A further challenge suggested by one site is sharing information from meetings with all team members. Formal processes such as minutes have been attempted, but prove difficult to get going.

Team members have an expectation to be at their own professional meetings. Whilst this provides an opportunity for planning and information sharing, a complication for the Allied Health staff members is that they are not allocated time for these sessions. Therefore, the time is often taken from the limited hours they have at the site. This impacts on team collaboration. As one team member pointed out:

Probably does feel a bit unfair for these teams at times cos I’m not around in that late afternoon time sometimes where some of that collaboration about future programs and current programs does happen.

Building relationships with external agencies and connecting families
Collaboration and building of relationships with external agencies is an ongoing practice for Children Centre teams, where the relationship can benefit clients. One site suggested that their good reputation with external agencies resulted from the good relationships, which had been built:

It comes back to relationships, I think we are very fortunate here that we have a good reputation from other agencies about the staff here and … care that the children get and the professionals that work here. So people are keen to be a part of our centre.

Some of the examples of collaborative activities with external agencies include external agency run programmes, playgroups or holiday programmes at the centre, which may also include volunteers or support from non-government organisations. Part of dealing with external agencies occurs in the practice of partnership group meetings, which may include representatives from various agencies, community organisations and members from other Children’s Centre sites.

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Building relationships with families is fundamental for site success. As suggested at one site: It’s about relationships you build to support families. One way of building these relationships, as mentioned by participants is through parent/carer input into the term calendar. Parental involvement assists to ensure programmes reflect the needs of children or families. Building relationships also involves reaching and maintaining connections with vulnerable families and connecting them with appropriate services.

Referrals
Children’s Centre referrals commonly occur both internally and externally. One team acknowledged that their referral practices work well, due to team members being knowledgeable about the services available and sharing the information with others. Team members use processes such as completing written applications for referrals. The referral process may however start with an informal process first before continuing on to a more formal process. This informal process may depend on the availability of staff members to discuss the referral or the preferred working style of the team member.

The centre is sometimes a starting point for families. Team members may frequently refer to each other and can provide direction and referral for additional services. For example, the Allied Health staff may refer children/families for specific therapy either through General Medical Practitioner centres, privately operated services or government funded disability organisations. Some referrals to external agencies may require team collaboration, particularly around terminology and therefore team members may assist each other with form completion.

Conflict resolution
Conflict resolution processes are in place. Firstly, team members are encouraged to talk to the person concerned, and then if the conflict continues, managers are called upon. A difficulty with the latter aspect is that team member managers are not located within the site and therefore may not understand the dynamics of the conflict. One site mentioned additional strategies for addressing conflict, include debriefing and seeking ongoing peer support from own professional groups and informally chatting with other team members.

Leadership that supports collaboration

Team processes and structures that support collaboration

Development of a cohesive team
(shared belief system, team identity and purpose, respect, recognition, value individual contributions, committed, shared learning and understandings)

Working within and between government departments
(funding, employment arrangements)

Characteristic and practices of interprofessional collaboration

Figure 2: Identified Team Characteristics and Practices in Well-Established Children Centre Teams derived from Research Phase 2

Working within and between government departments
The last theme relates to a key characteristic and some challenges impacting on teams, identified by participants within the theme of “working within and between government departments”. Participants identified the ability to work within the framework provided by an individual team member’s own employing department, whilst fitting in with the other team members’ departments’ cultures. One example given was related to leadership. Leadership comes from a variety of sources. For Allied Health staff, this includes leaders from an educational background, as well as leaders from a health background. Differences in leaders’ backgrounds and priorities, can create challenges for team members to deal with. Site management is provided by leaders from an educational background, thus shaping the culture of the site. Team members from other backgrounds, need to fit in with this educational focus, whilst simultaneously following the guidance from their own department.

Other examples provided revolved around perceived differences and inequalities between agencies in regards to priorities in spending of consumables and services budgets, which can create conflict in teams. Professional accreditation requirements was mentioned, as an example, where one profession may have a specific requirement related to hygienic procedures to be followed and the use of related consumables, which may incur extra costs for a site. If the requirement is not an accreditation aspect of team members from other departments, it may not be given the priority that it needs and may become a challenge for the team to deal with.

Integrated results of Phases 1 and 2
The results from the systematic review and focus groups were combined (displayed in Table 1) and integrated (displayed in Figure 2). The table illustrates how the focus group results support and extend the review results and show the inter-relatedness of the characteristics and practices. The focus groups conducted in the South Australian Children Centres highlight the important overarching influence of leadership to support collaborative practice and illustrate the themes of working within and between government departments, as well as conflict management.

DISCUSSION
This study has provided a description of the complexity and inter-relatedness of characteristics and practices involved in the collaboration in well-established Children’s Centre teams. The significant role of leaders was highlighted and emerged as central theme in this current study. Coleman, Sharp and Handscomb identified in their study the leader behaviours of highly performing Children Centres in the UK. Our characteristics and practices of collaborative practice in South Australian Children Centre teams are encapsulated by a number of the leadership behaviours mentioned by Coleman, Sharp and Handscomb namely: having a clear and shared vision; facilitating open communication and embracing integrated practice (which includes use of common team processes).

The development of team cohesiveness has been identified
as a characteristic of collaborative practice in centres and is supported in literature focussing on health-education teams. Authors such as Boshoff and Stewart, articulated the need of Children Centre teams to develop as an identity in itself, consisting of the sum of the different team members involved. These authors emphasise the need for commitment of all team members to the team. The current study identified the need for a shared purpose and framework of understanding. Coleman, Sharp and Handscomb in their study found that effective Children Centre leaders “pro-actively championed constructive and inclusive approaches to integrated working within teams from a range of professional backgrounds”. These leaders actively strived towards building high levels of trust amongst different professionals. They recognised variations in professional backgrounds and culture and worked to overcome related barriers. Approaches used by leaders included building shared understandings, appreciating each other’s cultures, pressures, challenges and priorities.

The review illustrates that studies from the UK Children Centres indicate that success is dependent on a variety of leadership styles, including efficient and inspiring leadership and leaders who are aware of team emotions and the impact of those on the centre. A study by Bagley, Ackerley and Rattray highlighted a “non-hierarchical approach” which was successfully adopted by a manager and showed respect for the different views and problem solving ideas of team members. Leader mentoring is suggested by John, as being useful to address some of the challenges of working in the UK Children’s Centres.

Effective leadership is mentioned by Coleman, Sharp and Handscomb as fundamentally premised on strong interpersonal relationships. Building of relationships is in turn dependent on effective communication and underpins collaborative practice. These aspects were mentioned in this study. The review found that working relationships are key to successful collaboration. Children Centre authors from the review mention formal operational processes like joint team meetings and shared professional development opportunities to promote greater understanding between professionals. However, given the difficulties with time and staff availability, team planning and idea sharing through meetings are limited and consequently, information sharing occurs informally as well. Similar difficulties are discussed in the UK Children Centre literature, with challenges in organising meetings around staff who work on a part-time basis. Coleman, Sharp and Handscomb found that effective Children Centre leaders used a key strategy to promote partnerships by pro-actively sharing resources, space and equipment or encouraging co-location of services to support service delivery at the centre.

In the review, variation exists in relation to meeting processes, with one study suggesting no formal processes exist for roles taken on by members during the meeting, or minute/record keeping. Another practice highlighted in the focus groups and supported by the review is referrals from internal and external sources. In the focus groups, one team identified that their referral processes worked well and in addition, both formal and informal types of referral occur, with team members supporting each other in making appropriate referrals. In the review, studies from the UK found differing ideas on the referral process and its success, for example Nelson, Tabberer and Chrisp describe the referral process as “a highly skilled process – however can often involve delays in time, which can affect timely service provision”. For other settings, special processes such a uniform Referral and Allocation Processes (RAP) have been implemented to assist sites to refer appropriately and develop clear accountability. According to Morrow, Malin and Jennings, appropriate referral requires innovation beyond conventional understanding of roles. Additionally, these authors suggest that periodically the referrals should be discussed to ensure any interventions that have been implemented are successful. According to Nelson, Tabberer and Chrisp, this periodic discussion did not tend to commonly occur. In addition, working with external agencies as part of the team, can involve difficulties such as lack of understanding by external staff of services provided by Children Centres.

The impact of limitations of space and staff availability for collaborative practice has arisen both in this study and in other literature relating to similar types of settings. In the focus groups, team members discussed how their open-plan sites invite collaborative practice. However, the separation of the centre building from the preschool, impacts general team work with all early learning staff and in addition, Allied Health staff spread their time across various sites. One study in the UK Children Centre literature suggests that being physically located in the one building allowed for increased informal discussion and expansion of working relationships; however, another study suggests that co-location of professionals does not always equate to effective working. Therefore, experiences are mixed and suggest that success is possible for both scenarios and depends on the complex interplay of other team-specific characteristics.

Examples of challenges related to successfully working within and across government departments have been illustrated in the focus groups and provide new understandings of the complexities of working across sectors within South Australian Children Centres. These sites are operationally managed by the Department of Education and Child Development, from which local site leadership, protocols and culture stem. Staff from varying disciplinary backgrounds may be employed by various departments including education, health and welfare. Team members need to juggle the requirements and protocols of their own departments, whilst conforming and adapting to the site culture and requirements. Similarly, a UK study on working in Children’s Centres reported an outreach worker advising “everybody is employed through somebody different making partnership working difficult”. Coleman, Sharp and Handscomb found that effective leaders of Children Centres worked on a strategic level with managers from other services as well as on an operational level to support the coordinated delivery of services at the centre.

Organisational aspects were identified in the review, including examples such as working towards shared targets and outcomes (between departments), processes for information sharing, professional co-location in the same building and leadership. Professional co-location has been identified in the focus groups and is discussed elsewhere. In the focus groups examples were discussed by teams: differing funding priorities, related to processes and sources, as well as differences in employment arrangements, such as some professional groups requiring to work across multiple sites. Differing funding priorities and sources is a similar theme to the experiences from Children Centres in the UK, as illustrated by the review. It is said that the funding structure can cause anxiety for practitioners who are concerned about long-term sustainability and which in turn can hamper collaboration. In a study by Atkinson et al., focussing on multi-agency working and involving education, social services and health sectors, a key factor for success of multi-agency working was identified as sharing and access to funding and resources. Their study found that sharing of funding and resources was a common challenge. Their recommended strategies were pooled budgets, joint funding and identification of alternative or additional sources of income. A leader from a UK Children’s Centre mentioned that funding was not there to cover time spent at meetings nor the resultant paperwork. Additionally, these authors state that health visitors were frequently undersupported, making partnership arrangements unreliable.

Participants in this study discussed the impact of different employment arrangements between team members, depending on the employing government department and varying acts under which staff from different disciplines are employed. This finding

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highlights an important aspect which seems to not have been explicitly mentioned in other literature before. The example of Allied Health team members was provided, typically working across more than one site and thus within multiple teams. These arrangements have the follow-on effect that these team members have less time for building relationships and have limited availability at each site. They also need to adjust to working within a number of teams. These arrangements are in contrast to other team members, who are located only at a single site.

These challenges are evident in other Children Centre literature, for example Malin and Morrow33 in the review, mentioned conflict. In teams, which can occur when team members work towards goals that differ between governments. Lewis, Roberts and Finnegan27 mention the challenges of different line accountability as well as terms of conditions of employment. Again, Coleman, Sharp and Handscomb27 mention the critical role of leaders in creating a shared vision, supporting integrated working and having open and honest discussion with partners in facilitating collaborative practice.

Limitations and Recommendations

This study has increased the knowledge of the characteristics and practices of two well-established South Australian Children Centre teams. The review was limited to a search on journal articles, but other sources of information, for example from books, reports and unpublished sources, may further expand the picture of collaborative practice. The review was limited by uncovering only UK articles.

Focus groups were an ideal method to gain the collective experience of the group, whilst providing the opportunity to witness each team’s collaboration. Interviews with individual team members will add a different perspective to the information gained in focus groups. In addition, exploring the challenges faced by less well-established teams, would uncover additional understandings of the complexities faced by team members. A limitation of this study was that both sites were metropolitan. Team members from rural sites may articulate different characteristics, practices and challenges. Further research incorporating additional sites including rural locations may increase transferability.

It is anticipated that the information obtained through this study will be transferrable to other similar sites where collaboration occurs across disciplines and organisations. The importance of enabling leadership to facilitate collaborative practice is a key recommendation from this research. Mentoring and professional development support for leaders are strategies to strengthen leadership in Children Centres and similar settings.

CONCLUSION

During this study, multiple team members’ perspectives were obtained, of the characteristics and practices of collaboration in well-established South Australian Children Centre teams. The findings of the focus groups support and extend the review conducted. The overarching and instrumental theme of leadership is supported by the following themes: development of team cohesive-ness, supportive team processes, and working within and across government departments. The themes illustrate the complexity and inter-relatedness of these characteristics when working within teams that span health, education and other disciplines.

REFERENCES


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**APPENDIX I**

**Focus group questions and procedures:**

- Tell me about your professional contribution within the team.
- Tell me about your team’s purpose.
- As a team, how would you describe your collaboration? Can you give any examples?
- From your experience, what helps your team work together?
- Tell me about your team’s communication (e.g., meetings, debrief sessions, referral processes, goal setting).
- What are the most difficult challenges to collaboration?
- What happens when conflict arises within the team – how is it dealt with?
- Tell me about how your team engage and collaborate with external agencies.
- Consider for a moment whether differing government funding for different departments and therefore different expectations and outcome, influence your teamwork. Please tell me how it impacts your collaboration.
- From your experience as a team, what do you believe are the key features or important characteristics and practices of interprofessional collaboration?

Questions were provided to team members for consideration before the focus group occurred. Team members were also asked to contemplate a question to facilitate their preparation for the focus group. The question asked was: tell me about the other team members’ professional contribution in the team.

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**Corresponding Author**

Kobie Boshoff
Kobie.boshoff@unisa.edu.au
From paper to practice – academics and practitioners working together in enhancing the use of occupational therapy conceptual models***

Mia Elsabie Vermaak, B OT (UFS)  M OT (UFS)  
Lecturer, Department of Occupational Therapy, School of Allied Health Sciences, Faculty of Health Sciences, University of the Free State

Mariette Nel, M Med Sc (Biostatistics)  
Lecturer, Department of Biostatistics, School of Medicine, Faculty of Health Sciences, University of the Free State

Introduction: Occupational therapy students are exposed to occupational therapy conceptual models in lectures, and are expected to practice application of these models during clinical fieldwork placements. During fieldwork, they are exposed to practitioners’ approaches to the use of occupational therapy conceptual models, and are often confronted with a gap between theory and practice. The objective of this study was to investigate the use of conceptual models by occupational therapy practitioners in the Free State, South Africa, to inform collaborative efforts in the process of reinforcing the link between theory and practice, by enhancing the use of occupational therapy conceptual models.

Methods: A cross sectional study was done in two phases: by means of a questionnaire survey, with practitioners responsible for fieldwork supervision of students; and a workshop survey completed by practitioners attending a workshop on occupational therapy models.

Results: Results in the first phase describe the perceptions of 22 supervising practitioners around occupational therapy conceptual models; and their own and students’ application thereof in practice. These results were used as the basis to design a workshop on the application of occupational therapy conceptual models. In the second phase, workshop survey questionnaires completed by 20 participants, indicated that they perceived the workshop as enabling with regard to applying new occupational therapy conceptual models with more confidence and competence, and that they felt more confident to supervise students in applying occupational therapy conceptual models during fieldwork.

Conclusion: This study and its resulting workshop show how collaboration between practitioners and academics can improve the link between theory and practice, benefiting practitioners’ professional identity and ultimately impacting on undergraduate training.

Key words: Occupational therapy; occupational therapy conceptual models; occupational therapy practitioners supervising students; theory practice link; fieldwork education

INTRODUCTION

Occupational-based practice is gaining momentum in the profession of occupational therapy. This is happening despite the pervasive presence of the biomedical model in most health care settings where South African occupational therapists are employed. Occupational-based practice is in its essence holistic, aiming for improved occupational performance; instead of the impairment-focused biomedical approach to practice. With occupation-based practice and biomedical practice viewing health in different ways, tension often develops between theory and practice, underlying the so-called “academic-practice gap” or theory-practice gap. Occupation-based practice is supported by theory on occupation from occupational science, and specifically occupational therapy conceptual models (henceforth referred to as ‘models’). These models provide explanations for the interaction of the person with his environment through occupations; providing practitioners with a framework for decision-making around occupation based intervention.

The application of models in the occupational therapy process requires of and allows practitioners to make use of theory in their decision making. Model use also enhances occupation-based practice, by encouraging practitioners to choose occupation-based outcomes and tools of outcome measurement. Explaining practice and the occupational therapy process, which often proves to be a complex and even tedious process, is simplified in that models provide practitioners with a language to do so. It further holds a variety of benefits to practitioners (and ultimately clients too), ranging from increased professional resilience and career longevity, to clarifying professional identity. Ultimately, the profession benefits from the use of models in that it guides us to offer an occupational therapy process that boldly reflects our profession’s ‘unique contribution’ through occupation-based practice.

These benefits notwithstanding, a number of factors play a role in practitioners’ choice to use models or not, their choice of models and their proficiency in applying these models.

Undergraduate training impacts on practitioners’ confidence in their own use of models, which is problematic in view of limited literature about instruction of occupational therapy students on the use of models in practice. Once in practice, the unavailability of role models and the pervasiveness of the medical model in occupational therapy practice, or at least some occupational therapy practice settings, hinder practitioners to apply occupation-based theory. On top of this, there are limited resources for continued training in model application in practice. Whilst Owen’s study on South African practitioners that their use of models increased with years of practice; results from other countries indicate that the use of models declines with increased years of practice. An encouraging finding, supported by Elliott, Velde and Wittman and Wong and Fisher, is that although practitioners tend to admit to limited model use, they generally realise its value.

With universities and practitioners placing different premiums on theory and model use, the theory-practice gap is perhaps most intensely experienced by undergraduate students in clinical fieldwork practice. In this process of “learning to think like a therapist”, they are pressed between the academic expectations of
applying a variety of models in practice, and practitioner supervi-
sors—who may or may not be explicitly using models to support
practice24. A student participant in a study by Towns and Ashby25
might have captured this dissonance by saying “No disrespect to the
teaching staff here but the teaching of theory is very idealistic...it
is not practical.”34,37. Their study pointed out that students’ fieldwork
had a definite effect on their integration of theory and practice.

If one assumes practitioners will rather use models they were
exposed to during undergraduate training, a way of slowly turning
the tide toward increased model use and occupation-based practice,
might be to accentuate theory-practice integration in current under-
graduate students by increased training in model use. Similarly, the
work of Kielhofner2 and Leclair et al18 on the theory-practice gap,
inspired the collaborative process described in this article, where
occupational therapists supervising students identified the need
for training on model use and subsequently attended a workshop
on model use. Our aim was therefore to demonstrate the process
of collaboration between academics and practitioners, in order to
advance the integration and model use of students.

THE CONTEXT OF THIS STUDY
Occupational therapy students (hereafter referred to as stu-
dents), at the University of the Free State (UFS), have over the
last decade, been exposed to a variety of models in class. These
models include the Model of Human Occupation (MOHO)23,
the Kawa River Model11, the Canadian Model of Occupationa11
Performance and Engagement (CMOP-E)11, the Jeanne Preتورis
Activity Model (UFS model)26, the Person Environment Occu-
paniment Performance (PEOP) model13 and the Vona Du Toit Model
of Creative Ability (VdT MOCA)27. No prescriptions on which model
to use in different areas of fieldwork are given during lectures. In
reality, however, students were until as recently as 2012 mostly
using the UFS model to assist in assessment, clinical reasoning and
case presentations (personal communication)28. Students have
therefore not had much opportunity to experiment with applying
other models in practice. Over the past 3 to 4 years, students have
been increasingly encouraged by both academics and practitioners
involved in student supervision to use a more eclectic approach,
allowing them to choose a model they deemed most appropri-
ate for use in specific cases, groups or populations. At the same
time, practitioners reported increasing uncertainty regarding the
guidance of students in the use of models, and requested training
from the Department of Occupational Therapy, UFS.

With limited information available to describe the use of models
by South African practitioners, this study aims to illustrate how
academics and practitioners may work together to reinforce the
link between theory and practice. The research was planned and
conducted by the lecturer responsible for the majority of under-
graduate lectures on models at the Department of Occupational
Therapy, UFS, and was performed prior to a workshop presented
to practitioners in June 2015. Hence, results from the survey informed
the planning of the workshop content, with results from the work-
shop survey reflecting participants’ experience of the workshop.

Students are expected to integrate theory and practice during
fieldwork under the supervision of practitioners. In class over recent
years, UFS students have been exposed to more models than most
practitioners report having experience in using, and practitioners
requested further training in the application of occupational therapy
conceptual models in the occupational therapy process. The rationale
for this study was thus to advance students’ integration of theory
and practice, by promoting model use amongst local practitioners
who are involved in the supervision of students.

METHODOLOGY
The objective of the research was to investigate the application of
occupational therapy conceptual models by practitioners involved
in the supervision of third and fourth year students from the UFS,
as well as to illustrate how academics and practitioners can work
together to reinforce the link between theory and practice. A cross-
sectional study with convenience sampling was conducted, and all
practitioners (N=44) involved in the supervision of UFS students (in
their third and fourth year of study) on fieldwork placement were
invited to participate and constituted the population. Practitioners
were included based on the following criteria: reported current
registration with the HPCS, at least a diploma or degree in Occupa-
tional Therapy, and recent or current involvement (2010-2015) in
student supervision.

A self-administered questionnaire was designed by the re-
searchers, with multiple choice and open-ended questions. The questionnaire enquired about practitioners’ previous exposure to
models, their preferred models in own practice, as well as which
models they prefer students to use in fieldwork. Their opinions
on the value of model use were also explored. The questionnaire
was piloted with three occupational therapy lecturers and minor
changes were made regarding the technical layout of the question-
naire. The final questionnaire was distributed to practitioners by
the first author by means of an email. Participants returned completed
questionnaires via email to a colleague in an administrative posi-
tion and not to the researchers, to protect participants’ identities.
The cut-off time for participation was prior to the first session of
the workshop on model use in June 2015, to prevent contamina-
tion of results by new knowledge gained during the workshop.
Twenty-two (n=22) questionnaires were returned, resulting in a
response rate of 50%.

The workshop, titled “Occupational Therapy Practice models:
Theory and Application”, was presented in eight sessions over two
days in June 2015, by four lecturers (including the first author) from
the Department of Occupational Therapy, UFS. The workshop was
open for attendance by any occupational therapist, but was offered
free of charge to practitioners involved in the supervision of UFS
occupational therapy students doing fieldwork.

Immediately following the workshop, a self-administered ques-
tionnaire, enquiring about participants’ experience of the workshop
and their confidence and competence in model use, was distributed
amongst all participants. The questionnaire with Likert scales and
two open-ended questions, was designed by the researchers, in
a style similar to standard workshop evaluation tools used by the
Department of Occupational Therapy. It contained three questions
identical to those asked in the survey questionnaire used in the
first phase, based on quotes taken from an article by Towns and
Ashby24. The workshop survey questionnaire was piloted with the
three occupational therapy lecturers that presented the workshop,
and no changes were indicated or made. All practitioners attending
the workshop (N=25, which excludes presenters), were asked to
complete the survey questionnaires immediately after the last
workshop session and return them to the registration table. No
information allowing identification of participants was included in
the questionnaire. Twenty questionnaires were completed and
collected immediately after the final workshop session, resulting in
a response rate of 80% (n=20).

DATA ANALYSIS
Descriptive statistics, namely frequencies and percentages for
categorical data and medians and percentiles for continuous data
were calculated. For the first part of the study (questionnaire
survey) the number of models used by participants with gradu-
ate and postgraduate qualifications as well as for those who had
obtained the last degree less than and more than 5 years prior to
the workshop, were compared using a 95% confidence interval for
the median differences.

ETHICAL CONSIDERATIONS
The Ethics Committees of both the Department of Health, Free
State; and the Faculty of Health Sciences, UFS; approved the study
prior to being conducted. All questionnaires were accompanied by
an information document explaining the purpose and process of the
study, and participants were informed that completion of the questionnaire indicated consent. Participants’ identities were protected by requesting them to fax or email the completed questionnaires to an administrator, who printed questionnaires and provided it to the researchers without making any identities known. However, some demographic information on the questionnaires (such as age, work setting and postgraduate qualifications) could lead to identification of participants and all information was therefore handled confidentially. Workshop survey questionnaires were completed anonymously and handed to the presenters of the workshop.

RESULTS

Survey questionnaire results: Current model use and practitioners’ perceptions of model use

The 22 practitioners who participated in the survey ranged in age from 25 to 56 years (Median: 33). Participants qualified between 1983 and 2012, with a median of 2006, and the median for the years since their last qualification is 5, with the years ranging from 0 to 23 years. This relates to around 8 years of practice by the time of participation in the study (assuming no breaks were taken in working as a practitioner). Seventeen (17) of the participants reported having obtained postgraduate qualifications, including a PhD in higher education (1) and master’s degrees in occupational therapy (8) and early childhood intervention (1). Participants also reported qualifications in sensory integration (4) and neuro developmental therapy (3). All undergraduate qualifications (n=22) and all but one (n=9) postgraduate degrees, were obtained from the UFS.

The majority of practitioners were employed in the public sector (72.7%; n=16), with 18.2% (n=4) reporting private practice as their work setting and 9.1% (n=2) were working in academia fulltime. As can be seen in Table I, a wide variety of practices and patient populations are represented, including mental health practice (54.5%; 12) and physical rehabilitation (45.5%; 10), but with limited community based intervention (18.2%; 4).

Table I: Populations served by the sample of participating OT’s (n=22)*

<table>
<thead>
<tr>
<th>Percentage (frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual clients 68.2% (15)</td>
</tr>
<tr>
<td>Group intervention 72.7% (16)</td>
</tr>
<tr>
<td>Community based intervention 18.2% (4)</td>
</tr>
<tr>
<td>Children 63.6% (14)</td>
</tr>
<tr>
<td>Adolescents 54.6% (12)</td>
</tr>
<tr>
<td>Adults 54.6% (12)</td>
</tr>
<tr>
<td>Elderly clients 36.4% (8)</td>
</tr>
<tr>
<td>Mental health practice 54.5% (12)</td>
</tr>
<tr>
<td>Physical rehabilitation 45.5% (10)</td>
</tr>
</tbody>
</table>

*Therapists may have marked more than one practice area

Most practitioners (77.3%) indicated that they were currently applying models and that they have done so in the past, with 22.7% responding that they were not using models in their daily practice. Practitioners with graduate qualifications reported using a median of 4 models (range 2 - 6), and practitioners with postgraduate qualifications reported using a median of 4 models (range 2 - 7). The number of models used by practitioners with graduate qualifications did not differ significantly from practitioners with post-graduate qualifications.

Two open-ended questions invited participants to describe their confidence and competence in model use (Table II). They described their confidence in applying models on levels varying from poor (23.8%) to good (33.3%). Descriptors of their own competence in model use included various levels, with the majority (68.2%) indicating ‘moderate’ competence in model use.

Table II: Confidence and competence in model use: answers to open-ended questions (n=22)

<table>
<thead>
<tr>
<th>Competence: (“How would you describe your confidence in applying models in practice?”)</th>
<th>Percentage (Frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>33.3% (7)</td>
</tr>
<tr>
<td>Moderate</td>
<td>38.1% (8)</td>
</tr>
<tr>
<td>Poor</td>
<td>23.8% (5)</td>
</tr>
<tr>
<td>Not really using models</td>
<td>4.8% (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Competence: (“How would you describe your competence in applying models in practice?”)</th>
<th>Percentage (Frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate</td>
<td>68.2% (15)</td>
</tr>
<tr>
<td>Very poor</td>
<td>4.6% (1)</td>
</tr>
<tr>
<td>Poor &amp; learning from students</td>
<td>4.6% (1)</td>
</tr>
<tr>
<td>Understand &amp; applying</td>
<td>9.1% (2)</td>
</tr>
<tr>
<td>Varying degrees – depending on the model</td>
<td>13.6% (3)</td>
</tr>
</tbody>
</table>

Three statements based on an article by Towns & Ashby16:349 were included. Participants had to indicate their level of agreement with each statement. As shown in Table III, the majority of practitioners agreed with most statements.

Table III: Therapists level of agreement on three statements about theory use

<table>
<thead>
<tr>
<th>Results: Survey (n=22)</th>
<th>AGREE (% (n))</th>
<th>NEUTRAL (% (n))</th>
<th>DISAGREE (% (n))</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Theory guides practice” 16:344-352</td>
<td>73.3% (16)</td>
<td>22.7% (5)</td>
<td>4% (1)</td>
</tr>
<tr>
<td>“Being able to communicate theory underlying practice, may enhance resilience &amp; wellbeing” 16:344-352</td>
<td>81.8% (18)</td>
<td>9.1% (2)</td>
<td>9.1% (2)</td>
</tr>
<tr>
<td>“Being able to communicate theory underlying practice, may enhance career longevity” 16:344-352</td>
<td>86.4% (19)</td>
<td>13.6% (3)</td>
<td>0% (0)</td>
</tr>
</tbody>
</table>

Practitioners were asked to indicate the models preferred by students working under their supervision in fieldwork. Three favourites were identified namely: the VdT MOCA, UFS Activity model and the MOHO. When given the opportunity to indicate which models they would prefer students to use in clinical fieldwork, 9 practitioners indicated that they had no preference regarding model use by students (See Table IV on page 38). When analysing the number of models used by practitioners graduating (both graduate or post-graduate) in the five years up to and including 2015 is 5 (range 2 - 7); with the median number of models used by practitioners obtaining qualifications more than five years ago being 3.5 (range 2 - 5). There might be a tendency for practitioners having obtained a qualification less than 5 years ago to report using more models, although this was not statistically significant (95% confidence interval for the median difference [0;3]).

A final, open ended question invited participants to make final comments on ‘the use of models in practice’. The range of comments included a variation of critique on models as well as reasons for not using it (Figure I on page 38).
Table IV: Model use by students – as reported and preferred by supervising therapists (n=22)

<table>
<thead>
<tr>
<th>Models offered as options / answers in questionnaire</th>
<th>Currently reported by therapists as being used by students</th>
<th>Preferred by therapists for student use</th>
<th>Models received training in, on undergraduate or post-graduate level or elsewhere</th>
<th>Models requested for inclusion in the workshop program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
<td>% (n)</td>
</tr>
<tr>
<td>UFS Activity model</td>
<td>59.1% (13)</td>
<td>22.7% (6)</td>
<td>86.4% (19)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Kawa</td>
<td>31.2% (7)</td>
<td>18.2% (4)</td>
<td>59.1% (13)</td>
<td>7.1% (1)</td>
</tr>
<tr>
<td>MOHO</td>
<td>59.1% (13)</td>
<td>27.3% (6)</td>
<td>68.2% (15)</td>
<td>21.4% (3)</td>
</tr>
<tr>
<td>CMOP-E</td>
<td>31.2% (7)</td>
<td>36.4% (8)</td>
<td>63.6% (14)</td>
<td>42.9% (6)</td>
</tr>
<tr>
<td>VdT MOCA</td>
<td>63.6% (14)</td>
<td>27.3% (6)</td>
<td>90.2% (20)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>PEOP</td>
<td>13.6% (3)</td>
<td>9.1% (2)</td>
<td>9.1% (2)</td>
<td>2% (14.3)</td>
</tr>
<tr>
<td>Models mentioned by respondents in 'other'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wall model</td>
<td>9.1% (2)</td>
<td>0% (0)</td>
<td>9.1% (2)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Adaptation through occupation</td>
<td>0% (0)</td>
<td>4.6% (1)</td>
<td>4.6% (1)</td>
<td>1% (7.14)</td>
</tr>
<tr>
<td>PEO</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>4.6% (1)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Clinical Reasoning</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>4.6% (1)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>No preference regarding model use by students</td>
<td></td>
<td></td>
<td></td>
<td>40.2% (9)</td>
</tr>
</tbody>
</table>

At completion of the workshop on model-use (see Table V), all participants (n=20) reported feeling more competent in applying the models in practice as well as in their ability to communicate the theory underlying the model.

Table V: Confidence and competence in following attendance of the workshop (n=20)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree % (n)</th>
<th>Neutral % (n)</th>
<th>Disagree % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>After this workshop I feel more knowledgeable and competent to apply models in practice.</td>
<td>100% (20)</td>
<td>0% (0)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>This workshop has improved my ability to communicate the underlying theory of occupational therapy.</td>
<td>100% (20)</td>
<td>0% (0)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>After this workshop I feel more competent to supervise students in the application of these models (n=19)</td>
<td>94.7% (18)</td>
<td>5.3% (1)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>After this workshop I am planning on applying models I have not used before.</td>
<td>90% (18)</td>
<td>10% (2)</td>
<td>0% (0)</td>
</tr>
</tbody>
</table>

Workshop survey questionnaire results: practitioners’ perceptions and intention of model-use after workshop attendance

The workshop on model-use was attended by 20 practitioners (henceforth referred to as 'participants'), of whom the majority was employed in the public sector and involved in student supervision. Based on the results obtained from the first survey, the workshop contained an introductory theoretical session on the MOHO, Kawa, PEOP and CMOP-E models. Each theoretical session of the workshop was followed by small group discussions where participants were challenged to apply a single case study on the freshly presented model.

Figure 1: Verbatim quotes from therapists about using models in practice

- “Models are sometimes too technical.”
- “Models are not really used by occupational therapists in practice.”
- “I understand that students have to use models, but I don’t really (use models).”
- “Models explain the person in a holistic and person-specific approach. I, however, do not apply it like this in my practice.”
- “Using a model for the sake of using one without insight holds no purpose. However, using it insightfully grounds the profession.”
- “If all of us could understand models – magic!”. 
- “Models are not really used by occupational therapists in practice.”
- “Models are sometimes too technical.”
- “We need clarity on whether ‘Creative ability’ is a model or a theoretical frame of reference”.
- “Limited research is available on model use in South Africa, I am therefore very grateful for this study’.
- “We need clarity on whether ‘Creative ability’ is a model or a theoretical frame of reference”.

Nearly all participants (90%) indicated their intention to apply ‘new models’. In a question about the supervision of students in model-use, following attendance of this workshop, 19 participants (94.7%) agreed that they now felt more competent in offering supervision regarding the use of models.

Participants were given the opportunity to indicate their level of agreement (Table VI on page 39) with the same three statements from Towsn & Ashby15,16,19 used in the first survey, and reported in Table III. When compared to the results from the first survey, a similar trend of agreement was noted, with one difference: fewer participants (75%) felt that their career longevity would be enhanced by an increased ability to communicate the theory underlying practice; than practitioners in the first survey (86.4%).
Discussion & implications

The initial survey results reflect practitioners' perception of their own and students' use of models in practice and fieldwork. The workshop survey results reflect how the workshop positively influenced practitioners' perception of, and their confidence in model-use and the related supervision of students.

Demographic results from the survey indicate good representation of students, fieldwork placement areas, with the public sector being much more represented than the private sector. The response rate of 50% is lower than ideal and yet, both mental and physical health practices, and all patient populations, were represented in a realistic reflection of the clinical fieldwork practice areas. Practitioners who are interested in model-use may have been more inclined to participate in this specific study. This is possibly reflected by results showing that the majority (77.3%) of participants reported using models in daily practice; with a similar majority indicating their interest in attending the workshop on model-use in June 2015. This apparent interest in theory may also be reflected by the fact that a similar number of participants reported post-graduate qualifications. Kielhofner's1 observation that experienced practitioners tend to rely on theory use even less than younger practitioners, could therefore not be statistically confirmed by our results. However, it seems a tendency for practitioners having graduated more recently to report using a greater number of models. This is in contrast with Owen's4-6 finding that the number and variety of models used increased with the number of years that participants were qualified.

The trend regarding practitioners' and students' choice of models was that students, according to participants, prefer the UFS Activity Model, MOHO and VdT MOCA; which are also the three models that the majority of participants pointed out as the ones they had been exposed to in their own undergraduate or further studies. The preference for these three models from their undergraduate training is no surprise, considering all participants completed their graduate studies at the UFS, where the VdT MOCA and the UFS Activity Model have been taught more extensively than any of the other models until recently28. It seems that participants feel more comfortable using the models they experienced as undergraduate students themselves, as is also reflected in other studies18,27. However, participants indicated a preference for the MOHO and VdT MOCA, with the CMOP-E taking the third place instead of the UFS Activity Model.

With Owen's study of 2014 being the only other similar South African study to compare our results to, it is noteworthy that her participants also favoured the MOHO and the VdT MOCA above other models, as portrayed in this study. The UFS Activity Model however, did not feature in her results at all. This may be explained by the fact that her sample included participants from other universities where students are exposed to different theoretical models of practice, whereas our participants all completed their studies at the UFS, where the UFS Activity Model has been designed and taught exclusively by an alumni lecturer of the UFS.

Workshop participants' reported an increase of confidence in model use and student supervision, and their intention to apply new models, indicates needs-driven training as a first step of collaboration in strengthening the theory-practice link.

Following the workshop, fewer participants agreed that an increased ability to communicate theory would enhance career longevity when compared to the first survey. This could be discouraging, and contradicts studies such as that of Wimpenny29, who illustrated how theory-advancement processes strengthened practitioners' professional identities and enthusiasm about their work. This further indicates the need for ongoing collaboration to bridge the theory-practice gap.

Despite these promising results about participants' perception of the workshop, we agree that the integration of theory into daily practice "remains challenging"18,182, and that transformation of practice by the integration of theory is rather more complicated18,29 than presenting an once-off workshop.

However, even though this two-day workshop was limited in its capacity to transform practice by model-use, it opens up the dialogue between practitioners and academics about the use of models1, and using theory with intention18.

CONCLUSION AND RECOMMENDATIONS

This paper indicates how student fieldwork continues to turn the spotlight on the theory-practice gap, compelling academics and practitioners to bridge this gap through collaboration. The results of the first survey provided the first author with material to design a needs-driven workshop. The results from the workshop survey revealed the participants reported being more confident in model-use and student supervision, and willing to use new models following the workshop.

The authors recommend follow-up workshops on model-use, focusing more specifically on using occupational therapy models in different fields of practice, for example community based practice, or paediatric occupational therapy. These workshops may be informed by follow-up surveys, monitoring the use of models by practitioners, as well as students.

Building on the apparent tendency for practitioners to continue with the use of models they were exposed to during undergraduate training, the researchers trust that the current generation of undergraduate students will carry with them an appreciation for theory and specifically occupational therapy conceptual models. At the same time, practitioners who are exposed to students' use of theory, may benefit from being continuously exposed to model-use and remain in contact with ongoing learning opportunities. If these learning opportunities are planned according to specific principles of theory advancement18,29; it is expected to lead to strengthened professional identities of practitioners, ultimately creating an environment where students can more efficiently negotiate the grey area between paper and practice.

ACKNOWLEDGEMENTS

Every occupational therapist who participated in the study, pilot study and/or workshop; and for your continued efforts in guiding students in the application of theory in practice.

Sanet Du Toit, Marieta Visser and Monique Strauss for assisting in the process of planning and executing this study and disseminating results via presentation and publication.

UFS – funding which allowed me to present this paper at the Asia Pacific Occupational Therapy Congress 2015 in Rotorua, New Zealand.

Dr Christel Troskie-de Bruin and Prof Gina Joubert for reviewing this article.

Table VI: Workshop attendees opinions on three statements about theory use (n=20)

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<th>Statement</th>
<th>AGREE</th>
<th>NEUTRAL</th>
<th>DISAGREE</th>
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</thead>
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<tr>
<td>&quot;Theory guides practice&quot;</td>
<td>84.2% (17)</td>
<td>10.5% (2)</td>
<td>5.3% (1)</td>
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<tr>
<td>&quot;Being able to communicate theory underlying practice, may enhance resilience &amp; wellbeing&quot;</td>
<td>85% (17)</td>
<td>5% (1)</td>
<td>10% (2)</td>
</tr>
<tr>
<td>&quot;Being able to communicate theory underlying practice, may enhance career longevity&quot;</td>
<td>75% (15)</td>
<td>20% (4)</td>
<td>5% (1)</td>
</tr>
</tbody>
</table>

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REFERENCES


Corresponding Author
Mia Vermaak
vermaakme@ufs.ac.za

40
The development of an Emotional Regulation Scale for Adolescents***

Monique Strauss, BOT (UFS), MOT (UFS)  
Junior Lecturer Occupational Therapy, Faculty of Health Sciences, University of the Free State

Jacques E Raubenheimer, BA (UFS), BA Hons (Psychology) (UFS), B.Th (UFS), M.Th. (Practical Theology) (UP), M.A. (Research Psychology) (UFS), PhD (Research Psychology) (UFS)  
Lecturer Biostatistics, Faculty of Health Sciences, University of the Free State

Daleen Campher, BOT (UFS)*  
Charika Coetzee, BOT (UFS)*  
Amorise Diedericks, BOT (UFS)*  
Heidi Gevers, BOT (UFS)*  
Karla Green, BOT (UFS)*  
Sandré van Nielkerk, BOT (UFS)*

* Students in the Department of Occupational Therapy at the University of the Free State at the time the study was conducted.

ABSTRACT

Emotional regulation is an important skill enabling or disabling the occupational engagement of adolescent clients. Evaluation is a key concept in the occupational therapy process, informing treatment approaches and outcomes. The authors could not identify a scale measuring emotional regulation strategies used by adolescent in the literature. A quantitative, descriptive study was done following a process of scale development. A survey with 78 items was designed which 404 adolescents from a tertiary institution completed. From the results, a provisional scale was developed, measuring emotional regulation strategies used by adolescents. The scale has 39 items, consisting of five emotional regulation strategy categories, named Comfort and Sharing, Antisocial behaviour, Creative Activities, Physical Activities and Eating. A confirmatory factor analysis (CFA) model proved the provisional scale, as well as the items, to be reliable. Further research for the development and the refinement of this scale is recommended. The use of an emotional regulation scale could assist the occupational therapist in understanding the adolescent client’s emotional regulation strategies or lack thereof.

Key words: Emotional regulation, Adolescents, Structural Equation Modelling

INTRODUCTION

The mental health of adolescents is a key concern. According to the World Health Organisation (WHO), 20% of children and adolescents worldwide suffer from disabling mental illnesses1. A report compiled by the WHO in 2014, states that self-harm is the third leading cause of death amongst children and adolescents worldwide.

This cry for help is also reflected by a statistic from the same report which states that unipolar depressive disorders are the leading cause of disability-adjusted life years (DALY) amongst this population, ahead of HIV/AIDS and road accidents2. Adolescents have always been perceived as a highly stressed and confused group as they face challenges due to the physical, cognitive and social transitions in their development during this stage of life. In the light of the prevalence of mental disorders in adolescents concerns regarding adolescent health, is crucial. If poor mental health of adolescents is left unmanaged, this will have an even greater impact on their lives as adults, as well as on the community.

A key concept in an adolescents’ mental health and interpersonal relationships is the ability to regulate their emotions. Emotional regulation skills describe the manner in which a person identifies, manages and expresses feelings whilst interacting with persons, situations or activities. Adequate emotional regulation skills promote life skills and wellbeing in adolescents. In this study, an emotional regulation strategy specifically refers to the regulatory process and action that follows an activated emotional state. An example of this could be the strategy of abusing substances, in an attempt to regulate anxiety.

Emotional regulation skills can either support or hinder a person’s wellbeing and are influenced by the emotions experienced, as well as the individual’s preference. Key challenges involved in regulating emotions are to choose which emotional regulation strategy to use, when to use it and how to implement it. Emotional dysregulation occurs when the adolescent is unable to effectively use strategies to regulate intense or overwhelming emotions experienced and as a result, has implications for mental health including prolonged mental illness, risky behaviour, admission of adolescents into mental health facilities and suicide. Emotional dysregulation also has a direct effect on occupational performance and could lead to occupational dysfunction. For example, an ineffective strategy like substance abuse could have a negative impact on occupational performance areas like sleep and social participation.

The WHO Assessment Instrument for Mental health Systems (WHO-AMS) report highlights strategies that can be meaningfully employed to improve mental health in South Africa. One of these strategies is to develop clinical protocols for the assessment of and intervention in Primary Health Care. Occupational Therapists deal with adolescents with mental health problems in a variety of health care settings. The planning of such intervention is directed by the adolescents’ goals and occupational needs; the adolescents’ health and well-being; their performance skills and patterns; as well as the way in which they experience their mental health state.
as the collective influence of the context, environment and client factors which affect the adolescents’ life situations and intervention programs. The occupational therapist focuses on lifestyle issues of the adolescent, which includes mental health concerns, in an attempt to ensure optimal functioning in the context of the everyday life of the adolescent, enabling the client to engage in meaningful occupation. As previously indicated, the implementation of ineffective emotional regulation strategies could inhibit engagement in occupation. This, together with the consideration that adolescence is characterised by fluctuating emotional states makes it necessary for the occupational therapist to identify effective and ineffective emotional regulation strategies used by the client, in order to understand the impact thereof on occupation and to ensure adequate, client-centered mental health care.

The questions that arise from this are: How can one measure an adolescent’s ability to regulate his or her emotions and how can one identify emotional dysregulation? When investigating the literature it was found that limited literature exists on ways to measure emotional regulation strategies in adolescents and no suitable measurement tool could be found by the researchers. This article will explore literature on emotional regulation in adolescents and describe the process of developing a scale for measuring the emotional regulation strategies used by South African adolescents.

LITERATURE REVIEW

On a micro level occupational therapists deal with adolescents with mental health problems on an individual out-patient level, in mental health care facilities, as well as in the community where the occupational therapist is part of the multi-disciplinary team involved in treating adolescents. The focus of occupational therapy in these facilities is to assist adolescents with personal growth which may lead to improvement of their self-esteem, independent communication as well as social skills and eventually, meaningful community engagement. When engaging with an adolescent-client on any level, an evaluation is needed to determine the client’s problems, strengths and therapeutic needs in order to provide a client-centred occupational therapy intervention. Within the evaluation process, occupational therapists employ assessment tools with the aim to observe, measure, and enquire about factors that support or hinder occupational performance in the adolescent. The active involvement of the adolescent in prioritising goals and needs, facilitates the engagement of the client in the treatment process.

The adolescent period (10 to 19 years) is a developmental stage filled with emotional regulation challenges. Major developmental changes like the development of a sense of mastery, identity and intimacy occur during this confusing period. The challenges associated with these changes include: shifts in relationships between adolescents and their parents, where the adolescents move from dependency to more mature and responsible positions in the family; exploration of new sexual and social roles; experiences of intimate relationships; identity formation on a personal and social level; planning the future and taking the steps to pursue those plans and acquiring the necessary skills and values to transition into adulthood. Successful management of all these challenges depends on the adolescents’ psychological, physical and cognitive skills as well as their social support and the setting in which they can explore these challenges. These skills include confidence in one’s ability, desires to engage in important activities, being socially connected, engaging in supportive organisations, and especially, having the ability to control and regulate one’s emotions. However, many adolescents have not been given the opportunity to acquire these skills or are severely influenced by their environment, and therefore struggle to overcome these challenges.

Within the emerging field of emotional regulation research, one finds a variety of definitions of emotional regulation. Cole, Martin and Dennis ascribe this firstly to a historical difficulty to define “emotion” and secondly to the fact that emotions have the ability to “regulate” as well as to “be regulated”. In this study the focus is on the emotion, i.e. the activated emotional state, as well as the regulatory process that follows the emotion, i.e. the emotional regulation strategy. Within the Occupational Therapy Practice Framework, emotional regulation is categorised within the performance skills domain. Emotional regulation is defined as the manner in which a person identifies, manages and expresses feelings whilst interacting with persons or situations. The value of emotional regulation, as a skill, is to facilitate powerful actions in order to overcome obstacles, solve problems and maintain well-being. An emotional regulation strategy refers to the specific action chosen to regulate a specific emotional state.

Strategies like distraction; suppression; venting; cognitive reappraisal; downward social comparison; problem-directed action; self-reward; physical manipulations and withdrawal are linked to negative emotions. Strategies employed during positive affect include: gratitude; helping others; and expressing positive emotions in a variety of ways, e.g. creative expression. However, there are uncertainties with regard to what to measure about emotional regulation and how it can be measured. Some measurement tools already exist to measure components of emotional regulation, e.g. the ‘Difficulties in Emotion Regulation Scale’ (DERS) of Weinberg and Klonsky. This scale focuses on the awareness, understanding and acceptance of emotions and responding in a desired manner, but does not identify specific strategies used. Another related measurement tool is the “Adolescent Coping Orientation for Problem Experiences” (A-COPE) which focuses on the coping strategies that adolescents use when confronted with a difficult situation, but due to the date of publication, excludes the possibility of strategies linked to current technology like social media. Furthermore, these measurement tools are not designed to link those strategies used to regulate either positive or negative emotions, do not include strategies indicating self-harm and are not standardised for use on the South African population. Therefore the need to develop a scale to measure emotional regulations strategies used by South African adolescents became clear.

METHOD

A quantitative descriptive study was done by a group of fourth year occupational therapy student researchers, with the purpose of developing a scale which will describe the strategies used by adolescents in regulating their emotions.

The objectives formulated for this study were to: Investigate literature on emotional regulation in adolescence in order to discover strategies to use as questions in a survey; compile the survey and administer it to a selected adolescent population; and then to validate the designed scale as a measurement tool which measures adolescents’ tendency toward strategies employed to regulate their emotions.

After an extensive literature review on the various strategies for emotional regulation, the researchers compiled a list of possible items coupling certain strategies for emotional regulation with plausible triggering emotions. This list was then reviewed by the researchers, and the items were whittled down through a process of literature matching, until a final list of 78 items was retained. These 78 items were compiled into a four-item Likert scale (1=Never, 2=Seldom, 3=Often and 4=Always). All of the items included an identified emotion (activated emotional state) linked to a regulatory process (emotional regulation strategy), e.g. ‘When I am angry, I express it on social media’. Demographic items recorded age, gender, language, and whether respondents owned cell phones. Three broad emotional background items recorded whether respondents were experiencing emotional problems or not (with examples), whether they thought their home life happy or not, and whether they considered themselves as being introverted or extroverted.

The questionnaire contained two further open-ended questions, asking respondents to list 5 strategies they used when experiencing pleasant or unpleasant emotions. The results obtained from the open-ended section will be used for further refinement.
of the scale and will not be reported on in the results section of this article.

The population of the study included adolescent students of all races and both genders, between the ages of 18 and 19 years, enrolled across all three campuses at the University of the Free State (UFS). Convenience sampling was used by making use of the university’s online teaching platform, Blackboard. All enrolled students use Blackboard on a regular basis and this was therefore a platform which gave easy access to the students.

The full questionnaire was then set up on Survey Monkey (www.surveymonkey.com), and piloted on five Occupational Therapy students at the UFS who met all the inclusion criteria of the population. The pilot study participants’ data were excluded from the main study. Given the rule of thumb of having five times the number of participants than items for factor analytic studies19, the aim was to obtain 400 participants for the main study. The link to the questionnaire was posted on the university’s Blackboard page by the Centre of Teaching and Learning for the students to complete, and was removed before examinations commenced. All students on the system were automatically notified about the study via e-mail. Once the link was opened by the student, information regarding the study was given and they were consenting to their participation. The participants were informed that their information would remain anonymous and would be stored confidentially, and that they would receive no compensation for participation.

Ethical approval was obtained from the ethical committee of the Faculty of Health Sciences (ECUFS 16/2014), UFS; the dean of the Faculty of Health Sciences, the head of the School for Allied Health Sciences, the dean of Student Affairs, the vice-rector of Academics, and the Centre of Teaching and Learning. Participation by students was voluntary and they could withdraw from the study at any time.

Data obtained were analysed by the department of Biostatistics, UFS. After they were defined (see results), the aggregate scores for each subscale were transformed as follows: Since the Likert scale used values of 1 for Always, to 4 for Never, the scores were first reversed and then also decreased by 1 (i.e., 0 for Never and 3 for Always), so that higher scores indicated a stronger preference for a factor. Furthermore, to ease comparisons between subscales with varying numbers of items, an individual’s score was determined as the mean for the factor items multiplied by 100 divided by 3, giving each factor a possible range of zero to one hundred. The reliability of the new scale was determined through the calculation of Cronbach’s alpha coefficients. The component structure of the items in the scale was investigated using exploratory maximum likelihood factor analysis (with orthogonal rotation) through the examination of scree plots and factor loadings. The construct validity of the scale was tested via confirmatory factor analysis (CFA) and Student’s t-tests were used. Data analyses were performed with SAS/STAT software, Version 12.3 of the SAS System for Windows (Copyright © 2012 SAS Institute Inc., Cary, NC, USA) and LISREL, version 8.54 (Scientific Software International, Chicago, IL, USA).

The use of these statistics during the scale development process is explained in detail in the results section.

RESULTS

Within a three-week period, 404 respondents (94 male, 310 female) completed the questionnaire, which allowed the researchers to obtain the targeted number of participants. The respondents, in keeping with the sampling guidelines, were 18 (n=163) or 19 (n=241) years old. Most of the respondents had cellphones (n=369/91.3%), just more than half identified themselves as extroverts (n=216/53.5%) rather than introverts (n=188,46.5%), and most of the respondents reported that they felt they had come from happy homes (n=346/85.6%), although almost a third (n=133/32.9%) reported experiencing emotional problems, with depression (n=39/9.7%), anger (n=13/3.2%) and anxiety (n=10,2.5%) being the most common.

The scale development process entailed three phases. The first was to eliminate any items showing poor reliability. When the
reliability of the 78 Likert scale items was tested, an exceptionally high overall Cronbach’s alpha of .895 was obtained. Furthermore, when looking at the resulting reliability should any individual item be removed, it was found that no individual items showed indications of low reliability (the alpha for the remaining items ranged between .892 and .896). Consequently, no items were removed at this stage.

The second phase entailed determining the number of factors represented by the scale items. A scree plot (Figure 1 on the previous page) clearly indicated 5 factors.

A maximum likelihood factor analysis with orthomax rotation was then performed, specifying the extraction of 5 factors. In order to satisfy the demands of convergent validity, items had to have high loadings on one factor, as well as low loadings on all other factors. Prominent loadings (i.e., close to or ≥|.40|) on an item’s intended factor in Table 1, with an indication of which items were retained. The five factors ≤|.25| (this was again relaxed if the intended item loading was very high, and only one loading on another factor was slightly above the limit). Items were therefore retained if they showed high loadings on one factor, as well as low loadings on all other factors. The item loadings of the items on each of the factors are shown in Table 1, with an indication of which items were retained. The five factors were named Comfort & Sharing, Antisocial Behaviour, Creative Activities, Physical Activities, and Eating. High loadings (i.e., close to or ≥|.40|) on an item’s intended factor in Table 1 are marked in red.

Table I: Item loadings of the items on each of the factors are shown in Table 1, with an indication of which items were retained. The five factors were named Comfort & Sharing, Antisocial Behaviour, Creative Activities, Physical Activities, and Eating. High loadings (i.e., close to or ≥|.40|) on an item’s intended factor in Table 1 are marked in red.

<table>
<thead>
<tr>
<th>Item</th>
<th>Comfort &amp; Sharing</th>
<th>Antisocial Behaviour</th>
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<td>.09</td>
<td>-.08</td>
<td>-.15</td>
<td>.05</td>
</tr>
</tbody>
</table>

Table continued in next column ...
bold. Moderate-to-high loadings (i.e., $>|.25|)$ on other factors are marked in italics. In total, 39 of the original 78 items were retained.

The items for each of the newly defined subscales were then averaged and transformed to give subscale scores ranging from 0 to 100. The reliabilities of the subscales are shown in Table II. Considering the small number of items in some of the subscales, the reliabilities were very high, with .73 for Physical Activities being the lowest.

Table II: Cronbach's Alpha Coefficients for Newly Defined Subscales

<table>
<thead>
<tr>
<th>Subscale</th>
<th>N of items</th>
<th>$\alpha$</th>
<th>Standardised $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total scale</td>
<td>39</td>
<td>.833</td>
<td>.835</td>
</tr>
<tr>
<td>Comfort &amp; Sharing</td>
<td>13</td>
<td>.795</td>
<td>.796</td>
</tr>
<tr>
<td>Antisocial Behaviour</td>
<td>12</td>
<td>.820</td>
<td>.825</td>
</tr>
<tr>
<td>Creative Activities</td>
<td>5</td>
<td>.771</td>
<td>.774</td>
</tr>
<tr>
<td>Physical Activities</td>
<td>5</td>
<td>.730</td>
<td>.733</td>
</tr>
<tr>
<td>Eating</td>
<td>4</td>
<td>.829</td>
<td>.821</td>
</tr>
</tbody>
</table>

The distribution of the scores for the five subscales is shown in Figure 2. When considering the actual strategies, the distributions are quite understandable. Comfort and Sharing could be seen as a commonly used strategy, and so it was that the lower quartile for this subscale was 41.0, the highest of all the subscales, and close to, or higher than the upper quartile of all the others (the upper quartile for Physical Activities was 53.3, and for Eating, 50.0). Antisocial behaviour had the smallest range of all the subscales (IQR: 11.1–30.6), and the second-lowest lowest mean (22.1) and median (19.4) values. The Creative Activities scores were also very low, with a lower quartile of 0, a mean of 17.8 and a median of 13.3.

The intercorrelations between the various subscales are shown in Table III. Antisocial Behaviour did not correlate strongly with any of the other subscales, except for Eating. There was also no correlation between Physical Activities and Eating. While seven of the ten possible intercorrelations were statistically significant, none of them was so large as to be of concern for the issue of multi-collinearity. Despite there being some low correlations, there were no negative correlations.

The item set and its proposed model were then tested with confirmatory factor analysis (CFA) performed with LISREL. The completely standardized solution is shown in Figure 3 on page 46.
DISCUSSION

Results from the Cronbach alpha indicated that all 78 scale items (a statement consisting of an activated emotional state linked to an emotional regulation strategy) proved to be reliable. This indicated that all items developed, could be incorporated into the refined scale. A scree plot (Figure 1) indicated that five factors (emotional regulation strategies) should be extracted. The items which loaded under a particular category were examined and the category names (Comfort & Sharing, Anti-social Behaviour, Creative Activities, Physical Activities and Eating) were then derived from the wording and content of the questions.

When measuring the appropriateness of the categories against literature, they were all found to be relevant. Sharing and Comfort activities, including activities like sharing with a friend or engaging in a passive, comforting activity showed to be the highest preferred category. Methods included in the items ranged from traditional strategies like sharing with a friend, to making use of social media, linking to developmental theory stating that adolescents deem relationships with peers as most important. Social media is an emerging platform for the sharing of emotion. De Choundry & Gamon11 wrote that one can predict emotional behaviour and even diagnose depression when analysing an adolescent’s social media posts. In contrast, Valkenburg et al.12 stated that feedback received on a social media post (e.g. amount of “likes”) could in return have a direct impact on an adolescent’s emotions, indicating that this type of expression could act as an emotional regulation strategy, but could also impact emotions experienced. Other comfort-related activities, like television watching and music listening have also been linked to both positive, as well as negative emotional experiences13.

Anti-social behaviours are linked to activities like substance abuse and violent acts. It is important to understand that this type of behaviour is often co-morbid to mental health problems1. Poor development of emotional regulation skills during childhood, as well as the adolescent’s environment play a major role in the development of this emotional regulation strategy14.

The activity of Eating is frequently connected to an emotional response and is indicated to have the ability to regulate emotions, but eating could also be regulated by emotions15. In a study by Sim & Zeman26 on adolescent girls, a clear link was found between disorganised eating and negative emotions.

The use of the correct physical activity as an emotional regulation tool could have multiple positive effects on emotional health16. However, literature indicates that excessive physical activities in adolescent boys and girls could also be an indicator of depressed mood, dissatisfaction with body image and low self-esteem17.

Creative activities have been linked to positive emotional regulation strategies7. Literature indicates that specific strategies like journaling, could assist an adolescent in identifying and regulating negative emotions18.

Even though the above-mentioned categories relate to strategies found in literature, some items loaded on more than one factor (Figure 1), e.g. “painting” categorised under physical activity as well as creative activities. This indicates the complexity of each category and the activity choices clustered under these. As seen in the above sections, several activities can be used as strategies to regulate emotions, but at the same time have the ability to act as the regulator of activity choice, e.g. eating. These findings could pose a challenge for the researcher in the refinement of the scale.

Items loading on more than one factor were excluded from final scale. A provisional scale, consisting of 39 items which together measure five strategies for emotional regulation was therefore developed.

The items and subscales appear usable, but no indication exists at present as to what should be considered “normal” or “functional scores” on the identified strategies. For instance, it is desirable that adolescents show low levels of antisocial behaviour,
but it is not clear from the Antisocial Behaviour scale derived in this study, what would be considered “acceptably low”. Furthermore, respondents showed the full range of scores for Creative Activities, and the use of this strategy would probably be tied to the interest of the individual. Perhaps, it would be of more use to the occupational therapist to know how much a person is inclined to use a specific strategy (e.g., Antisocial Behaviour or Creative Activities), than to attempt to classify what would be “acceptable.” More studies are needed to take the scale values that adolescents might obtain on the various defined strategies, and relate them to effective occupation, showing how an occupational therapist could work with the particular tendencies of the individual in a way to allow them to effectively regulate their emotions while interacting with persons, situations or activities, and to do so without dysregulation. In the current state, this scale has the ability to identify emotional regulation strategies used by the adolescent when experiencing positive and negative emotions, but not yet the measurement thereof.

**Limitations**

Though 78 items proved reliable, there are still some discrepancies with regard to items that had to be discarded due to them loading on two different factors. Some strategies identified by participants were difficult to categorise into one specific dimension, e.g. strategies relating to spiritual activities. During a future refinement process, the categories should be re-evaluated, possibly renamed, and specific indicators for each category should be defined.

The study population was limited, consisting only of adolescents in a late adolescent phase in a tertiary institution, and therefore not representative of the whole adolescent population. Specifically taking into account that adolescence consists of different stages and is characterised by rapid change. The refined scale should be tested on a wider population group, consisting of different ages and a variety of culture groups and environments.

**CONCLUSION**

Emotional regulation is a key concept in the mental health of adolescents and emotional dysregulation can also present in occupational dysfunction. From literature, researchers could not identify a suitable measuring tool to measure emotional regulation strategies or identify emotional dysregulation, used by South African adolescents. In order to address this need, the process of designing a scale for this purpose was started by the researchers.

Three steps were followed in the developmental process and results firstly indicated that all items that were designed from literature were reliable and five categories were defined: Sharing and Comfort, Eating, Physical Activity, Creative Activities and Antisocial Behaviour. These categories were described in literature, confirming the appropriateness thereof. A CFA model confirmed the validity of the five categories, and the final reliability of the 39 items within the current scale was confirmed. Thus, a provisional scale for the identification of emotional regulation strategies was developed.

Even though the scale that was developed was found to be reliable and valid, the authors intend continuing further development and refinement of the scale, and it is not yet suitable for measurement at this stage. Considerations such as some items loading on more than one factor need to be investigated and the scale tested on a wider population. This scale is only a first step in the measurement of emotional regulation strategies.

As this scale is developed for understanding the link between emotional regulation and occupational dysfunction, the refined scale should also be structured in such a way that it could inform an occupational therapist to firstly understand her client’s specific emotional regulation strategies and skills, as well as to be able to identify emotional dysregulation.

The use of an emotional regulation scale could be valuable in understanding emotional regulation strategies that enable or disable occupational engagement, assisting in identifying appropriate treatment outcomes and approaches.

**REFERENCES**


Corresponding Author

Monique Strauss
straussm@ufs.ac.za
Having a child with cancer: African mothers’ perspective

Deshini Naidoo, B OT (UDW), M OT (UKZN)
School of Health Sciences, Occupational Therapy Department, University of Kwa-Zulu Natal (Westville)

Thabile Mamane, B OT (UKZN)**
School of Health Sciences, Occupational Therapy Department, University of Kwa-Zulu Natal (Westville)

Nabeela Khara, B OT (UKZN)**

Tehmi Stott, B OT (UKZN)**

Stacey Jane Trend, B OT (UKZN)**

Simiso Mtolö, B OT (UKZN)**

**At the time of the study these authors were final year occupational therapy students at UKZN

ABSTRACT

Methods: A single focus group followed by individual interviews were conducted.

Findings: The findings revealed that some African communities believe that children do not get cancer. There was a lack of factual information around the condition, which perpetuated the stigmatisation of these families. They felt isolated and could not access any community support as a result. Mothers experienced occupational disruption, as well as guilt and self-blame when their children had cancer.

Relevance to clinical practice: Support and information for mothers hospitalised with sick children should form part of occupational therapy intervention.

Limitation and recommendations for further research: These findings are applicable to African mothers from both a peri-urban and rural context in KwaZulu Natal. Further research with mothers across South Africa would be useful to expand on the research findings and would potentially assist in programme development.

Key words: mothers perspectives, cancer, stigma, occupational disruption, African beliefs

INTRODUCTION AND RATIONALE FOR THE STUDY

The Childhood Cancer Foundation of South Africa states that one in six hundred children will be affected by cancer before they reach the age of sixteen1. The symptoms of childhood cancers are difficult to identify as they may mimic other common illnesses and conditions to which children are prone. Stefan2 reported that while it is possible to identify cancer, it is possible that they may overlap with many everyday problems and challenges. However it is crucial for health professionals to be able to identify and provide intervention for the psychological difficulties of the family that may ensue in the wake of a cancer diagnosis.

Compas et al6 identified that the cancer diagnosis of a child can be distressing for the family as a whole. Similarly other studies7,8 noted that the adjustment to having a child with cancer can have a significant impact on the psychological well-being of the family members and their functioning, within the household and the community. The effects of having a child with cancer may not always be overt, but rather imbedded in psychological challenges, and may manifest as impairments in the parents’ coping style or execution of their daily responsibilities and occupational choices.

Anecdotally within the South African setting, it has been noted that it is mainly the mothers who will reside with the child who is undergoing treatment as an in-patient. The review of Vrijmoet-Wijersma et al10 found that parents’ emotional stress reactions emerged around the time of diagnosis, with mothers being affected more than fathers. From a local perspective, Jithoo6 explored parents’ experience of the communication process and the support and guidance needed for parents of children with cancer. She found that communication around the illness was limited to medical matters with the emotional issues being neglected. Furthermore, it emerged that parents were overwhelmed by their experience and expressed a need for psychological intervention. However there is limited research on the experience of mothers of children with cancer in the rural and peri-urban contexts of South Africa. Furthermore, there is a dearth of research on the effect of having a child with cancer...
cancer on the daily activities and roles of mothers in these contexts. In light of this gap in the literature, the researchers believed that there was a need for a study to explore the lived experiences of mothers with children afflicted with cancers in order to inform occupational therapy practice. This study was designed to explore the lived experience of the mothers who have children with cancer and identify how this affected their daily lives. The aim of this study was to explore the experiences and psychological challenges faced by mothers with children who have childhood cancers. The researchers further wished to explore the occupational effects of having a child with cancer and the coping mechanism used by mothers. This was aimed at creating deeper insight into this phenomenon to guide clinicians’ provision of intervention. This paper will specifically report on the psychological and occupational effects on the lives of mothers who provide care for children with childhood cancer within the context of KwaZulu Natal in South Africa.

**METHODOLOGY**

A qualitative cross-sectional research design was used to explore the lived experiences of mothers of children with cancer. Qualitative methodology enabled the researchers to gain insight into the participants’ contexts and their personal experiences. The study was conducted at the Children’s Haematology Oncology Clinics (CHOCL) childhood cancer foundation house in Durban South Africa. CHOCL is a non-profit organisation which was established in 1979. The foundation offers free accommodation to the children and their care givers whilst receiving medical intervention at Inkosi Albert Luthuli Central Hospital (IALCH), a local tertiary level hospital. The clients travel from their homes across the province to IALCH for their oncology regime, and the accommodation provided by CHOC allows a parent/caregiver to stay with the child whilst receiving treatment.

Purposive sampling was used to recruit the participants for the study. The inclusion criteria included caregivers who had a child under the age of eighteen, spoke IsiZulu or English, and who were resident at CHOC at the time of the study. Six females aged twenty four to forty two years of age who lived in rural and peri-urban areas in KwaZulu Natal (a province in South Africa) participated in the study. The participants were unemployed and their monthly income ranged between R1000 to R3450, with most caregivers receiving a child support grant for their children. The participants had between two to five other children who remained at home.

A pilot study was conducted prior to data collection to test the questions, in order to improve trustworthiness of the data and reduce ambiguity of questions. Data was collected using one focus group and two semi-structured interviews. The focus group and interviews were audio-recorded to ensure accuracy in transcription. Open-ended questions were asked, focussing on the lived experiences of the mothers, with regard to having a child with cancer. Each participant was given a pseudonym to ensure anonymity.

The semi-structured interviews were conducted in the same week as the focus group. All the mothers were invited to participate in semi-structured interviews and two mothers volunteered to participate. These interviews were used to deepen the enquiry into the themes of interest that emerged from the focus group. In this way, the findings from the semi-structured interviews allowed the researchers to add depth to the findings. The focus group and the semi-structured interviews were conducted in IsiZulu by an isiZulu speaking researcher as this was the participants’ home language. The researchers had both the focus group and the individual interviews translated from IsiZulu into English. These transcriptions were verified and cross checked by an objective third party. Thematic Analysis was employed to analyse the verbatim transcripts. Deductive reasoning using the research questions was used to generate the initial codes, whilst inductive reasoning was used to reduce the number of codes and refine the main themes. The researchers obtained ethical approval from the University of KwaZulu Natal Ethics Committee.

Finally the data was analysed separately by each member of the research team to improve trustworthiness of the data. Once the data was analysed, the researchers had to achieve consensus regarding the themes and allow for analyst triangulation.

**FINDINGS**

There were four main themes that emerged in this study, namely ‘community insight and beliefs’, ‘the emotional reactions to having a child with cancer’, ‘factors that promoted resilience’ and ‘the impact of having a a child with cancer on the participants’ occupational roles’. The themes and the subthemes are outlined in the section that follows.

**Theme 1: The Mothers’ Emotional Reactions to Having a Child with Cancer**

**Guilt and Anxiety**

The mothers experienced self-blame relating to their child having cancer, as well as guilt for leaving the family members at home, whilst they remained with their sick child at CHOC. The mothers reported feeling anxious and uninformed regarding matters surrounding their child’s diagnosis of cancer and the treatment process.

I used to ask myself why I am not the sick one, why must it be my child? Agnes

What hurts me the most is that the other children at home always call me asking when am I coming back home. Gloria

What saddens me the most is that I left the other kids with their father only… and everyone knows that males are not good at caring for the children. Busi

I am very troubled since most of the work has to be done by my eldest child who is only 14 years of age. Eunice

**Frustration**

Feelings of frustration were clearly vocalised by the mothers participating in both the focus group and individual interviews. These feelings were directed at their child’s illness and the community due a lack of knowledge and support from them regarding the diagnosis of cancer. The mothers’ expressed feeling anxious and frustrated at the disruption of their occupational roles as mothers.

I have explained at length that there are many children in the hospital I have encountered with cancer. Some people still do not believe me up until this point. Busi

**Theme 2: Community Insight and Beliefs**

**Traditional African Beliefs**

The mothers’ all had a traditional African belief paradigm and were representative of the rural and peri-urban communities from which they came. They believed that their communities felt that their children had cancer due to the ill-will or the curse of an ancestor. The mothers’ reported that they had first consulted traditional healers before seeking Western medical intervention, due to the traditional belief systems that they practiced.

They (the ancestors) have the belief that it is a traditional illness. Busi

We have tried traditional healers and still there was no result. Eunice

**Community Silences around Cancer and lack of knowledge**

The mothers’ reported that they felt alone, as the community did not acknowledge that their children could have cancer, and did not openly discuss the illness. Furthermore, it was found that the mothers, as well as their communities of origin, generally lacked knowledge and insight into childhood cancers, with the result that the mothers did not feel accepted within their communities. In addition, non-disclosure of the children’s diagnoses prevented the family from accessing the support of the extended family...
and community, which serves as a buffer when the mother was away. It also emerged from the mothers that the communities had greater knowledge and understanding of HIV/AIDS than they did of cancer, and particularly of childhood cancers. The quotes that follow give voice to these feelings of alienation and loneliness of the mothers.

I was really hurt when my child was diagnosed since I had not ever heard in my community that there is a child with cancer…. I was going to be the first one. Thembili

The community does not accept it very easily that a young child has cancer especially when no one in the family has ever had cancer. Gloria

Sometimes you wish that your child had TB or HIV/AIDS because you know that there is medication that the child can take and live a normal life. Eunice

Theme 3: Factors That Promoted Resilience in the mothers

Family support and the advantages of being at CHOC

The family members provided emotional support to the mothers with regular telephone calls. In addition to the telephonic communication, one mother reported that her relative visited her on a regular basis. In addition, the mothers found that the peer support resulting from residing at CHOC was beneficial as they found comfort in sharing their experiences, and realised that their children were not alone with a cancer diagnosis. This brought some emotional reassurance that they were not alone.

I get calls from both families (from my side and the husband’s side). Having people supporting you during this time is an advantage for me because I feel loved and comforted during these trying times. Lebo

My brother…. always calls and visits us here at CHOC…. I can safely say that he is like my parent. Agnes

The fact that we live together here at CHOC as mothers and we share our experiences even though our children’s sicknesses are different. Busi

When I came to CHOC, I saw that I am not the only one with this sickness. I got used to understanding that cancer is something that exists in children and not in adults only. Gloria

Coping Mechanisms and Ways to cope

Three common coping mechanisms of the mothers emerged in the research, namely prayer, acceptance and optimism. Acceptance of their child’s condition helped them come to terms with the diagnosis. Optimism in the form of hope allowed the mothers to believe that they would survive this trying time in their lives.

I sometimes say God is with me since my child survived chemotherapy. Agnes

What I can say is that you first have to accept that cancer is a reality. Agnes

“I am feeling much better now as compared to before, because I can see him playing around and he is normal. I still have hope for him” Gloria

Theme 4: Impact on Mothers’ Occupational Roles

Mothers’ Responsibilities

All Mothers were unemployed at the time of the study, and their daily occupations revolved around home maintenance, and taking care of their families. Some mothers disclosed that they worked in the gardens and fields of the home as well. This was not seen as a formal occupation with any form of remuneration, but part of the role as a wife.

Since I stay in a rural area and not in the townships, thus the only work I have been doing is preparing my child for school, cooking and doing the laundry. Agnes

I used to do home chores and farm as well. Eunice

Disruption at Home and shifting responsibilities

The mothers showed concern over the disruptions at home due to their absence. The family members had to alter their occupational roles in order to absorb the duties of the mother. This was accompanied by feelings of distress and guilt from the mothers, as they expressed their lack of confidence in another individual’s ability to take care of their families.

It is difficult being away from home because everything stops, since most of the things at home are done by you as a mother. There is absolutely nothing that goes on within the home without me. Gloria

I feel so sad and worried about the situation at home, because even if there is shortage of groceries at home, the kids wait for me until I come back. Gloria

My eldest child, but their father also helps out especially when it comes to cooking. I am very troubled since most of the work has to be done by my eldest child who is only 14 years of age. Eunice

DISCUSSION

Community insights and beliefs about cancer

The researchers identified that the mothers represented a micro-cosmos of the communities from which they came. With this in mind, the mothers were not seen as mutually exclusive individuals from the community, but rather as being embedded in their communities.

Traditional beliefs emerged as a factor that could influence the mothers’ and their communities’ views on cancer. Mothers admitted to having consulted with traditional healers regarding their children’s illnesses prior to seeking western medical help. They initially believed that cancer was a result of traditional causes, such as a curse on the family or the ancestors being angry. In view of this, it was not surprising to find that the mothers first took their children to traditional healers, before taking them to hospitals when their children’s health did not improve. This may have contributed to the late diagnosis of cancer in some children, resulting in a poorer prognosis in these cases.

There appeared to be a lack of understanding with regards to cancer as a medical condition, and how it affected people from varying age groups within the population. The personal experience of having a child with cancer brought more awareness of the condition in children. This may have been due in part to the widespread dissemination of information regarding HIV/AIDS by the national and provincial South African (SA) Department of Health.

The mothers’ access to information on childhood cancers was limited, when compared to HIV/AIDS, as anecdotally it was noted that there was limited information campaigns on childhood cancers by the SA National Department of Health. This is a gap in service delivery as the National Service Delivery Agreements identifies childhood health as a priority11. Furthermore, the participants who predominantly lived in rural and peri-urban communities, had no access to the internet and there was limited exposure to information on childhood cancers on the radio and on television in KwaZulu-Natal. This left the mothers and their communities with limited sources of information such as word of mouth, to retrieve information, around conditions such as cancer that affected their children.

Mosavel, Simon and Ahmed11 found that the lack of knowledge of cancer is common in the South African context, and that communities play a large role in the dissemination of false information, and the ensuing creation of stigma around cancer. This was reiter-
ated by the mothers' description of their communities' beliefs that cancer could not be associated with a child, as it was presumed to be an adult condition for those with a family history.

The three inter-linked areas that created a picture of the community's insights were traditional beliefs, lack of insight and knowledge, and silence in the community. The findings indicate that traditional beliefs shape the way in which African individuals may approach and understand the diagnosis of cancer. This has an effect on the communities’ and the mothers’ insight into the condition. Emotions such as guilt emanating from traditional beliefs, and fear of judgement from the community, may urge the mothers to remain silent regarding their children’s diagnosis. This perpetuated the cycle of a lack of knowledge and insight of the mothers, as well as the community. It further promoted the value of remaining silent and contributed toward non-disclosure of the diagnosis. The mothers seemed to have used silence to protect themselves from possible stigmatisation and ostracisation by the community, but this silence may in fact be fuelling the former, as it reinforced the shame and guilt in relation to a childhood cancer diagnosis.

Emotional reactions to having a child with cancer

The mother’s feelings of guilt and frustration appeared to be connected to the community’s traditional African beliefs, their disbelief at the cancer diagnosis, and the anxiety resulting from the shift of occupational roles at home.

The mothers felt they were somewhat responsible for their child’s diagnosis of cancer. This was consistent with literature that stated it was normal to experience feelings of guilt, anger and fear when your child was diagnosed with a life threatening condition[1]. It was noted that the guilt experienced by the mothers was predominantly in response to their role changes to both the sick child, as well as their “healthy” children at home. The American Cancer Society[11] reported that cancer created “an instant crisis in the life of all family members and that the course of daily life stops or changes course.” Guilt arose in the mothers as they felt they were neglecting their family members at home, and had made the sick child their priority. Smith[1] reported that mothers felt that they had caused the illness. In addition, these women may also have felt that they were being punished for something that they had done in their lives, or that they hadn’t taken good care of themselves whilst they were pregnant.

This resulted in a vicious cycle existing between the mother’s feelings of guilt, their lack of knowledge and poor insight regarding cancer. Mothers blamed themselves for their child’s diagnosis which caused immense guilt, as they did not have sufficient knowledge to understand that this was not the aetiology of the cancer. This feeling of guilt prevented the mothers from openly communicating and interacting with the medical staff, which further maintained the status quo of the lack of knowledge and insight regarding cancer.

The mothers expressed feelings of uncertainty towards the unpredictability of the course of cancer which could be directly attributed to their lack of knowledge and poor insight. This was consistent with the literature which indicated that parents were susceptible to feelings of helplessness, fear, stress and despair in response to the unpredictable nature of cancer[7,11]. Similarly, Maunder[16] explained that the parental uncertainty in childhood cancer was linked to the constant fear of consequences like relapse or death.

Coping mechanisms used

The mothers only returned home to their extended families on a limited basis due to a lack of finances and transportation resources. The mothers reported that they elicited emotional support from their family members via telephonic communication. This highlighted the reliance on telephonic communication, especially mobile devices, and the need for family support. It was important to note there was a sense of strength and comfort when the mothers spoke of the support from their family members, even though it was only telephonic contact. The phone calls to and from family allowed the mothers to stay positive and remain hopeful that their children would respond to the treatment. This resonated with the findings of Fletcher et al[17], who found that social support is a strong pillar to coping. Furthermore, the mothers chose to hold on to the hope that their children would fully recover. Although hope cannot be concretised, it emerged as a prominent coping mechanism. The mothers indicated that their spiritual beliefs helped bolster their spirits as they prayed to keep strong. However, there was no mention of a specific religion, and the spiritual beliefs mentioned could include ancestor worship.

Another important factor that assisted the mothers with their adverse situation was the benefit of living at a residential facility like CHOC. The mothers had peace of mind in knowing that their sick children’s basic needs were being met. This included the basic needs for food, shelter, security and stimulation in the form of play. CHOC is situated on the hospital premises, which reduced the travel costs required to access treatment, which was helpful given their financial limitations. The mothers resided in areas that were geographically distant from the hospital, but still felt it was important to be present during the hospitalisation of their children. Björk et al[18] concurred that it was essential that parents assume roles of conforter and supporter for their children during their treatment process. Furthermore, parents facilitated the recovery process through allowing themselves to become a source of security, and physical and emotional contact for their children. Residing at CHOC enabled the parents to assume these roles. In this way mothers and their children were able to reside close to the oncology unit, where the children were able to easily access all of their treatments, while having the emotional support of their mother. Additionally the mother’s presence was vital in maintaining the role of an attachment figure for the child[9].

It was highlighted that the parents residing at CHOC shared a common reality that their children had cancer. This indicated a feeling of universality in contrast to feeling alone. Residing in one house forced the mothers to confront the reality that they were not the only ones with a child with cancer. This enabled the mothers to speak freely and openly about cancer, and enabled them to form a new community, one that allowed for emotional expression, acceptance and confrontation of their child’s condition, in tandem with the psychosocial support it generated. The support and coping mechanisms that have been identified in this study appeared to be passive in nature. Mothers contacted their families telephonically, identified with one another at the CHOC house, and would seek comfort in knowing that they were not alone, which enabled the mothers to survive their daily lives, however it did not necessarily put them in a position of empowerment.

Impact on Mothers Occupational Roles

One of the areas that the researchers were particularly interested in was the effect of the hospital stay on the mothers’ daily lives. It was found that all the mothers were unemployed prior to the onset of their children’s illnesses. Despite having non-renumerated work the mothers had roles and duties as part of their daily functioning of being wives and mothers. The mothers reported that the cultural norm in their communities was that the females to carry out household chores and care for the children. Each mother had a daily occupation of fulfilling domestic tasks like food preparation, cleaning the home and caring for one or more children, which meant that their daily occupations had changed very little since they had been at CHOC Durban, as these tasks were still being performed, albeit to a lesser extent. The difference arose in the context of where it was being done, and the fact that it benefitted just one child in the family.

Christiansen and Townsend define occupational disruption as a “temporary condition of being restricted from participation in necessary or meaningful occupations such as that caused by illness”[20,34]. This study found that not only was the sick child’s occupation disrupted, but that of the family as well. The mothers’ daily tasks were essentially unchanged but existed in a different context, however, with the households they had left behind, experiencing the most disruption.
Mothers showed concern over the fact that they played a key role in the running of the home, and that their absence had allowed for disruption and possible dysfunction at home. This situation was inescapable, because in order to obtain access to health care for their sick child, they had to travel great distances from their homes. The poor socio-economic backgrounds of these mothers limited their ability to return home frequently in order to alleviate the disruption that was being encountered there. This was an added stress for these mothers. Apart from this, leaving the sick child at the hospital to return to the rest of the family did not come across as an option for the mothers. This concurs with the findings of Ångström-Brännström et al.21 who found that parents gained comfort when they were physically and emotionally close to the sick child.

To accommodate the changes and disruption in the absence of the mothers at home, household members had to shift their responsibilities. For the mothers this felt less than ideal, with older children and fathers having to take on the daily occupational roles. The mothers seemed unsure of the family’s coping abilities, which added to their feelings of guilt and anxiety for the family they left behind. The entire family, whether present at the hospital or distantly in the homestead, were struggling to survive and regain occupational and emotional normality due to the child having cancer, as well as the disruptions at home.

Ubuntu is an important African value where the interests of the community supersedes those of the individual.22,23 Within the African context one may fully expect the family members’ occupational survival to be aided by Ubuntu, which can be seen in the actions of the extended family and community.

However this was not seen with every family. One mother had received support from her extended family in taking care of her family at home, however the remaining five mothers had only identified their nuclear families as a support. Several mothers had indicated that the community did not know where they were, or about their child’s condition, as this was not disclosed. For this reason, the community were unable to assist these families due to ignorance of the situation, which led to further strain on the families in terms of compensating for the mothers absence. The shifting responsibilities are reflected below in Figure 1.

![Figure 1: Shifting of responsibilities](image)

The sphere on the diagram represented the mothers’ responsibilities, while the triangle represented the occupations of the mother, child and family. In the first diagram, the sphere representing the mothers’ occupations is in the centre indicating normal and balanced occupational functioning by each mother.

In the second diagram, although the sphere representing the mothers’ responsibilities had not decreased in size, it had deviated towards the sick child. This substantially increased the responsibility on the family to compensate for the mothers’ absence, by taking over her occupations in the home, which represented the occupational disruption in the home.

**CONCLUSION & RECOMMENDATIONS**

This paper has outlined the socio-emotional and occupational effects of having a child with cancer on the lives of African mothers from KwaZulu Natal, South Africa. Furthermore, the lack of knowledge and insight around cancer within the rural and peri-urban communities has been highlighted. This has raised the issue of the need for improved communication between medical staff and mothers, together with creating an environment that will provide support to the mothers and create opportunities to gain insight into cancer through shared experiences. Greater efforts need to be placed on improving the awareness of the community about childhood cancer and demystifying the myths, so that the mothers can gain support from the community to help their families through these adverse situations. The study further revealed that the mothers were susceptible to occupational risk factors, particularly occupational disruption and imbalance, and that occupational therapists needed to address these concerns of the mothers when treating the children with cancer.

A limitation of the study is the small sample size and the findings relate only to African mothers who were residents at CHOC at the time of the study. The findings cannot be extended to mothers of other race groups in the province, who may not necessarily cope with a child with cancer in the same way.

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Corresponding Author
Deshini Naidoo
naidoodes@ukzn.ac.za
The lived experience of drivers with a spinal cord injury: A qualitative inquiry

Lucia Mtetwa, B Sc (Hons) University of Zimbabwe — Masters Student, University of Stellenbosch

Sherrilene Classen, BA OT (UFS), PhD OT (Nova Eastern University), MPH Epidemiology (University of Florida. Post-Doctoral Fellow, Public Health/Rehabilitation Sciences, University of Florida

Lana van Niekerk, B OT (UFS), M OT (UFS), PhD OT (UCT) — Head, Division of Occupational Therapy, Department of Interdisciplinary Health Sciences, Stellenbosch University

ABSTRACT

Driving is an instrumental activity of daily living and a facilitator of meaningful participation in society for the majority of the population, including persons with spinal cord injuries (SCI). Driving encompasses the execution of visual, perceptual, cognitive, and physical (motor and sensory) skills within a complex environment. A SCI refers to damage to the spinal cord causing temporary or permanent limitations in motor, sensory or autonomic functions. Based on the International Classification of Functioning, Disability and Health (ICF), an SCI affects the body structure, functions, and activities of daily living including driving - all which are critical for functioning and participation in daily life. Persons with an SCI may have impaired fitness to drive capabilities. Fitness to drive refers to "having the necessary mental and physical abilities and resources required for driving a motor vehicle safely and without unduly hindering the progress of other traffic".

Driving as an instrumental activity of daily living

For persons with SCI, independence in mobility is essential as public transportation is not readily accessible, available or affordable. On the other hand, public transport systems established specifically for persons with mobility impairment are often inadequate, expensive, or inconvenient. For instance in South Africa the Dial-a-ride system is in place for people with mobility impairment, however it requires booking in advance and is therefore not flexible, convenient, and may not cater for emergency trips. Moreover, the service is only available in certain parts of the country (e.g. Durban, Cape Town and Johannesburg) and not in others.

The ability to drive one’s own vehicle is associated with satisfaction, independence, engagement in daily activities, autonomy, role fulfilment, ability to pursue leisure activities, and being employed. In their study, Kyono et al. discovered that 84% of their participants with traumatic complete tetraplegia who had jobs were able to drive independently, and that 70% of those who were able to drive independently had a job. On the other hand, only a minority of the study participants who could not drive were employed. The same study revealed that the participants who could not drive also did not participate in sporting activities; while half of those who could drive independently participated in some sporting activities.

They concluded that the ability to drive can enable engagement in social activities which may in turn enhance quality of life. Dias de Faria conducted a study in Brazil and noted that the quest for independence and autonomy, the desire to engage in out of home activities, to work, to study as well as to access recreational places of choice, were the reasons for desiring to own an adapted car. Consistent with the older driver cessation literature, persons with SCI who do not drive, or who give up driving post injury may also experience a decrease in “out of home” activities, loneliness, isolation, and depression.

Driving with spinal cord injury

Following SCI, individuals experience challenges including fatigue, increased workload, and prolonged reaction time. Due to the nature of impairments resultant from a SCI (e.g. impaired hand function, lower extremity paralysis), fitness to drive may be affected at the operational (e.g. lane keeping) and tactical levels (e.g. overtaking).

Peters explored the workload experiences of drivers with SCI. He compared driving performance and workload of 26 tetraplegic
drivers to a control group of 26 able-bodied drivers, using a driving simulator. Tetraplegic drivers used two types of hand controls while the control group used conventional controls. The study revealed that drivers with tetraplegia experienced a considerably greater time pressure and used more effort compared to able bodied drivers. They also became more exhausted from braking and accelerating.

For quadriplegic drivers, limited hand function may further contribute to prolonged reaction time. Peters discovered that drivers with tetraplegia were able to drive as well as able bodied drivers, however with a prolonged reaction time of 1096.

Prasad, Hunter, and Hanley explored the driving experiences of disabled drivers using participants with a variety of diagnoses, including those with tetraplegia and paraplegia. Their study showed that about 80% of those who could drive had a 6.5% accident rate, which was considered to be the same as that of the general population. However, they found that hand controls were initially difficult to master and those using the hand controls had the highest accident rate at initial stages. This indicates that drivers using hand controls including drivers with SCI may initially experience difficulties with mastering new controls at the early stages of driving, or getting back to driving. By adequately compensating for the individual’s impairments, fitness to drive abilities may be enhanced.

In our study, we used the Ecology of Human Performance (EHP) model, which offers a way of understanding how performance is tied to the context. Ecology, in this model, is the interaction occurring between the person and his or her environment. The EHP model acknowledges that this interdependence between the person and the environment positively or negatively influences behaviour and occupational performance. The model also illustrates a relationship between the constructs of person, context, tasks, performance, and therapeutic intervention.

Under the guiding principles of the Ecology of Human Performance (EHP) model, the conceptual framework for this study, we studied the domains of the person (e.g. motor, sensory), the vehicle (e.g. hand controls), and the environment factors (e.g. driving in traffic). Recommendations in each of these domains may be incorporated as part of a driver rehabilitation programme to improve the fitness to drive abilities of this population.

Driver rehabilitation services in South Africa
An estimated 650 South Africans sustain spinal cord injuries every year. However, driver rehabilitation is not ordinarily included in South African rehabilitation programmes. In developed countries, for example in the United States of America (USA), occupational therapists who are certified driver rehabilitation specialists (OT-CDRS) evaluate and intervene to improve fitness to drive among a variety of populations. Although experts, a driving rehabilitation researcher from Canada and a driver rehabilitation specialist from the USA, conducted workshops on driving assessments and interventions (2011, 2012) and on-going research mentoring at Stellenbosch University, no formal training exists for occupational therapists to become CDRS in South Africa. Additionally, in 2011 two centres for clinical driver rehabilitation were launched in Gauteng where occupational therapists and driving school instructors assess and train drivers with disabilities.

Road safety in South Africa
The South African motor vehicle injury mortality rate is 39.7 per 100 000 citizens - the worst in the world. About 40 people are involved in fatal road traffic crashes per day, with an additional 20 being left permanently disabled. Exposure to a high risk context can potentially impact the individual’s own safety perceptions when driving, and the overall experience of driving.

Rationale and significance of the study
The impetus of this study derives from four fronts. First, an SCI is a life changing and disabling condition that impacts people differently, yielding unique sets of circumstances and needs for continued mobility and driving. Second, the driving experiences of persons with SCI are not well understood. Understanding these experiences can inform rehabilitation professionals on return to driving post-SCI. Third, poor road safety conditions in South Africa, coupled with limited driver rehabilitation services in the country create challenging conditions for individuals with a SCI who want to (return to) drive. Finally, driver rehabilitation is an emerging need in South Africa. Taken together, these issues indicate a need to understand individual perspectives of driving with SCI in South Africa to better inform clinical practice.

In South Africa, there are no published research studies to support driving and SCI. Research conducted in developed countries shows some effort to explore the topic of driving with SCI. However, articles that specifically included the experiences of driving with a SCI were quantitative in nature.

This study examined the question: What are the lived experiences of drivers with SCI within the City of Cape Town Metropolitan area in South Africa.

METHODOLOGY

Ethical considerations
The Health Research Ethics Committee at Stellenbosch University approved this study. Each participant provided written informed consent before enrolling into the study.

Research Design
This study used a qualitative phenomenological design, inspired by Edmund Husserl. This approach seeks to know and comprehend the lived experiences of persons and their intentions within their contexts. Crabtree and Miller stated that phenomenology is concerned with understanding the meaning of having certain experiences. Because the research was situated with the phenomenological tradition it focussed on personal accounts of the drivers with SCI, uncovering their individual realities and lived experiences.

Population and sampling procedures
A purposive maximum variation sampling strategy with snowballing as a recruitment strategy was used. The study included 14 persons with SCI.

Procedures
The study population was accessed through a SCI organisation and a mobility devices company in the Western Cape. Those participants who responded positively to the invitation were recruited for study participation. Subsequent participants were recruited through use of the ‘snowballing’ technique which involved asking initial participants to recommend other potential participants. Interview arrangements were made telephonically or via e-mail, and intake occurred via a demographic profile form.

Selection criteria
Participants were recruited if they met the following criteria. They had to:

- be 18 years or older, as the legal driving age of an automobile in the RSA is 18 years;
- have a medical diagnosis of SCI (any level), regardless of the cause;
- currently be driving a vehicle, or have attempted driving after the SCI; and
- be a resident in the city of Cape Town Metropolitan area.

Table 1 on page 57 displays the demographic characteristics of the participants (N=14, 21.4% were female, while 78.6% were male), with diagnoses of paraplegia (35.7%) or quadriplegia (64.3%). The age range was 39 (24-63 yrs.). Road traffic crashes caused the spinal cord injury for nine (64.3%) participants. The number of years driven before the injury ranged from nil to twenty years.
Table I: Demographic characteristics of the study participants

<table>
<thead>
<tr>
<th>Name (Pseudonym)</th>
<th>Sex</th>
<th>Age</th>
<th>Cause</th>
<th>Resultant disability</th>
<th>Years of driving before SCI</th>
<th>Years of driving post-SCI (in years)</th>
<th>Type of Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian</td>
<td>Male</td>
<td>42</td>
<td>Road traffic crash</td>
<td>Quadriplegia</td>
<td>13</td>
<td>12</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>James</td>
<td>Male</td>
<td>30</td>
<td>Gunshot</td>
<td>Paraplegia</td>
<td>None</td>
<td>1</td>
<td>Self-employed</td>
</tr>
<tr>
<td>Jack</td>
<td>Male</td>
<td>31</td>
<td>Road traffic crash</td>
<td>Quadriplegia</td>
<td>2</td>
<td>3</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Jiggs</td>
<td>Male</td>
<td>63</td>
<td>Road traffic crash</td>
<td>Paraplegia</td>
<td>2</td>
<td>40</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Mercy</td>
<td>Female</td>
<td>34</td>
<td>Road traffic crash</td>
<td>Paraplegia</td>
<td>6</td>
<td>1 year</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Michael</td>
<td>Male</td>
<td>39</td>
<td>Diving</td>
<td>Quadriplegia</td>
<td>None</td>
<td>3 (with learner’s)</td>
<td>Self-employed</td>
</tr>
<tr>
<td>Nelson</td>
<td>Male</td>
<td>57</td>
<td>Diving</td>
<td>Quadriplegia</td>
<td>About 3 years legally</td>
<td>38</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Olivia</td>
<td>Female</td>
<td>50</td>
<td>Road traffic crash</td>
<td>Paraplegia</td>
<td>None, but held licence for two years</td>
<td>27</td>
<td>Part-time employment</td>
</tr>
<tr>
<td>Roxanne</td>
<td>Female</td>
<td>45</td>
<td>Road traffic crash</td>
<td>Quadriplegia</td>
<td>17</td>
<td>9</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Schoemaker</td>
<td>Male</td>
<td>43</td>
<td>Road traffic crash</td>
<td>Quadriplegia</td>
<td>20</td>
<td>9</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Shaddy</td>
<td>Male</td>
<td>39</td>
<td>Road traffic crash</td>
<td>Quadriplegia</td>
<td>8</td>
<td>17</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Virgo</td>
<td>Male</td>
<td>24</td>
<td>Road traffic crash</td>
<td>Paraplegia</td>
<td>None</td>
<td>2</td>
<td>College Student</td>
</tr>
<tr>
<td>Webster</td>
<td>Male</td>
<td>43</td>
<td>Gunshot</td>
<td>Paraplegia</td>
<td>None</td>
<td>15</td>
<td>Full-time employment</td>
</tr>
<tr>
<td>Wiele</td>
<td>Male</td>
<td>44</td>
<td>Rugby</td>
<td>Quadriplegia</td>
<td>2 years (without licence)</td>
<td>25</td>
<td>Full-time employment</td>
</tr>
</tbody>
</table>

and for after the injury from one to forty. Thirteen (of fourteen) participants were employed and one was a student. Of those employed, 10 (76.9%) were full time employed, two (15.4%) were self-employed, while the remaining participant (7.7%) was part-time employed.

Research setting
The research was conducted in the City of Cape Town Metropolitan area. The study participants and the researcher mutually agreed on a venue (e.g. work place) to conduct the interviews.

Data collection
Data collection occurred through face-to-face, semi-structured interviews, providing open-ended questions, probes and prompts. Data collection was stopped when data saturation was reached for those participants who were still driving. As only one participant who ceased driving participated, data saturation could not be reached for those who attempted and ceased driving post SCI. Interviews were audio taped and transcribed verbatim. The interviews were conducted in English. The least educated participant had a Grade 11 level of education, and all the participants were able to respond relevantly to questions posed without seeking additional explanation. Observations were also captured as part of field notes. Confidentiality was maintained by assigning pseudonyms to all participants. Hard copies of participant information was stored in a locked filing cabinet, while electronic files were stored in a password protected computer and server network. Participant information was only available to the first author, who conducted all interviews.

Data analysis
The analysis was an inductive and iterative process. The Weft QDA electronic package Version 1.0.1, developed by Alex Fenton in 2006, was used for data analysis. Data analysis commenced with identification of meaningful units as codes. These were then sorted and organised to form categories. The EHP model was then used to further conceptualise the findings according to person, vehicle, or environment factors. According to common themes that emerged, the data were reported via a narrative description.

Trustworthiness
Three techniques were employed to address credibility. First, data source triangulation entailed scrutinising different sources for convergence of information. The perspectives of 14 participants with different demographic characteristics (age, gender, duration of driving before and after sustaining SCI, and level of injury) were obtained. Although most data were obtained from those who were still driving, the views of one individual who had temporarily quit driving were also obtained. Observations and field notes were also made. Second, peer debriefing was used. The first author shared analysed data with the second and third authors who provided feedback on themes that arose, and a consensus on the emergent themes was reached. Third, member checking was done. During this process provisional analysis and interpretations were taken back to the participants for their comments and validation. Member checks were conducted for eight (of fourteen) participants via Skype or telephone conversations. The remaining six participants were not reachable for member checking.
Techniques adding to trustworthiness were transferability, confirmability, and repeatability. For transferability, a clear description of the study sample and the selection criteria were articulated. Details pertaining to the demographic characteristics of the participants to allow for reader comparison were provided. The South African context with respect to driving was also described.

By describing the study procedures and keeping the participant records for independent auditing confirmability was assured. The recorded and saved interviews were stored on a password coded universal serial bus (USB), both in audio and transcript format. The stages of the coding process illustrating the development of findings were also saved. Consistency was obtained through repeatability of procedures; i.e., using an interview guide with similar leading questions. Employing the above strategies culminated in trustworthiness.

RESULTS

Six themes, summarised in Table II, emerged from this study.

### Table II: Themes, sub-themes, categories, and sub-categories

<table>
<thead>
<tr>
<th>Six Major Themes</th>
<th>Sub-themes</th>
</tr>
</thead>
</table>
| Adjusting to limitations – Getting to know your body in a different way | Physical adjustments  
  • “Person” level  
  • “Vehicle” level  
  Psychological adjustments  
  • Accepting a new identity  
  • Experiences of fear  
  • Building confidence and getting used to hand controls |
| Safety perceptions and influencing factors            | Pragmatism – Drive within your ability  
  • Physical limitations  
  • Participants’ driving behaviours and habits  
  o Unfavourable environmental conditions  
  o Crime ridden areas  
  Poor road safety environment  
  o There is a lot of bad driving out there  
  o I drove without my licence for many years |
| The positive role of driving – When I bought my car, then my life was changed | Being isolated, stuck, and stranded (before driving)  
  Independence, autonomy, freedom  
  Improved confidence, self-esteem, power  
  Occupational possibilities  
  • Employment and productivity  
  Social involvement / participation  
  • Role performance  
  • Sport and recreation  
  • Positive social contribution through assisting others  
  • Isolation eliminated  
  Inspiring and assisting others to drive |
| Contextual features and supports                      | Social support  
  • Emotional support  
  • Informational support  
  • Tangible support  
  Organisational support  
  Technological support |
| Environmental barriers                                | Limited driving schools accommodating drivers with disabilities  
  Procedures of buying adapted vehicles  
  Limited parking facilities  
  Challenges and inconsistencies at the traffic department  
  Limited personal finances |
| Inconsistent provision of rehabilitation services      | Information dissemination  
  • Inadequate information provided  
  Driver evaluation  
  Driver training  
  Lack of recommendations and evaluation of hand controls |

**Theme 1: Adjusting to limitations**

All participants had to undergo physical and/or psychological adjustment in preparation for driving after sustaining the SCI. Physical adjustments included personal adjustments and vehicle adjustments. Personal adjustments were working to improve bodily functions (e.g. trunk stability, upper limb strength, and physical strength in general), adapting to a new way of driving with controls, finding alternative ways of transferring in and out of the vehicle, and managing the wheelchair. On the vehicle level, participants had to obtain modified vehicles to accommodate their physical limitations. Participants spoke about the need to make adjustments as follows:

*Ah, it’s quite an adjustment, because you need to get to know your body in a different way again.* (Roxanne)

*But then now I’m building up my strength even more, by going to gym and so I’ll be even stronger to drive the car….I don’t want any assistance from anyone to help me or anything like that.* (Michael)

Psychological adjustments included adjusting to changed identity,
accepting disability, and experiencing fear and apprehension while on the road. Some of this was captured as follows:

Because, when I had the injury, I had to take some time to accept that this injury is also creating [in] me or causing me to be mobility impaired. (Brian)

### Theme 2: Safety perceptions and influencing factors

This theme included the personal and environmental factors surrounding safety perceptions of drivers with SCI. The participants were aware of their physical limitations.

Limitations mentioned included limited hand function, prolonged reaction time, impaired trunk stability, ageing as a driver with SCI, and health-related factors (e.g., effect of medication on driving). The participants developed safe driving habits and self-regulatory behaviours post-SCI, to mitigate the functional limitations. Most participants expressed that they had adapted to environmental features to regulate their driving. Environmental features mentioned ranged from unfavourable weather conditions, temporal aspects (e.g., time of day), to other unfavourable road conditions, including gravel and winding roads, for example:

I would start off by explaining that it is not the same as what it was before the spinal cord injury. And then also explain that I have to use less limbs but more concentration. (Brian)

I try and avoid [driving] at night, in general. But at night in the rain is my worst nightmare, and that I’ll only do if I have to. I really prefer not to travel a lot at night. (Roxanne)

The participants also commented on the poor road safety conditions due to disregard of road traffic regulations by other drivers and inadequate enforcement of existing laws:

Yeah, man there is a lot of bad driving out there… (James)

Participants also highlighted poor monitoring of driving requirements by relevant officials:

… I drove without the licence for many years… (Jiggs)

The high crime rates in South Africa significantly influenced safety perceptions and driving habits for participants, as they felt they were more vulnerable and could be considered easy targets by criminals, compared to uninjured drivers. Hence, some participants avoided driving in townships associated with high crime rates.

I don’t want to drive [in] the township … because I always feel a bit vulnerable, like, I could be a victim and I can’t even fight back… (James)

### Theme 3: The positive role of driving

All participants testified that driving brought positive changes to their lives. Before they could drive post-SCI, the participants described their situations with words like ‘isolated’, ‘stuck’, and ‘stranded’. Participants remarked that public transport was not wheelchair accessible and that public transportation systems in place to cater for physically disabled individuals were inadequate, expensive, and inconvenient.

… it [driving] was so significant to me because I was stranded at first. After the injury I was always at home … I couldn’t go to school. I applied for Dial-a-Ride; they took forever to process the application… (James)

Benefits of driving mentioned by participants included increased occupational possibilities; enhanced participation in sporting and recreational activities; enhanced role performance; improved confidence, self-esteem, and power; eliminating isolation; and improved independence, autonomy, and freedom. Participants highlighted:

I would say, giving me my independence back … and not having to depend on others. (Shaddly)

The ability to drive has given me… an inch over the rest of my family … Where I would have … been seen as someone who needs assistance, I can assist now with my ability to drive. (Brian)

As a result of the positive changes brought by driving, most participants inspired others by engaging in motivational speaking, conducting demonstrations at rehabilitation centres, arming their vehicles for use by others with SCI, or practically teaching others to drive.

### Theme 4: Contextual features and support

This theme refers to those factors within the participants’ context that were perceived to support the resumption of driving post-SCI. The sources of support mentioned included social support, organisational support, and technological support. Three main types of social support were emotional, informational and tangible support. Examples of emotional social support mentioned are:

I will say my family, you know, they always [have] my back, yah. When I always slow down… they always give me that motivation. (James)

Examples of tangible support highlighted by participants included support obtained through organisations working with persons with SCI. One participant used a vehicle from one of the organisations working with persons with SCI for his driving lessons:

The [organisation] has a vehicle with the hand controls … I used their car to do my driving lessons. (Schoemaker)

From interacting with friends and other drivers with disabilities, participants gained information about driving schools, vehicle conversions, community resources, and the experiences of driving with SCI. … but there was this guy from P.E. [Port Elizabeth] He is also a SCI. He [also drives] a car. So he told me the people who can teach me how to drive… (James)

### Theme 5: Environmental barriers

This theme identified contextual features that negatively affected return to driving post-SCI. These included a limited number of driving schools accommodating drivers with physical disabilities; limited parking facilities for physically disabled drivers; challenges and inconsistencies at the traffic department; limited personal finances; and challenges when buying adapted vehicles. Below are examples of comments made by participants regarding challenges encountered when driving post-SCI:

… the big challenge was that I [didn’t] have a licence. I kept obtaining the learners, I drove my car to the guys who [had] the driving schools. So they didn’t help me because they [said] they didn’t know how to drive my car, the converted car. So it’s so difficult for them to teach me how to drive because they used to use the manuals, you see. That was a big challenge that I [had]. So, mind, count from 1998 … I’ve got a licence by 2004. (Webster)

I think the other challenge is basically … finding a vehicle … that is well equipped for you … (Schoemaker)

If some of [those] laws were relaxed, then we would have been able to import a car that is already adapted. (Brian)

Our traffic authorities are not suitably educated when it comes to dealing with disabled drivers … (Shaddly)

### Theme 6: Lack of provision of driver rehabilitation services

The involvement of rehabilitation professionals in providing information, conducting driver evaluations and driver training were experienced by participants as lacking during return to driving post-SCI.

The OT… gave me the contact numbers for the guys who converted the cars. But … he didn’t know anyone who can teach me how to drive, yah. (Webster)

I can only thank the professionals while I was at hospital, but while I was outside hospital it was me and my family. (James)

There was no one, eh, involved. Yah, because to be honest, the occupational therapists … don’t have an idea, you know, how to do it, or what’s the best. (Michael)
Clear communication of assessment finding by rehabilitation professionals to people who are responsible for making vehicle adaptations was stressed by one participant.

…sometimes also you go to the people that [do] the adaptations, they don’t know … how to test your strengths … So, eventually by the therapist getting that information, they can make an informed decision … (Michael)

DISCUSSION

Demographics of participants
The demographic characteristics of participants in this study correlated to the typical demographic trends reported in driving and SCI literature; considering that SCI is a disability that is relatively common among young males, as the current study population was relatively young with an average age of 42 years. The male to female ratio of the study participants was 3.7:1, which is similar to the reported global ratio of 3.8:1. Road traffic crashes were the leading cause of SCI among the participants, and road traffic incidents are rated the second largest cause of SCI in South Africa.

Adjusting to physical limitations
The participants reported that they had to make personal and vehicular adjustments to resume driving post-SCI. Similar to a study in Japan the majority of the participants reported having experienced initial difficulties mastering the hand controls, but these challenges dwindled with experience. Occupational therapists - even without particular training in driving assessment and rehabilitation - are positioned to be able to assist with the impact of body system limitation on occupational performance. Specific training in the driver rehabilitation area may improve targeted service delivery to enhance aspects of fitness to drive for clients with SCI.

Participants generally felt confident with driving at the time of conducting the interviews. However, persistent feelings of fear were noted among participants whose SCI was due to road traffic accidents. This may indicate a need for psychological intervention to better prepare such drivers for return to driving.

The participants’ struggle with adjusting to a new identity post-SCI may be attributed to the loss of pre-injury roles. Considering the positive role of driving in promoting independence and role fulfillment, driving rehabilitation may facilitate construction of a positive self-identity following an SCI.

Safety perceptions and influencing factors
The participants demonstrated an awareness of challenges related to their physical disability when driving. They identified negative impacts of ageing on a driver post-SCI and suggested a need for continued follow-up for appropriate recommendations (e.g. lighter wheelchairs for ageing drivers with SCI). Such recommendations may minimise premature driving cessation.

Participants who experienced fatigue from frequent braking and acceleration may benefit from alternative hand controls. For instance, the use of adaptive cruise control, instead of separate hand controls, may enhance adequate braking or accelerating. Other physical limitations mentioned by the study participants include prolonged reaction time and impaired trunk stability. Understanding the various physical limitations experienced by drivers with SCI coupled with knowledge of vehicle modifications may inform better driving rehabilitation recommendations.

Participants’ driving behaviours and driving habits
Being aware of their physical limitations enabled the study participants to adopt safe driving habits and employ self-regulatory strategies. Strategies and habits included avoiding driving in crime-ridden areas, leaving longer following distances, driving more cautiously, familiarising themselves with unfamiliar routes, as well as avoiding driving at night, during peak hour periods, and/or in bad weather conditions. Such strategies are also evident in older driver studies.

Poor road safety environment
Apart from functional limitations due to SCI, the majority of the participants in this study raised concerns about the poor road environment in South Africa, which further compromised their safety. These factors included human factors (e.g. negligence) and poor enforcement of existing laws (e.g. lack of screening of medically at-risk drivers, inadequate licencing and monitoring). This finding indicated that intervention programmes to improve fitness to drive must be supported by strategies targeting the poor road conditions in the South African society, such as improved monitoring of drivers to ensure they have appropriate licenses, and enhanced enforcement of existing laws. Thus, a collaborative effort between the health sector, traffic department, and local authorities could potentially contribute to improved road safety conditions.

The positive role of driving with spinal cord injury
The participants indicated that before resuming driving they were isolated and restricted to their home environments, similar to findings from older driver studies. Interestingly, the lack of accessible public transportation motivated the participants to return to driving. Nevertheless, given the benefits of driving, its role for those with a SCI, such as improved independence, enhanced occupational possibilities, ability to engage in leisure and recreational activities, and improved self-esteem and self-confidence, has been expressed by several participants in this study.

Contextual features and support
The participants in this study received emotional, informational, and instrumental support from organisations directly involved with persons with disabilities and social environment (family, friends, and other drivers with SCI) when returning to driving post-SCI. Furthermore, the extent to which the participants in this study expressed a desire to assist other persons with SCI to drive was unexpected. This finding indicates that other drivers with SCI are a potential support system whom rehabilitation professionals can involve during driver rehabilitation. Likewise, better support, e.g., financial support for obtaining adapted vehicles used for driver training, can be a significant starting point when promoting driving post-SCI.

Environmental barriers
The study participants mentioned barriers to driving post-SCI in South Africa. As a result, the following needs were expressed by the participants: a need for financial assistance from the government towards obtaining and modifying vehicles as practiced in Sweden; a need for improved monitoring of reserved parking spaces for drivers with disabilities (e.g. through introducing stiff penalties for violating disabled parking facilities); a need to provide standard guidelines for traffic officials when assessing people with physical disabilities including SCI; and a need for review of the current procedures of purchasing an adapted vehicle. These suggestions hold promising approaches for enhancing services for people with SCI, and create plausible practice, policy and research opportunities.

Inconsistent provision of driver rehabilitation services
The participants highlighted a lack of rehabilitation professionals’ involvement in providing information, driver evaluation, driver training, and recommendation of hand controls – findings which are consistent with the SCI literature. Participants confirmed that there is a need for rehabilitation professionals to evaluate individuals and make appropriate recommendations that may adequately compensate for individuals’ limitations. Thus, occupational therapy practitioners are encouraged to consider implementing driver rehabilitation strategies into the management of SCI.

Study limitations
Only eight (of 14) participants were reachable for member checking. Only one participant who had stopped driving participated in the study, limited in-depth data on nuances of driving cessation...
following a SCI was therefore obtained. The first author was not fluently conversant in two of the indigenous languages of the na-
tives of Cape Town (Afrikaans and Xhosa). Using only the English
language during interviews may have affected the participants’ ability
to express their views.

Recommendations for practice, policy and research
Overall, occupational therapists in South Africa do not have ade-
quate training in the field of driver rehabilitation. Given the signif-
ificance of the ability to drive, as highlighted by participants in
this study, driving specific education is recommended to support
occupational therapy practices. Educational bodies providing entry
level programmes or continuing professional development may
consider including training in driver rehabilitation. Likewise, occu-
pational therapists may also consider pursuing an active partnership
with vehicle modification companies. As such, the occupational
therapists may prescribe, monitor and evaluate the installed vehicle
modifications of individuals with a SCI.

Adequate psychological support and research to investigate
the presence of symptoms of post-traumatic stress disorder
is indicated for drivers whose SCI was due to a road traffic crash.
Therefore, a plausible opportunity exists for occupational therapists
to screen for such individuals and make appropriate referrals for
psychotherapeutic intervention during rehabilitation.

Trained occupational therapists may also assume an educational
role for traffic department officials and driving school instructors,
pertaining to the driving needs of individuals with physical dis-
abilities. This study suggests a critical need for developing and
implementing standard guidelines for driving assessors evaluating
persons with SCI.

Occupational therapists are encouraged to assume advocacy and
mediation roles on a broader societal level in order to mi-
nimise the various environmental barriers (e.g., challenges with
procedures of purchasing an adapted vehicle) for return to driving
post-SCI. Moreover, the findings indicate a need for improved
monitoring and enforcement of existing laws. For example, regu-
lation and enforcement are necessary to ensure that all drivers
on the road hold valid and appropriate licences, including those
with physical disabilities.

To further understand the perceptions of participants who un-
derwent driving cessation post-SCI, a follow-up qualitative research
study is recommended. Focused studies can explore each of the
different aspects of this emerging theme to further clarify the concerns of the participants.

Repertition of this study, for example in a different province, can
contribute to an enhanced understanding of the factors promot-
ading and/or hindering driving post-SCI in South Africa. Likewise, to
explore the educational needs of occupational therapists, a survey
may be conducted to investigate their current practices and ap-
proaches towards driver rehabilitation.

CONCLUSION
This study is novel in that it is the first in South Africa to explore
the lived experiences of drivers with a SCI. It presents a funda-
mental step towards laying a foundation for investigating medically
at-risk drivers. It also provides an in-depth account of the experi-
ences of drivers with SCI from an occupational therapy perspective and
contributes to understanding the EHP model in a driving related study.
Through the expressions of the partici-
pants, the role for occupational therapists in driving rehabilitation
post-SCI is critical, yet lacking. Finally, the study elucidated the
needs, barriers, and opportunities for driving with a SCI, which
contributes first-time knowledge to the South African occupational
therapy literature.

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Lana Van Niekerk).

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manace: A Framework for Considering the Effect of Context. The
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Corresponding Author
Lucia Mtetwa
mtetwa.lucia@gmail.com
**Community Service Occupational Therapists: thriving or just surviving?**

Kirsty van Stormbroek, BSc OT (UCT); MSc OT (UCT)**

Lecturer, Department of Occupational Therapy, School of Health Sciences, Faculty of Health Sciences, University of the Witwatersrand

Helen Buchanan, BSc OT; MSc OT; PhD OT

Senior Lecturer, Division of Occupational Therapy, Department of Health and Rehabilitation Sciences, University of the Cape Town

**The research described in this paper was conducted as a Master’s Degree Student at the University of Cape Town.**

**ABSTRACT**

**Introduction:** Community Service was introduced to improve access to health care for all South Africans, yet little is known about the experiences of Community Service occupational therapists. This article describes the characteristics and general experiences of Community Service occupational therapists.

**Methods:** A national cross-sectional survey was undertaken. Data were collected with an online questionnaire to all occupational therapists completing Community Service in 2013 (n=240). Data were analysed with IBM SPSS Statistics, version 21.0, and responses to open ended questions were post-coded.

**Results:** A 44.3% (n=104) response rate was achieved. Almost half the participants (44.7%) were located rurally with 51.5% working at primary level at least some of the time. Referrals were frequently received for wheelchair related services (61.2%), interventions related to child development (49.5%), disability grant assessments (36.9%) and treatment of adults with neurological conditions (39.8%). While some therapists felt challenged (54.2%) and frustrated (58.3%), many (75.0%) reported satisfaction from interacting with clients. Although the majority perceived the profession to be poorly recognised (63.5%), most were proud to be occupational therapists (66.7%).

**Conclusion:** Community Service occupational therapists are playing an important role in improving access to services but Community Service needs to be situated within a broader plan to extend and strengthen services in-line with government policy.

**Keywords:** Community service, occupational therapy, novice occupational therapist, professional identity

**INTRODUCTION**

Community Service (CS) has increased the number of rehabilitation professionals practicing within the public sector significantly1. State-employed occupational therapists and physiotherapists have reportedly increased by 33% and 40% respectively through the State-employed occupational therapists and physiotherapists have reportedly increased by 33% and 40% respectively through the implementation of CS1, a strategy introduced to address the challenges of a health system with a complex history.

The democratically elected government that assumed leadership of South Africa in 1994 inherited a health care system dominated by a curative, hospital-based approach and characterised by fragmentation2, inequality, duplication and poor co-ordination of services3. The gross inequalities in resource allocation between public and private sectors and across provinces resulted in the majority of the population being under-served in terms of health care. Human resourcing of certain medical professionals (doctors, dentists and pharmacists) favoured the private sector and within the public sector, provinces with large urban hospitals attracted more staff2.4

The National Health Plan for South Africa4 focuses on restructuring and transforming the health system based on a Primary Health Care (PHC) approach with priority attention on PHC facilities and personnel in rural and impoverished urban areas. Further plans to address the health care inequalities were described in the White Paper for the Transformation of Health Services5. Goals and objectives included unifying the fragmented health system, improving the availability and appropriateness of services and promoting equity, accessibility and utilisation of services. The equitable distribution of health personnel throughout the country, and a focus on the rural, peri-urban and urban poor and aged, was described as one of the target areas for achieving this goal. Strategies employed to achieve this target included building and upgrading PHC facilities, introducing a rural allowance for health professionals and implementing a one year compulsory community service for graduating health professionals6.

Although challenges such as the quadruple burden of disease, insufficient control of epidemics, continued skewing of resource allocation towards the private sector, and flaws within the health system, have constrained progress towards achieving the goal of a unified health system for all, some important achievements have been realised at a policy and legislation level1. One of these policies, ratified by the Medical, Dental and Supplementary Health Service Professions Amendment Act of 1997, introduced compulsory CS for graduating health professionals7.

CS was implemented for doctors in 1998 and for other health professional groups, including occupational therapists (OT), in 2003. The system aimed to improve the provision of health care for all South Africans8, particularly in rural and previously under-served areas9. The effectiveness of CS is evidenced by the 20% increase in general medical practitioners in the public sector in 2006 and 2007. CS is considered to be one of the ten most effective health strategies implemented by the government since 19941. This article reports part of the results of a larger study and aims to describe the demographic and practice characteristics of Community Service occupational therapists, and the general experiences of CS occupational therapists during their CS year in 2013.

**LITERATURE REVIEW**

A search of key databases was conducted (CINAHL, MEDLINE, Pubmed, Health Source: Nursing/Academic edition, Science Direct, Academic Search Premier and Africa-Wide Information) from January 2013 to November 2014 to identify research and grey
Table I: Summary of published articles and grey literature related to community service for various health professional groups (n=41)

<table>
<thead>
<tr>
<th>Professional group</th>
<th>Author/s (Year)</th>
<th>Source</th>
<th>Research Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapists</td>
<td>Flieringa23</td>
<td>MSc (Occupational Therapy) Minor Dissertation (University of Cape Town)</td>
<td>“To indiscriminately examine the impact of occupational therapy student service learning experiences at role-emerging, primary level health care sites on the adjustment of graduates at similar sites during compulsory CS”23:37</td>
</tr>
<tr>
<td></td>
<td>Holland, Middleton, &amp; Uys10</td>
<td>Occupational Therapy International</td>
<td>“To explore how novice occupational therapists conceptualised professional confidence”10:105</td>
</tr>
<tr>
<td></td>
<td>Hess - April42</td>
<td>PhD Dissertation (Occupational Therapy) (University of the Western Cape)</td>
<td>To explore CSOTs conceptualisation of occupational justice.</td>
</tr>
<tr>
<td></td>
<td>CSOTs (Multiple authors, n=23)26-40</td>
<td>Focus (Official newsletter of The Occupational Therapy Association of South Africa) Obtained via personal communication</td>
<td>Not applicable: opinion piece.</td>
</tr>
<tr>
<td></td>
<td>Maseko, Erasmus, Di Rago, Hooper &amp; O’Reilly11</td>
<td>South African Journal of Occupational Therapy</td>
<td>“To determine the factors that influence choice of placement for community service amongst occupational therapists in South Africa”11:37</td>
</tr>
<tr>
<td>Doctors</td>
<td>Reid9</td>
<td>South African Medical Journal</td>
<td>“To evaluate the effects and impact of the first year of CS intervention against [DOH objectives]”9:329</td>
</tr>
<tr>
<td></td>
<td>Kolosa12</td>
<td>South African Medical Journal</td>
<td>Not applicable: opinion piece.</td>
</tr>
<tr>
<td></td>
<td>Ross &amp; Reid14</td>
<td>South African Family Practice</td>
<td>“To gain understanding of the motivations of CS officers to continue working in the same DH for a subsequent year after their obligatory year is over”14:249</td>
</tr>
<tr>
<td>Physiotherapists</td>
<td>Ramklass15</td>
<td>Health and Social Care in the Community</td>
<td>“(To explore) how the first cohort of physiotherapists experiences their year-long CS and how they felt their undergraduate training prepared them for practice”15:522</td>
</tr>
<tr>
<td>Nurses</td>
<td>Thopola, Kgole, &amp; Mamogobo16</td>
<td>African Journal for Physical Health Education, Recreation &amp; Dance</td>
<td>“To explore and describe the experiences of newly qualified nurses who were trained in the University of Limpopo… CSs within public health establishments of Limpopo Province…”16:169</td>
</tr>
<tr>
<td></td>
<td>Beyers24</td>
<td>Magister Curationis Minor Dissertation (University of the Western Cape)</td>
<td>“To describe the experiences of CS practitioners during their CS at a rural health facility”24:9</td>
</tr>
<tr>
<td>Speech language therapists</td>
<td>Wranz25</td>
<td>MPhil (Health Science Education) Dissertation (Stellenbosch University)</td>
<td>“To identify the potential gaps that exist between (CS) professionals’ perceived readiness and the demands of the reality (context) in which they have to function”25:12</td>
</tr>
<tr>
<td>Dieticians</td>
<td>Visser, Marais, Du Plessis, Steenkamp, &amp; Troskie17</td>
<td>South African Journal of Clinical Nutrition</td>
<td>“To investigate the experiences and attitudes of CS dieticians… to determine their perception of the success of the year as a whole and to assess whether the knowledge and skills of graduates improved”17:18</td>
</tr>
<tr>
<td></td>
<td>Paterson, Green, &amp; Maunder15</td>
<td>Health Policy</td>
<td>“To examine and explore the factors affecting the professional development of dieticians during CS”15:288</td>
</tr>
<tr>
<td></td>
<td>Parker et al19</td>
<td>Public Health Nutrition</td>
<td>“To evaluate the successes and shortcomings of the CS programme implemented by the DOH in South Africa by evaluating CS dieticians experiences and challenges during the 2009 CS year”19:1411</td>
</tr>
<tr>
<td>Clinical psychologists</td>
<td>Rohleder, Miller, &amp; Smith10</td>
<td>South African Journal of Psychology</td>
<td>Not applicable: opinion piece.</td>
</tr>
<tr>
<td></td>
<td>Pillay &amp; Harvey21</td>
<td>South African Journal of Psychology</td>
<td>“To survey the experiences of the country’s entire first group of CS clinical psychologists”25:259</td>
</tr>
</tbody>
</table>

# PTs: Physiotherapists  * SLTs & As: Speech language therapists and audiologists
literature (dissertations and theses) related to CS in the different health professional groups. As information about CS occupational therapists’ experiences was specifically needed, hand searches were undertaken of the Focus (official newsletter of the Occupational Therapy Association of South Africa (OTASA)) from 2004 to 2014 to locate articles written by CS occupational therapists on their experiences. The heads of all occupational therapy education programmes in South Africa (n=8) in 2013 were also contacted to identify studies that were either unpublished or still in progress.

Fourteen journal articles22-24 and three Masters dissertations22-25 were identified from the search (see Table I on page 64 for a summary of the articles that were retrieved). Hand searches located 19 opinion pieces involving 23 authors26-41. E-mail correspondence with the heads of occupational therapy education programmes at the time confirmed that no studies on CS occupational therapists’ experiences had been conducted, but one related PhD study22 was in progress.

At the time of the study, no research exploring the experiences of CS occupational therapists was located. One article on the conceptions of the professional confidence of eight CS occupational therapists in KwaZulu Natal31, although not directly relevant to this study, provided helpful background information. The article reported that CS occupational therapists in KwaZulu Natal were either sole-practitioners or worked in a small team of occupational therapists and sometimes alongside other CS rehabilitation staff. Some worked within well-established departments, while others were required to re-establish departments or start new services. Although informal support structures have been developed for CS occupational therapists in KwaZulu Natal, the National Department of Health (DOH) considers practitioners to be qualified and thus fit-for-practice, and do not provide any formal mentorship41.

A doctoral thesis exploring CS occupational therapists’ conceptualisation of occupational injustice was in process (L. Wegner, email communication, March 25, 2013), with preliminary findings highlighting the severe constraints practitioners experienced in applying the concept of occupational justice due to the medical model dominated health system (L. Hess-April, email communication, January 14, 2014). A masters study found that final year occupational therapy students perceived role-emerging placements during their undergraduate education as equipping them better for the challenges of CS31. An undergraduate project described the factors influencing the choice of CS placement for a group of 2012 CS occupational therapists1. Access to personal development opportunities was considered important by 75% of the participants and 66% indicated a preference for urban rather than rural posts. However, the experience of therapists within these posts was not explored31.

Opinion pieces (n=19) accessed during this period provided valuable insights on the experiences of CS occupational therapists. Challenges included working with limited resources26-32, language barriers26,29,31-41, and a patient population faced with costly travel to health care facilities26,28,33. Facing the needs of communities was reportedly difficult and even overwhelming at times26,29,31,41, but provided opportunities to make a difference27,37. Challenges encouraged resourcefulness and an ability to adapt26,28,36,40. The CS year facilitated the development of experience, knowledge and confidence which was enriched through exposure to colleagues from other universities32,33,34-48. The gratitude of patients, their families and communities, was identified repeatedly as a highlight of the CS experience26,28,30,31,33,37,44.

Two therapists accentuated the crucial role that occupational therapy assistants played in their practice27,44. A number of CS occupational therapists emphasised the importance of appreciating that the approach taken to CS is a choice and that therapists need to take responsibility for their learning and contribute to the communities in which they work26,36,41,45. While these experiences communicate important views, they cannot be generalised to the CS occupational therapist population in any given year. It is important to note that these contributions spanned 10 years and were written by CS occupational therapists who were either approached to share their experience, or who had submitted an article of their own volition, therefore, their experiences may differ from other therapists.

While this literature review identified studies about the experiences of several health professional groups, it revealed a paucity of research on the experiences of CS occupational therapists and the services they provide, thus supporting the need for this study. Understanding the experiences of CS occupational therapists will assist in the appropriate preparation of these novice occupational therapists and will inform the support that is required for the development of CSOTs and their services. Furthermore, CS occupational therapists’ experiences provide insight into the underserved therapy contexts into which occupational therapy services are being extended.

**METHOD**

**Study design**

A descriptive cross-sectional research design was used.

**Population and sampling**

The population consisted of all occupational therapists who were allocated CS placements for 2013 by the National Department of Health (n=241). Therapists who were allocated placements but did not take them up were excluded (n=1). The population was thus 240. To capture as broad a spectrum of experience as possible40 total population sampling was employed.

**Instrumentation**

As compulsory CS is unique to South Africa and a suitable instrument was not found, a survey was designed for the study. The development and content of the survey was guided by a review of the literature. The survey for the full study consisted of two sections: Section A contained demographic and practice information (19 items), and general CS experience (48 descriptors), while Section B focused on upper limb rehabilitation. This article reports only the results for Section A. Question types included numerical items, dichotomous and multiple response items, linear numeric scales, and open-ended questions. To allow participants to qualify their answers to closed-ended questions, space was made for additional comments. Descriptors for the section on general CS experience were extracted from published articles on novice practitioners’ experiences of practice46-54. Descriptors were grouped into four areas of professional practice: knowledge and skill in practice (13 items), professional identity and recognition (8 items), supervision and support (7 items), and positive and negative personal descriptors (20 items). Participants could select more than one descriptor and were given the opportunity to explain their choice. A copy of the questionnaire is available on request from the first author. The survey was self-administered and created with Fluidsurvey software55, and was available in both English and Afrikaans (the languages of instruction within the eight occupational therapy programmes).

**Pilot testing**

The draft questionnaire was pilot tested in September and October 2013 with three groups of occupational therapists: upper limb rehabilitation experts (n=6), fourth year students (n=5) and therapists who had previously completed their CS (n=7). The aim of the pilot studies was to strengthen content validity, face validity and utility of the instrument. Electronic and hard copy questionnaires were used in this process. Feedback from participants highlighted the need for more adequate definitions of various terms. For example, the definition for “cultural competence” within the questionnaire raised multiple queries and was thus changed to a more comprehensive definition. Participants identified various formatting errors including where insufficient space had been left to add comments. Participants also provided feedback on the time taken to complete the questionnaire so that this could be amended in the participant information sheet.
Procedure
Participants were recruited in several ways (telephonically, through text messages, post, email or Facebook) to maximise the response rate. Data were collected between November 2013 and January 2014 so that responses could be based on at least 10 of the 12 month contract. Questionnaires were completed electronically where possible. Hard copy questionnaires with pre-paid envelopes were posted to participants who did not have access to telephones or e-mail. An e-mail reminder was sent to increase the response rate. The information sheet included an explanation that incentives would be offered to those who completed the questionnaire. All participants submitting a completed questionnaire received a discount voucher for splinting material, and were entered into a lucky draw for an occupational therapy textbook sponsored by a book company. The incentives were minor and thus did not lead to undue inducement.

Data management and analysis
Data were stored using Fluidsurvey software with its guaranteed security settings to ensure confidentiality. Data for manually completed and e-mailed questionnaires were entered into Fluidsurvey the first author, and checked for accuracy by a research assistant who compared entries against the hard copy questionnaires. Data were assessed with IBM SPSS Statistics. Numerical data were checked for normality and the appropriate measures of central tendency and dispersion were calculated. Frequencies and proportions were determined for categorical data. Where necessary, categories were collapsed before analysis. Pearson’s Chi-square test of association was used to determine whether there were significant relationships between variables. Odds ratios (OR), which measure the association between exposure and a specific outcome, were calculated to further explore associations. The OR denotes the odds of an outcome occurring given exposure to a specific condition or factor, when compared to the odds of the outcome occurring in the absence of this condition/factor. Responses to open-ended questions were post-coded and grouped into categories by the first author, and checked for clarity and coherence by the second author. Any disputes were discussed by the authors until consensus was reached.

Ethics
Ethics approval was obtained from the University of Cape Town Human Research Ethics Committee (HREC approval number: 551/2014). Participants provided informed consent. Participants were asked to provide their names to ensure that multiple responses from the same participants were not included in the analysis. To protect confidentiality, questionnaires were allocated a number according to the list of registered CS occupational therapists. Once checks had been done to ensure only one questionnaire had been submitted per participant, names were removed from participant responses by the first author.

RESULTS
The response rate was 43.3% (n = 104). The sample represented 21.4% males and 44.2% females in the population. One response was excluded as no questions beyond the consent section had been answered. The analysis thus included 103 responses, representing 42.9% of the population of CS occupational therapists in 2013. Where n < 103 for items, missing responses for that item are indicated.

Demographic and practice profile of participants
The median age was 23.0 (Range: 21.0 – 30.0) years, and most participants had qualified in 2012 (Range: 2008 – 2013). The participants’ demographic and practice profiles are shown in Table II.

Just over half (55.3%) of the participants were placed in urban settings and worked within facility and community-based services (54.5%), with at least some time spent within primary levels of care (51.5%). Referrals were commonly received for specific services or change modalities (for example, wheelchair services and splinting) and medical diagnoses (for example, developmental delay and adult neurology) (see Figure 1 on page 67 for details).

Table II: Demographic & practice profile (n=103)

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3 (2.9)</td>
</tr>
<tr>
<td>Female</td>
<td>100 (97.1)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
<tr>
<td>University</td>
<td></td>
</tr>
<tr>
<td>University 1</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>University 2</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>University 3</td>
<td>9 (8.7)</td>
</tr>
<tr>
<td>University 4</td>
<td>9 (8.7)</td>
</tr>
<tr>
<td>University 5</td>
<td>20 (19.4)</td>
</tr>
<tr>
<td>University 6</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>University 7</td>
<td>21 (20.4)</td>
</tr>
<tr>
<td>University 8</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
<tr>
<td>Province</td>
<td></td>
</tr>
<tr>
<td>Eastern Cape</td>
<td>17 (16.5)</td>
</tr>
<tr>
<td>Gauteng</td>
<td>27 (26.2)</td>
</tr>
<tr>
<td>Free State</td>
<td>4 (3.9)</td>
</tr>
<tr>
<td>KwaZulu Natal</td>
<td>20 (19.4)</td>
</tr>
<tr>
<td>Limpopo</td>
<td>8 (7.8)</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>14 (13.6)</td>
</tr>
<tr>
<td>North West</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>5 (4.9)</td>
</tr>
<tr>
<td>Western Cape</td>
<td>7 (6.8)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
<tr>
<td>Service Level</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>33 (32.0)</td>
</tr>
<tr>
<td>Secondary</td>
<td>32 (31.1)</td>
</tr>
<tr>
<td>Tertiary</td>
<td>13 (12.6)</td>
</tr>
<tr>
<td>Primary &amp; Secondary</td>
<td>18 (17.5)</td>
</tr>
<tr>
<td>Secondary &amp; Tertiary</td>
<td>2 (1.9)</td>
</tr>
<tr>
<td>Primary &amp; Tertiary</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Primary, Secondary &amp; Tertiary</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Other (psychiatric facility, provincial hospital or military services)</td>
<td>3 (2.9)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
<tr>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>46 (44.7)</td>
</tr>
<tr>
<td>Urban</td>
<td>57 (55.3)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
<tr>
<td>Setting</td>
<td></td>
</tr>
<tr>
<td>Facility (services delivered at DOH facility)</td>
<td>36 (35.0)</td>
</tr>
<tr>
<td>Community (services delivered in the community)</td>
<td>11 (10.7)</td>
</tr>
<tr>
<td>Both</td>
<td>56 (54.4)</td>
</tr>
<tr>
<td>Total</td>
<td>103 (100)</td>
</tr>
</tbody>
</table>
experience are reported in the sub-sections representing different areas of professional practice, namely: knowledge and skill in practice, professional identity and recognition, support and supervision, and personal descriptors (positive and negative descriptors participants used to describe their CS experience). Descriptors are indicated in italics in the text - only those with high frequencies or those that were strongly emphasised are reported. As stated earlier, comments that explained participants’ reasons for selecting a particular descriptor were organised into categories. These are reported in the text with the number of participants whose comments were captured for each category (indicated by an n-value).

Knowledge and skill in practice

Frequencies for descriptors relating to the use of knowledge and skill in practice are illustrated in Figure II on page 68.

Most of the participants felt challenged (54.2%) due to a lack of physical or human resources (n=13), clinical challenges (n=8) or dealing with differences in culture and language (n=5). Therapists who felt challenged were more than three times more likely to also experience communication difficulties (OR 3.44). This result was significant (95% CI: 1.29 – 9.18; p=0.014).

A relatively high percentage of participants perceived a need for specific knowledge in assessment and treatment (43.8%), which was largely related to conditions for which they commonly received referrals (n=18). This need for specific knowledge was influenced by contextual factors such as late presentation of injuries when surgery is no longer an option (n=1), limited resources (n=3), restricted access to information or professional development (n=2), and lack of guidance from senior therapists (n=1). Participants felt that the breadth of knowledge required could not always be met by knowledge gained at university, which was perceived as lacking in detail or depth (n=6). Despite this, many participants felt okay with not knowing everything (42.7%). They attributed this to an appreciation for life-long learning (n=1) as reflected in the following comment from a participant.

I have learnt to stop comparing my beginning to someone else’s middle. I am only just starting out in the OT profession, with time I will grow in knowledge. (Participant 81)

Others felt that not knowing everything was to be expected given the broad scope of occupational therapy (n=3), linked it to knowing what you don’t know (n=4), or felt it was a useful point of departure for broadening their knowledge (n=2). Participants who felt encouraged to reflect critically on practice felt that this was motivated by the need to ensure quality service delivery (n=7), or necessitated by an absence of feedback and direction from supervisors (n=6). Conversely, others felt the opportunity to reflect with colleagues and supported critical reflection (n=7). Participants who were dissatisfied with supervision were three times more likely not to report being encouraged to reflect critically on their practice (OR 3.17; 95% CI: 1.29 – 7.79; p=0.012).

Professional identity and recognition

Frequencies for descriptors related to professional identity and recognition are shown in Figure III on page 68.

Two-thirds of the participants were proud to be an occupational therapist which some participants linked with bringing meaning to, meeting needs of and making a difference in patients’ lives (n=8), developing pride, passion and confidence in the profession (n=5), or to their growing appreciation of the unique contribution of the profession (n=4). Participants who reported a sense of pride were four times more likely to have a strong identity as an occupational therapist (OR 4.91; 95% CI: 1.78 – 13.54; p=0.002). Some par-

Table III: Opportunities to observe other occupational therapists treating patients (n=65)*

<table>
<thead>
<tr>
<th>Opportunities available</th>
<th>Theme</th>
<th>Category</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yes (n=44)</strong></td>
<td>Enabling &amp; enriching factors</td>
<td>• Observation encouraged, enabled or allowed by setting</td>
<td>19 (29.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Able to seek opportunities for observation beyond setting/facility</td>
<td>3 (4.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Observing OTs with experience/expertise</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td></td>
<td>Limiting factors</td>
<td>• Time, workload and distance minimise frequency</td>
<td>17 (26.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Observing OTs with minimal experience / expertise</td>
<td>8 (12.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Participants requested to assist colleague during treatment and felt that this limited learning potential</td>
<td>3 (4.6)</td>
</tr>
<tr>
<td><strong>No (n=21)</strong></td>
<td>Practical limitations</td>
<td>• Only OT in treatment area/site</td>
<td>10 (15.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Excessive workload</td>
<td>6 (9.2)</td>
</tr>
<tr>
<td></td>
<td>Attitude and opportunity</td>
<td>• Limited or no opportunity available</td>
<td>2 (3.1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Observation not allowed or discouraged</td>
<td>2 (3.1)</td>
</tr>
</tbody>
</table>

* 38 missing responses

Descriptive analysis of CS experience

Sixty-five participants responded to the item about opportunities to observe other occupational therapists treat patients. This included colleagues who may, or may not have had more experience. The majority (67.7%) reported having opportunities to observe other occupational therapists treat patients while 32.3% did not have such opportunities. Factors influencing whether or not they were able to observe colleagues treat patients are shown in Table III.

Descriptors of general CS experience

Descriptors (extracted from literature on novice clinicians’ experiences) capturing participants’ feelings associated with their CS experiences are reported in the sub-sections representing different areas of professional practice, namely: knowledge and skill in practice, professional identity and recognition, support and supervision, and personal descriptors (positive and negative descriptors participants used to describe their CS experience). Descriptors are indicated in italics in the text - only those with high frequencies or those that were strongly emphasised are reported. As stated earlier, comments that explained participants’ reasons for selecting a particular descriptor were organised into categories. These are reported in the text with the number of participants whose comments were captured for each category (indicated by an n-value).

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Participants found their identity challenged by a limited understanding of the role of the occupational therapist in practice settings (n=4). Participants who did not report having a strong identity as an occupational therapist were three times more likely to be dissatisfied with supervision (OR 3.41; 95%CI 1.38 – 8.44; p=0.008). Almost half the participants reported feeling like a physiotherapist (44.8%) and provided a variety of reasons for this. One therapist explained:

*When communication is difficult I turn to exercises which I can easily show patients. This often makes me feel like a physiotherapist.* (Participant 60)

Some (n=7) linked their sense of feeling like a physiotherapist to not having activities, equipment or time to enable activity-based treatment, while others (n=6) felt that patients with some conditions (e.g. cerebral palsy and stroke) in the very acute stages of recovery often required a similar approach to that of the physiotherapist. Participants reported feeling like a physiotherapist (n=5) where physiotherapy services were absent or limited, or when they worked closely with physiotherapists. Three participants linked this to lacking appropriate occupational therapy support or role model. Two participants reported that this feeling faded as they consolidated their identity as an occupational therapist and their occupation-centred practice grew.

Feeling poorly understood as an OT was significantly associated with feeling that OT is poorly recognised (OR 4.47; 95% CI: 1.01 – 1.89; p=0.025). The descriptor OT is poorly recognised was reported by 63.5% of participants. This was linked to being mistaken as a physiotherapist by the health team and the public (n=9), and a limited understanding of the role and value of occupational therapy by the team and the community (n=14). The following comments suggest that some of the meaning of occupational therapy may get lost in translation:

*There is no Zulu name for OT which makes it challenging to explain what we do or our role in the hospital. We often have to refer to ourselves as ‘dokatela wamatambo’ (doctor of the bones i.e. physio) or ‘dokatela wesingane’ (doctor of the children).* (Participant 82)

In the rural areas people only recognise dieticians, speech therapists and physiotherapists as members of the rehab (rehabilitation) team because they use association to identify professions, e.g. physio (bones) dieticians (food) speech and audiology (ears)… so as OTs, we lack that one specialty that singles us out. (Participant 5)

### Support and Supervision

Figure IV demonstrates frequencies for descriptors related to supervision and support.

Many participants (41.7%) felt like I need a mentor and their comments revealed that they coveted the guidance, advice, feedback and role-modelling that a mentor could offer in order to meet the demands of their work environments (n=16). Four participants reported seeking mentorship with varying levels of success. Satisfaction with supervision was protective against needing a mentor (OR 0.11; 95% CI: 0.03 – 0.34; p<0.001), and participants who had an occupational therapist as a supervisor were less likely to report needing a mentor (OR 1.39; 95% CI: 1.01 – 1.89; p=0.040). Twenty-four percent felt unsupported due to a lack of supervision (n=3) and support from...
the health team (n=4). Support from the team (n=4) and supervision (n=3) contributed to a similar percentage (20.8%) feeling supported. Many participants considered themselves accountable (41.7%) with some linking this to working alone and thus needing to be (solely) accountable for what is done (n=2), while others linked it to their direct responsibility to patients (n=3), feeling they were in some way accountable to others (n=4) or felt a sense of personal responsibility (n=3).

Personal descriptors

Responses to personal descriptors are illustrated in Figure V.

The most selected descriptor was deriving a sense of satisfaction from interacting with clients (75.0%). Comments suggested that this was linked with opportunities to witness improvement in patients’ functioning (n=5), receiving patient gratitude (n=5), making meaningful contributions to patients’ lives (n=6), positive feedback from others (n=1), and experiencing good therapeutic relationships (n=4). Participants felt this occurred despite the language barrier (n=6) and some linked it to being able to appreciate new cultures (n=2).

Adjusting was characteristic for some (n=28) with comments suggesting that this occurred as the year progressed (n=2), was related at times to adjusting to rural living, culture and language differences (n=3) or to working within or around contextual limitations (n=6) as noted in this quote:

I did feel like this entire year was about adjusting. Adjusting to: working on my own (without supervision); working without equipment; working in a [multi-disciplinary] team; working with limited/no resources; and working with poor management and support from the clinic. And I feel that all of those were valuable learning experiences. (Participant 71)

Despite the change and challenges experienced, CS was perceived as valuable. A positive approach was echoed by those that reported feeling enthusiastic (46.9%). Some participants (n=6) felt enthusiastic at first, or only at times depending on contextual factors and patients’ attitude towards treatment, while others focused on the great need for services and the potential to make a significant contribution in the community (n=6). A smaller group described themselves as thriving (15.6%) as they were able to meet the challenges presented by their particular context (n=5).

Frustration was common (58.3%) and was linked to resource limitations (n=17) including equipment, materials, absent or limited budgets, long delays in the delivery of equipment, assistive devices (e.g. orthopaedic surgery) that resulted in patients’ loss of function. Communication difficulties (OR 3.48; 95%CI 1.32 – 9.20; p=0.012), insufficient equipment to treat patients with upper limb injuries (OR 0.33; 95% CI 0.14 – 0.81; p=0.016) and dissatisfaction with supervision (OR 0.33; 95% CI 0.14 – 0.82; p=0.017) were significantly associated with frustration.

Other negative personal descriptors were selected less frequently. Some participants felt alone (28.1%). One participant stated, VERY! Cannot stress this enough! while another commented: At the beginning of the year I was incredibly alone, at work and after hours. An absence of colleagues, minimal guidance and difficult interpersonal or management systems contributed to feeling alone at work (n=12). Twenty-five percent felt anxious which was at times related to applying knowledge and skill (n=6) or being solely responsible for services (n=2) as illustrated by this quote:

My first day at work went like this: the head physio greeted me, gave me a key and said, ‘Here are the keys for your department’. No other help or guidance was given and when I asked or phoned the district, I was just referred on to another person. (Participant 21)

Other reasons for anxiety included high workloads (n=3), communication difficulties (n=1) or future work after CS (n=3). Similar reasons were linked to feeling that “I am just surviving” (15.6%). One participant stated that this was related to severe staff shortages while another attributed it to the amount of “admin” that was required. Similarly, feeling overwhelmed was not uncommon (21.9%) with two participants feeling that this characterised their experience in the beginning of the year, and others (n=10) linking it to the need or workload they were faced with. Two participants felt that a lack of knowledge and experience contributed to this feeling and another linked it to all the change associated with the CS year.

The study findings indicate that rural practice is beneficial for CS occupational therapists and should receive priority attention during undergraduate preparation as noted in the following comment:

Working in a rural setting is a valuable experience that all OTs should have to do. Those that work in tertiary hospitals are unaware of the challenges these individuals face being so rural. More should be done at varsity to equip therapists with actual community work and more focus placed on empowering individuals in the community with regards to skills training, job placements, and just community life in general – how to have a sustainable life (education on agriculture, proper pre-natal education and training etc.). (Participant 104)
Discussion and implications

Improving rural and underserved communities’ access to health care is central to the purpose of CS. It is therefore disappointing that at the time of the study, 11 years after the implementation of CS for occupational therapists, less than half the participants in this study (44.7%) were located rurally. Although only 23.8% of the first cohort of CS professionals were placed rurally, more recent studies have reported 55% of doctors, dentists and diétitians being allocated to rural placements. In South Africa, 43.6% of the population live rurally. Rural populations are least likely to have access to quality services, carry a high burden of disease, and are served by a minority of health professionals. A substantial number of CS professionals should be placed in these areas. However, defining ‘rural locations’ is not easy. In this study a formal definition for ‘rural’ was not provided in the questionnaire so the percentage represented participants’ perceptions of their allocation, rather than being based on objective criteria, such as receiving a rural allowance. Unfortunately, the overall urban/rural spread of the 2013 CS occupational therapist population could not be ascertained from National Department of Health records.

Furthermore, close to half the participants (45.6%) provided services in both primary and tertiary levels of care with more than a third (35%) working solely within facility-based care. While it is not clear what level of service was provided at these facilities, and many may have provided outreach services to lower level facilities or communities, at least 73% of CS occupational therapists in 2013 were allocated to hospitals. This percentage is suggestive of a persistent hospital-centric trend within the public health system. Lack of infrastructure at lower levels of care could have contributed to this trend.

Common reasons for referral reported by participants were largely related to physical health problems. It is possible that the nature of the questionnaire may have skewed responses towards capturing only some areas of the participants’ practice, but it could also reflect the nature of daily practice. While it cannot be assumed that these referrals are reflective of overall community needs, they may, in part, represent the commonly understood role of the occupational therapist within the multidisciplinary team (MDT) as well as the community. They may also reflect the under-servicing of mental health needs in South Africa, the practice preferences and experience areas of individual participants, or the continued dominance of the medical model orientation of the health system. Referrals had a curative and rehabilitative focus and were largely focused on individual clients. Although CS has substantially increased access to OT within the public sector, it is clear that primary level services to rural populations still require prioritisation. A shift to a population-orientation, that includes promotive and preventative services and takes due cognisance of social determinants of health into account, are necessary for CS occupational therapy practice to align with the primary health care re-engineering policy. Core principles of this policy also need to guide occupational therapy service development toward key health priorities and the burden of disease.

Although it has been suggested that new graduates are not suited to rural practice, in South Africa and abroad, having novice practitioners serving in rural areas is a reality. CS has proven to be an effective recruitment strategy to increase health personnel in rural and under-served communities. Although study participants were not asked whether they wished to continue in their post after CS, it is likely that they may not have wanted to do so given that CS is not an effective retention strategy. Key findings of a Delphi study to identify South African rural health priorities included much of Reid’s recommendations 10 years earlier and proposed interventions such as developing a national human resource plan that addresses the needs of rural contexts, appointing district and hospital managers with the appropriate experience and skills, equitable funding plans for hospitals, and the recruitment, retention and support of senior health professionals in rural hospitals. With these strategies in place, it is likely that CS occupational therapists would be better situated, and thus better equipped for practice that is aligned with national, provincial and community guidelines and priorities. To effectively harness the CS occupational therapy workforce, the development of rural practitioners needs to receive greater attention. It has further been suggested that greater opportunities for rural practitioners to assume positions of leadership within the profession are required in order to contribute to a sound understanding of the skill set required for best practice in a rural setting. If CS occupational therapists were supported and supervised by established rural practitioners, they would be better equipped to deliver services across the domains of occupational therapy practice.

As health care policy and decision makers need to work towards an effective human resource plan for health, universities need to focus on preparing graduates appropriately. Burch and Reid called for an explicit and pervasive orientation of university curricula towards rural practice with an emphasis on selecting students from rural and underserved areas. This appears to be the factor most strongly associated with rural practice. Undergraduate clinical practice in a rural area (which is included in some undergraduate occupational therapy programmes in South Africa) may prepare professionals for prolonged rural practice but it needs to occur early in the undergraduate programme and must include substantial clinical and community engagement with adequate supervision. Acknowledging that ‘assessment drives learning’, the competencies for rural practice such as language and cultural competence, and resourcefulness, need to be examined. The study results provide insight into the professional identity development of CS occupational therapists. Being able to appraise the contribution occupational therapy can bring to clients contributed a sense of pride in the profession that was related to a strong identity as an occupational therapist. The majority (63.5%) felt that occupational therapy is poorly recognised largely due to a limited understanding of the role and value of occupational therapy which has been reported previously. Identifying occupational therapists as physiotherapists has similarly been reported. The perceptions of the MDT have been identified as important in the professional identity formation of novice therapists. Another reason for the poor recognition of the profession is the lack of a title or description of the practice for the profession within some South African languages. The difficulty of communicating the nature and contribution of the profession within the English language has been reported as contributing to a lack of personal and professional identity in therapists. If this applies to English language speakers, it is likely to be even more challenging for occupational therapists who speak a language in which occupational therapy terminology is non-existent. The role of appropriate supervision and the presence of occupational therapy colleagues appear to be crucial to early identity-formation in occupational therapists. The current study findings that novice therapists temporarily adopt the identity of colleague role-models until they develop an identity of their own, confirms previous studies. In addition to the presence of supervision, CS occupational therapists and others have reported that various styles of supervision or supervision content are more helpful to identity formation than others.

This study revealed that witnessing what an occupation-centred approach contributes to the MDT and a growing focus on occupation-based practice appears to be critical to professional identity formation. It may also be this growing confidence in occupation that has a slow-but-sure ripple effect on the understanding of the profession within the team. Exploring the roles that occupational therapists assume in the MDT, Fortune queried whether new occupational therapists lacked examples of philosophically grounded practice, and feared that occupational therapists may only truly appreciate the essence of the profession over time or after post-graduate study.

To our knowledge this study was the first to document the general experience of CS occupational therapists 11 years after

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the implementation of CS for rehabilitation professionals. The questionnaire design which provided opportunity for commenting on responses to the close-ended questions enabled greater insights into participants’ experiences. Although the names of all CS occupational therapists for 2013 were obtained, contact details were limited and their accuracy could not be verified; it is therefore not known whether all postal and text message invitations to participate reached the participants. It is also possible that many may have received the invitation but chose not to participate which may have introduced a non-response bias74. The response rate may also have been reduced by participants needing to provide their names on their responses. It is therefore unclear whether the study results may be generalised to the population of CS occupational therapists in 2013, but they do provide valuable information about CS occupational therapists’ experiences. Findings reflect the experiences of CS occupational therapists who completed their CS in 2013. Substantial changes to South African undergraduate occupational therapy curricula (including an increasing focus on rural practice) may have taken place since the graduation of this group of therapists. The relevance of findings may be limited by this.

CONCLUSION

Participants’ experiences appeared to span the extremes of thriving and just surviving. Although many felt challenged and frustrated, a number reported satisfaction with their interaction with clients and were proud to be an occupational therapist. Results suggested that CS represents a crucial season in the professional identity formation of OTs and highlights the need for appropriate supervision and mentorship of CS occupational therapists. The study supports CS as a strategy that extends the reach of occupational therapy services within the public sector. However, the potency and potential of these novice professionals need to be nurtured and situated within the broader plans to increase access to occupational therapy services that are strategic, philosophically sound and aligned to government policy. Professional organisations and the National Department of Health need to develop strategies to retain experienced occupational therapists in underserved areas, and the public sector in general. Furthermore, while some mentorship structures for novice therapists exist within the Department of Health, these had not been documented at the time this study was conducted. This information should be shared to inform the development of a formalised supervision and mentorship system for this group as a matter of priority.

ACKNOWLEDGEMENTS

Gratitude is extended to the CS occupational therapists who willingly shared their experiences and the occupational therapists who assisted in refining the questionnaire.

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REFERENCES


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An Exploration of Burn Survivors’ Experiences of Pressure Garment Therapy at a tertiary hospital in South Africa

Rogini Pillay, B Sc Occupational therapy (UCT); Mphil (Rehabilitation) (US)
Assistant Director: Occupational Therapy, Groote Schuur Hospital, Cape Town

Surona Visagie, B Sc Physiotherapy (US); MSc and PhD (Health Sciences) (US)
Post-doctoral fellow, Centre for Rehabilitation Studies, University of Stellenbosch

Gubela Mji, Bsc Physiotherapy Medunsa, HED UNISA, MSc UCT, PhD (UCT)
Director, Stellenbosch University, Centre for Rehabilitation Studies, University of Stellenbosch

ABSTRACT

Introduction: Pressure garment therapy is used to treat hypertrophic scars, but adherence to this intervention presents challenges. The aim of the paper was to explore the pressure garment therapy experiences of adult burn survivors. 

Methods: The experiences of eight purposively sampled participants were explored in a qualitative, phenomenological study. Data were collected by means of semi-structured interviews. Thematic analysis was conducted.

Results: Participants described an improvement in the scars, but struggled with adherence to pressure garment therapy. The emotional impact of the burn injury, physical symptoms, the effort of caring for the garments, and aesthetic factors created barriers to adherence. Support, inner strength, knowledge, and seeing an improvement facilitated adherence.

Conclusion: The findings of the study show that participants perceived pressure garment therapy as beneficial, but several complex factors impacted adherence. A bigger choice in material colours, a person-centred approach to burn management, digital photos of scars to catalogue improvement and the establishment of a counselling network are recommended.

Keywords: Burns, hypertrophic scars, pressure garment therapy, adherence

INTRODUCTION

MacIntyre et al. concluded in a systematic review on the effectiveness of pressure garment therapy (PGT) in 2005 that while PGT seems to reduce scar formation, improve scar appearance, decrease itchiness, pain and contractures, the effect of this therapy remains inconclusive. This was confirmed in 2012 through a survey of American occupational therapists, who agreed with the findings on improved appearance (85%), contractures/movement (71%) and a reduction of itchiness (65%)². Anzarut et al. and Szabo et al. agreed that the effectiveness of PGT has not been firmly established. The use of a randomised control trial to establish the effectiveness of PGT in a setting where the treatment modality is accepted as the most appropriate, could be viewed as unethical. Such randomised control trials are further hampered by a lack of gold standard scar assessment tools. The Vancouver Scar Assessment Scale (VSS) - the most frequently used tool to assess scar characteristics - is purported to be unreliable, and is criticised because scoring is based on a subjective clinical assessment and scores depend on the opinions and skills of clinicians.⁶,⁷,⁸

Qualitative research is not dependent on opinions and skills of health care providers, but garners valuable information on the perspectives of burn survivors, the very persons who are the beneficiaries of the service. Yohannan et al. regard these recipients of health care services as an untapped resource in burn rehabilitation research. Their perspectives can assist in addressing the inconclusive evidence for the effectiveness of PGT. This paper aims to add to the evidence provided by three qualitative studies on adults’ experiences of scar management. Through exploring Cape Town burn survivors’ experiences of PGT, the other studies on patients’ experience with PGT that were identified included a phenomenological study from the United Kingdom by Martin and colleagues, a South African study by Stewart et al. and a German study (2009) by Ripper et al.¹⁰, that - as in the current study - used the Health Action Process Approach (HAPA) as framework.

LITERATURE REVIEW

Hypertrophic scarring is a common consequence of burn injuries. Literature reviews by Esselman et al. and Bloemen et al., both of which included studies from as early as 1990, showed large variance (30-90%) in the prevalence of hypertrophic scarring after burns. Studies performed after 2000 show greater similarity with a 5% variance in prevalence. In these studies the lowest prevalence was 67% in an American study¹¹ and the highest was 72% in an Italian study¹².

Hypertrophic scarring is associated with high levels of morbidity and can lead to physical and psychological impairments.¹³,¹⁴ In a synthesis of qualitative research, Kornhaver and colleagues provide vivid narratives in which burn survivors explore and explain the physical, psychological and social impacts of scarring, which include pain, loss of range of movement, changed body image, depression and social stigmatisation.

A review of the literature confirmed that PGT is one of the most common treatment modalities used in the prevention of hypertrophic scarring.¹⁵ However, it is not without challenges. Literature reviews indicate that PGT is a time consuming, expensive and demanding regime.¹⁵ Treatment recommendations for optimal outcomes require that the garments are worn 23 hours per day and provide consistent and adequate pressure until scar maturation is attained, usually after 12-24 months.¹⁵ This requires patience and motivation as changes in the appearance of scars are slow and improvements are only noted through careful observation.

As indicated by Yohannan et al. patients reported positive results in terms of scar appearance and mobility after PGT even though they found them uncomfortable and were reluctant to wear the garments outside their homes. Martin and colleagues provide valuable insight into the duality of patients’ responses to
Patient non-adherence is a complex phenomenon. The Health Action Process Approach (HAPA) model (Figure 1) has been used previously to assess adherence in PGT and provides a framework to describe changes in health behaviour. The HAPA is premised on two phases: a motivational and a volitional phase. The motivational phase is dependent on the patient’s intention to initiate adherence whilst the volitional phase involves translating this intent into action.

Figure 1: The Health Action Process Approach Model

The motivational phase is contingent with the person’s belief about what he/she is capable of doing (self-efficacy), expected outcomes and to a lesser extent, risk awareness when embarking on PGT. In the volitional phase (actual wearing or not wearing the PGs) the change must be “planned, initiated, and maintained, and relapses must be managed”. The volitional process contains action and coping plans and is strongly influenced by perceived self-efficacy as well as perceived barriers and resources.

METHODOLOGY
A qualitative, phenomenological design was used to allow participants to share their views and experiences. Study participants received PGT at the occupational therapy department of a tertiary hospital in Cape Town, South Africa, which hosts a specialist burns unit. Pressure garment therapy, provided by the occupational therapy department, comprises a large component of scar management at this unit.

The 179 patients, who received PGT between 2006 and 2010 at the study hospital constituted the study population. Participants had to be older than 17, without cognitive impairments and residing in the Western Cape metro health district. Following a purposiveness approach the primary author, an occupational therapist who provided PGT at the burns unit, used her personal knowledge of the patients to select those whom she thought would be able to provide detailed, nuanced information. In order to explore the topic as widely as possible a heterogeneous sample including men and women, from various age groups, socio-economic and cultural backgrounds, with varying percentages of body surface area burnt and in need of various garments was selected. Data saturation was reached after the eighth interview and data collection was terminated at this point.

An interview schedule, based on the primary author’s clinical experience, the HAPA and information drawn from literature was used to guide data collection. The following aspects relevant to this paper were covered in the interview schedule:

- How did you experience the PGT service and wearing the PG?
- What helped or hindered you in wearing the PG?
- What changes could be made to PGT service?

Whilst aware of the advantages of performing interviews personally, to prevent bias the primary author and service provider to participants, opted not to conduct the interviews. An occupational therapist experienced in conducting qualitative research, and familiar with PGT performed the interviews in a private room at the occupational therapy department or the participants’ homes, depending on their preference. Interviews were audio recorded. After completion of each interview the primary author discussed it with the interviewer and allowed her to reflect and debrief. The primary author transcribed each interview as it was completed and did a preliminary analysis of the data. The preliminary analysis showed data saturation after the eighth interview. Although most participants were isiXhosa-speaking, they opted to be interviewed in English.

Content analysis was done. Codes that recurred were formed into categories and these merged into themes that were related to the study objectives. Narrative examples are provided in the results to illustrate the themes.

Ethical Considerations
The study was registered with the committee for Human Research at Stellenbosch University. Permission was obtained from the Chief Executive Officer of the study hospital. Participation was voluntary and written informed consent was obtained before data collection commenced. This included consent to use a tape recorder. Pseudonyms were used to identify participants and to maintain confidentiality. Participants who showed signs of emotional trauma during the interview were offered follow-up counselling sessions with an occupational therapist or social worker.

Rigour
In an effort to ensure credibility the interviewer verified the researcher’s transcriptions of the recorded interviews. Telephonic contact was made with four of the participants to check if the analysed data correctly summarised their experiences. The questions were piloted with two burn victims to determine whether the information yielded answered the aim and objectives of the study. Where opposing opinions were voiced both were included. Rich data based on participants’ lived experiences were collected and narrative examples were provided in the transcript. A data base was maintained, to allow an audit or independent analysis. This also made it possible to assess credibility, consistency and neutrality. While the findings are not generalisable to the larger population or other populations due to a small, unrepresentative and non-uniform sample, the context and methods were described in detail should anyone want to determine if findings and recommendations can be transferred to a different context.

RESULTS
Table 1 on page 75 provides demographic information, burn history and adherence to PGT of participants. Four participants sustained partial thickness burns and four full and partial thickness burns ranging from 5 – 30% total body surface area.
Table 1: Demographic and burn information

<table>
<thead>
<tr>
<th>Age &amp; Gender</th>
<th>Race</th>
<th>%TBSA</th>
<th>Depth of burn</th>
<th>Body parts involved</th>
<th>Type of garments</th>
<th>Adherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andiswa</td>
<td>22; F</td>
<td>African</td>
<td>10%</td>
<td>Superficial &amp; deep partial thickness</td>
<td>Shoulder, thumb &amp; foot, Donor area: thighs</td>
<td>Sleeves, mittens &amp; sock</td>
</tr>
<tr>
<td>Ann</td>
<td>79; F</td>
<td>White</td>
<td>15%</td>
<td>Deep partial thickness</td>
<td>Both feet, Donor area: thighs</td>
<td>Knee high socks</td>
</tr>
<tr>
<td>Bongani</td>
<td>49; M</td>
<td>African</td>
<td>20%</td>
<td>Deep partial &amp; full thickness</td>
<td>Feet, legs, Donor area: thighs</td>
<td>Long pants &amp; socks</td>
</tr>
<tr>
<td>Fleur</td>
<td>22; F</td>
<td>White</td>
<td>6%</td>
<td>Deep partial thickness</td>
<td>Thigh, Donor area: thigh</td>
<td>Short pants</td>
</tr>
<tr>
<td>John</td>
<td>21; M</td>
<td>Coloured</td>
<td>25%</td>
<td>Deep &amp; full thickness burns</td>
<td>Face, head, torso, arms &amp; hands, Donor area: back &amp; thighs</td>
<td>Short pants, jacket, mittens, mask &amp; chinstrap</td>
</tr>
<tr>
<td>Mandy</td>
<td>20; F</td>
<td>Coloured</td>
<td>10%</td>
<td>Superficial &amp; deep partial thickness</td>
<td>Chest, arm face &amp; ear, Donor area: thighs</td>
<td>Short pants &amp; jacket</td>
</tr>
<tr>
<td>Phindi</td>
<td>27; F</td>
<td>African</td>
<td>27%</td>
<td>Superficial, partial &amp; full, thickness</td>
<td>Legs, feet, Donor area: thighs</td>
<td>Long pants &amp; socks</td>
</tr>
<tr>
<td>Sipho</td>
<td>36; M</td>
<td>African</td>
<td>30%</td>
<td>Deep partial &amp; full thickness</td>
<td>Hands, arm &amp; back, Donor area: thighs</td>
<td>Sleeves &amp; mittens</td>
</tr>
</tbody>
</table>

Table II: Categories under the two main themes according to HAPA components

<table>
<thead>
<tr>
<th>Definition according to HAPA</th>
<th>Self efficacy</th>
<th>Risk awareness</th>
<th>Outcome expectations</th>
<th>Resources and barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Believing yourself capable of performing the activities required to achieve the desired outcome</td>
<td>Knowledge of the negative outcomes that may result from non adherence</td>
<td>Beliefs about the likely effects of activities</td>
<td>Environmental aspects that assist or hamper adherence</td>
<td></td>
</tr>
</tbody>
</table>

Theme 1: Facilitators to adherence

<table>
<thead>
<tr>
<th>Inner strength</th>
<th>Knowledge</th>
<th>Compliance</th>
<th>Fear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement</td>
<td>Support from service providers</td>
<td>Family support</td>
<td>Enablers to access service</td>
</tr>
</tbody>
</table>

Theme 2: Barriers to adherence

| Emotional turmoil | Not a cure | Maintenance and effort | Lack of counselling | Physical symptoms | Aesthetics | Challenges to accessing services |

Participants reported that PGT impacted scar appearance and colour positively, but they found the slow process frustrating. They described components related to their motivation, resources and barriers which affected their volition and thus their varied levels of adherence to PGT. Two main themes emerged, i.e. facilitators of adherence to PGT and barriers in adherence to PGT. The categories under each of these themes were ordered under the four components that impact adherence behaviour according the HAPA i.e. self-efficacy, risk awareness, outcome expectations, as well as barriers and resources as shown in Table II.

**Theme 1: Facilitators of adherence to pressure garment therapy**

**Inner strength**

Participants described how being positive and their perceived self-efficacy in terms of following the PGT programme gave them emotional strength that helped them adhere to PGT.

Mandy: *I just started changing the way I think...just be more positive...You have to learn to be okay with it, it's just not something that you*
can get used to easily [wearing PG] but eventually it becomes like part of your life… it’s normal.

Sipho: I wanted to wear it, I wanted to heal properly…I just say okay, let me just wear it.

Knowledge

According to current study findings, education by therapists and contact with other burn survivors armed participants with knowledge and risk awareness of what to expect if the PG is not worn. This improved insight into the burn injury, its management and consequences and motivated adherence to PGT.

Phindi: … you know the reason why you’re wearing it and it’s because you know and they explain it to you before they give it to you, they show you how to wear it… Like I know someone… she stopped coming here for her pressure garments… and now she’s regretting that she stopped…

Sipho: I said “Hey am I gonna wear this like all the time?!?” They say “Ja you must wear it all the time.” And they show me some pictures there on the wall. “You see if you don’t do this then it’s gonna look like that. If you do this then it’s gonna end up like this.” So I said okay I want my skin to be soft … ‘cos they explained to me it’s gonna take maybe two years for me to wear the tubigrips [PGs]

Compliancy

Most participants’ adherence was based on their own motivation, self-efficacy and insight. Their decision to continue with PGT was an informed one based on knowledge of the options for scar management, but others appeared to rely on an external locus of control and explained that they just did what they were told to do.

Andiswa: I don’t have a choice. So I have to do everything they [OT] say I must do…
Ann: And I just automatically did what they [OT] wanted me to…

Fear

Negative emotions further fuelled adherence for some participants. This included fear that not wearing the PGs would cause secondary complications, and that poor adherence might negatively affect access to services in future thus they adhered to PGT without question.

Andiswa: I will go there [OT] until they tell me to stop, it’s for my health. What if something happens again then they not gonna take you maybe

Sipho: …if I took them [PGs] off maybe… after an hour it starts to develop some… something like, er, pimples or something like that.

Improvement in scars and other symptoms

Participants described the progress in scar mobility and appearance. Improvement in scars and other symptoms helped me…I used it sometimes to get to the hospital and also for the food...

Phindi: …moves the PGs and were instrumental in caring for the garments. Fleur: And my husband encouraged me also to do it [wear the PG].

Family support

The participants saw the emotional support and assistance they received from their families as essential resources in following the PGT programme. Family members encouraged them to wear the PGs and were instrumental in caring for the garments. Free health care, financial support and assistance with transport aided participants to keep appointments, an essential component of adhering to PGT.

Phindi: …they’s only very temporary disability it really helped me… I used it sometimes to get to the hospital and also for the food...

Enablers to accessing the service

Support from service providers

Participants found that physical and emotional support from service providers assisted in maintaining their motivation and self-efficacy, which buoyed their adherence.

Sipho: I was very impressed with the way they were helping me. I was very very impressed… they were just talking about all things… now I’m not talking about the outside wounds but we were also emotionally affected but she will really; really help me because they were not only giving me the PGs. They were also advising me like you can still do things… things like that. They did give me that confidence.

Phindi: … they’re very understanding, more like they… they’ve been there. They know what you’re going through even though they’ve never been burnt before but it’s like they’ve been burnt themselves. And, um, they make you comfortable… you know when you’re in my situation when you go for your appointment it will be, um, it will be, um, very difficult for you to, if you go there and find people who are not friendly and, um, people would be, like, you know, they’re friendly and they’re not scared to touch you and they ask you every time you go there “How are you feeling?”… They care about what is going on with you and how you’re feeling and the progress…

Mandy: They would let me know if it’s looking better or not [the scars] so I guess they just give me feedback on something that I can’t see really ‘cos I see my scars every day.

Andiswa: I don’t have a choice. So I have to do everything they [OT] say I must do…

Ann: And I just automatically did what they [OT] wanted me to…

Fear

Negative emotions further fuelled adherence for some participants. This included fear that not wearing the PGs would cause secondary complications, and that poor adherence might negatively affect access to services in future thus they adhered to PGT without question.

Andiswa: I will go there [OT] until they tell me to stop, it’s for my health. What if something happens again then they not gonna take you maybe

Sipho: …if I took them [PGs] off maybe… after an hour it starts to develop some… something like, er, pimples or something like that.

Improvement in scars and other symptoms

Participants described the progress in scar mobility and appearance. The perceived improvement encouraged them to continue to wear pressure garments in the expectation of further improvement.

Andiswa: …when I checked it, it was coming flat and soft… I think it was helping me a lot…

Photographs of the scars provided visual proof of progress.

Mandy: If I look at pictures of when I just got out of hospital how it looked compared to now… big difference…

A reduction in symptoms like itching, pain and swelling further motivated adherence to PGT. One participant reported a positive effect on lymphoedema.

Mandy: … if I didn’t wear my pressure suit for a day, my body would start paining… it would itch and it would sort of make like… someone was stabbing me with needles.

Bongani: “…this leg… also even here in my knee, it was very big [swollen]… I see the difference [less swollen].”
to cry whenever I’m in my wardrobe or looking for something to wear.

Mandy: There were times when I just wanted to give up on it [PG]. This whole…like I didn’t want to care anymore…

Not a cure

The participants reported that the scars affected their self-esteem. It was difficult to accept the permanence of the scars and the effect they had on their bodies. They were aware that PGT was not a cure but an attempt to improve the appearance of the scars. The knowledge that there could never be complete recovery negatively affected their adherence.

Mandy: I feel like it’s [PG] just trying to make a scar look nicer. A scar that’s always going to be there, it’s still a scar, it doesn’t matter how it looks, it’s still there, you know what I mean? It’s like putting lipstick on a pig.

Maintenance and effort

The amount of effort involved in the ongoing maintenance (daily washing) of the pressure garments, and the assistance needed in donning and doffing was reported as barriers to motivation and long term adherence to PGT. Having to remove the garments for other interventions like scar massage was also reported as effortful and affected adherence to other treatment interventions.

Ann: …it was a case of washing and… washing and sort of keeping up…

Mandy: It’s not just the removing, it’s just like…If I told you now go massage yourself three times a day would you be able to….I can’t explain really…there is a lot of effort involved…

Lack of Counselling

The negative emotional experiences were exacerbated by what participants saw as a lack of emotional counselling services. They felt that no one was adequately dealing with the emotional consequences of their injury. Even though the support from occupational therapists and families were positive, counselling could have assisted them further with adherence to PGT.

Mandy: Um, I think people take…not for granted but little…. they don’t really hear how much power, um, knowledge is or emotional support can be…just preparing people mentally, you know. Focus more on how people are feeling…I think their counselling needs to be better.

Phindi: You know if they maybe provided therapy or something it would make it much easier for you to deal with the ‘new you’ because you were not used to yourself being like that and now you’re like that…

The hospital needs to make sure that you are maybe transferred to, or, someone to talk to or someone that can help you, you know…once you, once you discharged at the hospital.

Physical symptoms

Side effects of PGT like discomfort and pain made adherence difficult. One participant felt that the tightness increased the need to urinate and another felt that it caused varicose veins.

Mandy: …it’s so uncomfortable, it’s so tight, it’s so sweaty, it’s so hot... and it’s just not something that you can get used to easily wearing…it just caused me to pee a lot! …Cos it’s so tight you know!…Yor, and it like presses on your bladder…

Sipho: …ja it was like very tight…it pains at times… it was a lot of itching… especially when it’s cold and when it’s very, very hot.

Ann: …these stockings are bringing out veins in my legs…

Aesthetics

The female participants in particular were upset about receiving PGs made from beige instead of brown material which they indicated decreased their motivation to continue to wear the garments. They were adamant that the beige PGs were cosmetically displeasing and unfashionable, drew further unwanted attention and were an inappropriate colour for dark-skinned people.

Andiswa: …the beige, the people they ask you what’s wrong? What’s wrong and they will be like asking what’s wrong….I think I don’t like this colour really… Most of the people who are burnt are not like this colour [beige], most of the people who are burnt are like black people…if you wear a brown one and the brown one is very nice, I like the brown one… I think if you can try to get this material in brown it’s fine…. At least when it’s brown, people will think it’s a vest or something…

Phindi: So I used that brown one, I liked that brown one because it doesn’t get dirty so quickly and even though I put on that Haarmanse [traditional remedy], it doesn’t show very quickly. …the colour of the pressure garment [beige] you know it doesn’t look good, it doesn’t look right… it just spoils your whole outfit…

Mandy: Um, the colour of the pressure suits, it’s disgusting…it’s so unfashionable!...it also makes you not want to wear it, it doesn’t go with anything you wear. Like they had a brown one for a while and that one was nice, was much nicer because it looked more like a clothes colour. Like if they gave like the normal brown, the other colour that goes with things then that would be fine. You’d want to wear it more.

Challenges to accessing services

Although a number of participants reported that access to services facilitated adherence to PGT, some reported the opposite. Their financial situation, transport challenges and other responsibilities sometimes prevented them from attending appointments. In these instances adherence was negatively affected by the lack of consistent support, and monitoring of garments and scars.

Sipho: Ja, sometimes I used to call them, hey I’m not gonna make it because I don’t have money.

Ann: I find it very difficult to get to the hospital… I can’t get high up with my body, er, onto the taxis…So I have to depend on somebody taking me.

Fleur: Like the last month I was supposed to be here but I couldn’t because I had to take my child to the hospital.

DISCUSSION

Most of the study participants believed in their ability to adhere to the PGT programme, which resulted in five participants having good adherence and one having average adherence throughout the programme. In accordance with previous findings5-10 resources and barriers resulted in varied adherence to PGT. Similar to participants in the study by Ripper et al10 participants in this study indicated that their motivation was dependent on the expected outcome of a smoother, more pliant skin and enhanced by positive outcomes, such as seeing the scar improve and a decrease of other symptoms. Participants were aware of the risks and negative consequences of not adhering to PGT.

Successful outcomes of PGT are dependent on constant pressure9. Partial adherence may result in poor outcomes, delayed scar maturation and extended therapy10,16. This might explain why some of the current participants wore the garments for longer than the two years recommended for optimal scar maturation.

Pressure garments are tight by nature and can cause unpleasant symptoms such as sweating, restricted mobility, pain, itchiness, swelling and blisters5,7,18. This in turn creates barriers to adherence as found in the current study, that of Ripper et al10 and also identified in reviews of the literature1,7. While the tightness in itself is essential it must be ensured that garments fit properly and are adjusted regularly.

The effect of the burn injury, especially in the acute phase, taxed participants’ self-efficacy and overshadowed their motivation and the importance of adherence to PGT. They described ‘suicidal’ and ‘hopeless’ feelings which negatively impacted their ability to plan, initiate and maintain health behaviour. A lack of emotional support and the insight that while the scars would improve in appearance they would always remain, further affected their self-efficacy negatively.

The severe emotional effect of the scars is seen in comments like putting lipstick on a pig. These findings underscore the necessity...
of counselling - which Gilboa12 also advocated for, and according to our study participants - was lacking.

As also reported by Ripper et al10 another negative factor which affected adherence and is related to outcome expectations, was the slow change in scar appearance which participants found frustrating. This underscores the importance of feedback on scar appearance. The use of digital photography for feedback can play an important role in this regard.10

Previous studies9,10 reported that patients felt they received insufficient information regarding the intended effect of the garment or did not understand the information and that this resulted in poor adherence. Current study findings on information sharing varied. Some participants felt that training was provided and that they understood the reasons for wearing and how to manage PGT. These participants reported intrinsic motivation and insight into PGT. Others appeared to be motivated to adhere to PGT by risk awareness and fear of complications or negative consequences for future access to health care. Ripper et al10 also highlighted the fear of causing physical harm such as re-opening healed wounds in patients with burns, while the fear that not complying may negatively impact access to services in the future is seen as a rational act from the patient’s point of view by Stewart et al.9

Some participants appear to be motivated to adhere to PGT by external pressures and reported following therapists prescriptions without question. This needs attention if the burns unit is to provide a client-centred service. Even so participants were generally satisfied with the overall occupational therapy service and highlighted positive aspects such as the staff being friendly, compassionate and understanding. In accordance with findings from Hall10 current findings showed that education, feedback, practical and emotional support from occupational therapy service providers facilitated adherence to PGT. Participants found the lighter colour garments undesirable and a barrier to adherence. This is supported by the findings of Stewart et al9 and literature reviews6,7. People connect the beige colour to illness/disability.5 Stewart et al9 reported that beige PGs were issued without thought of patient’s choice as therapists felt patients did not care about the colour of their pressure garments and limited availability of brown garments. This emphasises the importance of giving a patient choices in therapy to provide them with more control in a distressing situation, especially since darker colour material such as dark brown was available at the study setting.

As in the study by Ripper et al10 current study participants highlighted the effort of washing garments daily and in donning and doffing them. This was particularly so when the garments had to be removed for additional therapies more than once a day. Practical support from family members assisted in this regard.10 Current study findings further concurred with findings by Ripper10 that families provided emotional support and motivation. On the other hand Stewart et al9 noted that patients reported a lack of encouragement, social and practical family support to wear their PGs. The economic consequences of burns injuries can be significant11 and in this study a lack of finances was a barrier to adherence to PGT for some participants as the little income that is available is used for basic necessities such as food and clothing. The financial burden experienced by some study participants were alleviated by a temporary disability grant.

CONCLUSIONS

The findings of this study are applicable to a South African context and indicate that factors other than financial constraints affecting adherence, are similar to those reported internationally. Participants found PGT to be a beneficial intervention that improved scar appearance. Even so participants struggled to adhere to the strenuous regime. Adherence to PGT relied on the interplay between barriers and facilitators, which were often interrelated, the patient’s motivation and self-efficacy as well as the support they receive and whether the expected outcomes were met. The occupational therapist needs to be aware of all the interacting factors and should assist the patient to balance them in favour of the positive. Adherence is ultimately a personal decision that cannot be imposed.

RECOMMENDATIONS FOR FURTHER STUDY AND CLINICAL PRACTICE

A study to determine the relative importance of specific barriers and facilitators in relation to each other should be of assistance to guide service providers on where to focus their energies. There is a need to develop a reliable, valid, objective scar assessment tool for use in clinical practice and quantitative research. It is recommended that digital photos of scars are included in clinical records; the feasibility of using photos as a form of objective scar assessment should be explored. The use of black and brown material for pressure garments is recommended. Garments and colours must be chosen in conjunction with the patient. Counseling services must be included during the in-patient phase and in the community. Exploration of the feasibility of peer counselling is recommended.

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**Corresponding author**

Rogini Pillay
rogini.pillay@westerncape.gov.za
Reflections on simulated learning experiences of occupational therapy students in a clinical skills unit at an institution of higher learning

Santie van Vuuren, B OT (US), M OT (UFS), PhD HPE (UFS)
School for Allied Health Professions, Faculty of Health Sciences, University of the Free State, Bloemfontein, South Africa

Background: Global and national changes in healthcare create challenges in providing suitable and quality fieldwork placements for the skills training of undergraduate health professions students. The department of occupational therapy (OT) at a Higher Education Institute (HEI) in South Africa decided in 2013 to incorporate simulated learning experiences as part of the new curriculum for second-year occupational therapy students. Two staff members of the Department of OT trained by an international institution of higher education in the use of simulation during teaching were involved. The aim of this study was to explore and describe the experiences of those students who had benefitted from simulated learning in the Clinical Skills Unit (CSU) to improve on this method of obtaining clinical assessment skills.

Methods: A qualitative methodology was used to describe the reflections of the second-year occupational therapy students of the years 2013 and 2014 (81 students) on the simulated learning of assessment procedures which took place in the CSU.

Results: Four themes and ten sub-themes were identified from the content analysis of the reflections, namely (i) personal experience (personal emotions, initial stress, confidence) (ii) Teaching and Learning clinical assessment skills (communication, occupational performance components [OPC] and occupational performance activities [OPA]); (iii) professional skills (therapeutic use of self, co-operative learning) and (iv) benefits and challenges of presenting simulated learning experiences (benefits, criticisms).

Conclusions: Occupational therapy students reported a positive experience and satisfaction with learning from the simulated experiences, which succeeded in creating a “safe” learning environment for them and opportunities to hone their clinical assessment skills prior to their first clinical fieldwork placement. Challenges associated with simulated learning experiences (SLE) were found to be: the need for clearer instructions; the number of assessments covered and the provision of a time frame to complete each task. There was consensual agreement in the department that SLE in the CSU will supplement fieldwork placements and contribute to attainment of assessment skills prior to fieldwork placements. It is recommended that current occupational therapy lecturing staff, trained in the use of simulation techniques, develop a manual for the planning of SLE and present training sessions to other staff. The manual may also be of value to other institutions of higher learning in South Africa.

Keywords: Simulated learning experiences, clinical skills learning, undergraduate education

INTRODUCTION AND REVIEW OF THE LITERATURE

Simulated learning experiences (SLE) in clinical skills units (CSUs) help to reduce anxiety in students prior to patient handling. In addition it allows students to benefit from structured learning, supervision and feedback which take place within the context of the CSU. SLE as used in CSUs, makes use of different modalities, such as paper case studies, role play and standardised patients [a layperson hired and trained to portray the actual patient role] that imitate real-life situations. Literature also postulates that sessions in a CSU help to bridge the gap between theory and practice, as well as enhancing self-directed learning. While there are numerous research reports on teaching and learning innovations within CSUs, the majority reports only briefly on the students’ and tutors’ views of the teaching and learning experiences. Literature on occupational therapy student opinions of SLE is limited.

Weller et al and Coon et al reported on factors that set the tone for SLE within a CSU, for example the nature of clinical placements and secondly, certain educational imperatives, such as repeating sessions so that learning can be consolidated and to ensure that students have a degree of clinical competence before exposure to real patients.

Internationally, changes in healthcare, innovations in teaching and learning, technological advancement in equipment and an increase in student numbers pose challenges in providing suitable and quality fieldwork placements. Additionally, reducing the workload of clinical supervisors and ensuring patients’ safety during the fieldwork placements of students are also a concern.

The challenges related to clinical placements and clinical supervision in the training of occupational therapy (OT) students in South Africa are a reality for institutions of higher learning. Financial constraints in the health sector and vacancies that cannot be filled in many instances, lead to a shortage of clinical supervisors to guide students. Other constraints include the lack of equipment to practise skills and the availability of a range of health problems needed to enable all students to have similar fieldwork experiences to fulfil the course requirements.

According to Rodger et al, SLE is increasingly being used as a means of augmenting and sometimes supplementing aspects of clinical rotations. These simulated experiences can provide authentic learning in a safe environment for skills such as communication and teamwork, interviewing, physical examination and counselling that are vital to effective patient care. Rodger et al added that a SLE can also be designed so that professional behaviour such as occupation-focused language and managing ethical dilemmas can be practised. Holmboe stated that the most effective assessment of these skills is by direct observation of all students performing these skills and that direct observation is most easily achieved during an SLE in a CSU. However, Freeth and Weller et al warned that an SLE cannot replace direct observation of the student working with actual patients.

From the viewpoint of student experiences, Rutherford-
Hemming further noted that learning in a simulated environment had an effect on transfer of learning in clinical skill acquisition. Studies on simulated learning experiences by Jacobs and Venter and Knecht-Sabres reported that there was an increase in confidence and better integration of theory and skills. Laschinger et al added that students experienced a higher level of satisfaction when using simulations to learn clinical skills. Coon et al reported that students who participated in simulated learning in addition to standard learning performed equally or better than those who participated in standard learning alone when the results of practical examinations were evaluated. However, in a study by Giesbrecht et al in which peers were used to role play because it was more pragmatic and cost-effective, students identified this as an undesirable option due to the lack of authenticity. In most of the studies on SLE’s published, fieldwork supervisors and students exposed to simulated learning experiences reported being more client-focused, independent and able to work collaboratively.

With respect to innovative learning strategies, such as SLE, a CSU has the potential to provide greater efficiency and rigor compared with learning through opportunistic clinical experiences.

The fieldwork guideline for the training of occupational therapists set by the World Federation of Occupational Therapists (WFOT) states that simulated learning experiences (SLE) can be used prior to, during, or following clinical placements. The report of Rodger et al on the planning and implementation of SLEs states that 20% of the 1000 clinical hours required by the WFOT can be delivered by means of simulated learning experiences.

Global, limited research has been published on the use of SLE during the training of occupational therapists. A survey of 12 occupational therapy schools in America found that simulated modalities were mostly used in the first two years of their programmes. In this survey most of the participants recognised and valued any opportunity to enhance skill development and practise skills with simulation prior to fieldwork placement. Students also preferred simulation/video/guest visits to lecture format and book learning, but “preferred contact in the real world to simulation if given the option”.

Feedback from students at the University of Queensland concurs with findings of other health science students such as: “it was practical and related directly to OT, which I love about it” and “it makes you more confident to interact with patients; I prefer standardized patients to role play because you have to take it seriously”. In the report of the National Health Workforce of Australia (NHWF) of 2010, one of the recommendations was that research about the effectiveness and implementation of simulated learning activities should be funded. No information has yet been published on the SLE of South African occupational therapy students.

In view of the challenges of accommodating, especially first- and second-year students in clinical fieldwork settings, by reason of the students’ inexperience, the expectations of the supervisory role and the availability of clinical placements, new strategies for training were necessary. As part of the review of the second-year curriculum in the Department of Occupational Therapy, the positive research results of simulated learning experiences found in the literature and the availability of a clinical skills unit in the department it was decided to incorporate simulated experiences to teach assessment skills from 2013 onwards.

The simulated learning experience on assessment was organised in the CSU, using standardised patients who were members of the community representing different age groups. Students were informed beforehand of the simulation session, that they will be grouped in two’s and what assessment skills to prepare. The results of this research will guide the future planning and value of simulated clinical assessment procedures in the second year OT curriculum.

**METHODS**

**Aim of the study**

This study aimed to explore and describe the perceptions and learning experiences of simulated clinical assessment procedures among the second year occupational therapy students in the years 2013 and 2014.

**Research design**

The research design was of an explorative descriptive qualitative nature. A retrospective audit of the students’ written reflections was done after the simulated learning had taken place. The strength of using a retrospective database (in this study, the written reflections of students) was that it allowed the researcher to examine a larger study population, and provided a relatively inexpensive and pragmatic approach for answering research questions.

**Study population**

The population included the 81 second-year occupational therapy students’ (2013 n = 38; 2014 n = 43). These students’ learning of simulated assessment skills was scheduled during the first block of Module OCTC 2704 (Clinical Fieldwork). The focus of this SLE was to train the student in the assessment of occupational therapy components as well as occupational therapy activities in a safe environment under the supervision of teaching staff the outcome being the application of these assessment skills. The students were required to write anonymous reflections of their experiences during the SLE directly after the session and hand it in. The reflections of all of the 81 students were included in the analysis.

**Ethics**

After approval to conduct the study had been obtained from the relevant authorities, including the Ethics Committee of the Faculty of Health Sciences, University of the Free State, written consent was obtained from all students for the use of the reflections written as part of the evaluation of the block.

**Data collection and analysis**

A retrospective audit using inductive reasoning was applied to identify themes and sub-themes in the student reflections on the SLE. In this study, the researcher was personally involved in the research and used her understanding and experience of simulated learning to conduct this audit. A senior colleague familiar with the context of the revised occupational therapy curriculum independently coded the students’ reflections. Consensus on the results was reached between the researcher and co-coder on the themes and sub-themes. Rules for the coding of texts were developed and decisions were made on dealing with irrelevant information in the reflections by working back and forth between the themes and data to reach consensus on the themes and sub-themes. The institution follows a language policy that accommodates both English- and Afrikaans- speaking students.

Credibility was established by making use of a purposeful sample, recording a precise description of each part of the research process and the process undertaken during analysis that made it possible to replicate the study. Conformability was established by comparing information of categories and themes and discussing differences. The literature review conducted was used as a control for identifying and reach consensus on the similarities.

**RESULTS**

Thirty-eight second-year students handed in their reflections after the SLE sessions in 2013 and 43 students in 2014. Four themes and 10 sub-themes emerged from the content analysis of the reflections: (i) personal emotions; (ii) initial stress; (iii) confidence; (iv) communication skills; (v) assessment skills of occupational performance areas; (vi) occupational performance activities; (vii) therapeutic use of self; (viii) co-operative learning; and (ix) benefits and (x) challenges of teaching and learning in a simulated learning environment (See Table I on page 82).
Table 1: Examples of student responses categorised per theme

<table>
<thead>
<tr>
<th>Themes</th>
<th>Sub-Themes</th>
<th>Examples of students’ remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal experience</td>
<td></td>
<td>• It was amazing how fear can turn into excitement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Makes me excited about Occupational Therapy and all that we can achieve.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Anxious before the session.</td>
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<tr>
<td></td>
<td></td>
<td>• I was so nervous before today.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Onervare/Inexperienced.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Getting practical experience makes me feel more confident.</td>
</tr>
<tr>
<td></td>
<td>Initial stress</td>
<td>• Improved my confidence.</td>
</tr>
<tr>
<td></td>
<td>Confidence</td>
<td>• Getting practical experience makes me feel more confident.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Onervare/Inexperienced.</td>
</tr>
<tr>
<td>2. Teaching and learning</td>
<td>Communication skills</td>
<td>• Hoe om professioneel op te tree/How to act professionally.</td>
</tr>
<tr>
<td>Clinical assessment skills</td>
<td></td>
<td>• I realized that in order to get the most valuable information I have to engage with the patient.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unsure about what questions to ask.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I learnt that I am actually comfortable with speaking to people.</td>
</tr>
<tr>
<td></td>
<td>Occupational performance</td>
<td>• Weet nou wat om in die toekoms te verwag/ know now what to expect in future.</td>
</tr>
<tr>
<td>areas (OPCs)</td>
<td></td>
<td>• It is a good feeling to put theory to practise.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Practise how to fill in assessment forms while with a “patient”.</td>
</tr>
<tr>
<td></td>
<td>Occupational performance</td>
<td>• Aangesien dit simulasis was, kon ek seker maak dat ek reg werk/Because it was simulation I could ensure that I work correctly.</td>
</tr>
<tr>
<td>activities (OPAs)</td>
<td></td>
<td>• Mens kan meer assesseur uit observasie en onderhoud as wat ek gedink het/One can assess more from observation and the interview than I thought.</td>
</tr>
<tr>
<td>3. Professional skills</td>
<td>Therapeutic use of self</td>
<td>• I constantly evaluated myself and had thoughts such as: Am I doing it right?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Enjoyed practical hands-on experience – practise makes perfect.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Toekoms beter voorberei/Better prepared in future.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How to handle patients with care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nie altyd die pasient probeer gelukkig hou nie ... julle tyd saam orden en struktureer/Not always try to keep the patient happy …time together must be organised and structured.</td>
</tr>
<tr>
<td></td>
<td>Co-operative learning</td>
<td>• How to adapt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Felt better doing it in pairs; it lowered my stress levels.</td>
</tr>
<tr>
<td>4. Benefits and challenges</td>
<td>Benefits</td>
<td>• Dit het gehelp dat daar genoeg dosente was wat ons gehelp het/It helped that there were enough lecturers to assist us.</td>
</tr>
<tr>
<td>of presenting SLE</td>
<td></td>
<td>• Suggestion – to have many more of these because we got a chance to apply the knowledge we have to “real life situations”.</td>
</tr>
<tr>
<td></td>
<td>Criticisms</td>
<td>• Next time clearer instructions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• I did feel overwhelmed by the amount of things we had to assess.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A time frame for the completion of each task.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Like to get feedback straight after doing the assessment.</td>
</tr>
</tbody>
</table>

DISCUSSION

The aim of the study was to describe the second year OT students’ reflections of simulated learning of assessment techniques. The results indicate that students were generally satisfied with the SLE as part of the teaching of assessment skills before fieldwork rotations, although some criticisms were raised in the students’ reflections.

Millens et al recommend that sound design of the simulation programme is essential. Baptiste and Solomon also report, that there appears to be a strong willingness of the occupational therapy students to invest personally in the simulated learning experience. Velde et al identified a desire among occupational therapy students for inclusion of simulated patients early in their curriculum. This supports the decision made by the occupational therapy department where the SLE is initiated in the second year of study. Although the value of simulated learning has been well researched, more research on this topic is needed to determine the effectiveness for occupational therapy students as it seems that they value this learning experience.

The personal emotions experienced by the students during the simulated learning experience in this study varied from being anxious to fear turning into excitement and enjoyment. This finding is supported by Jacobs et al and Botma who stated that “although students were apprehensive and felt scared at first, the overwhelming outcome of the simulated learning experience is that of having fun while learning.” Most of the stress was before or at the start of the learning experience and more confidence was gained as the experience progressed. It seems that as they gained confidence they felt more in control.

In terms of communication skills during a clinical assessment, the value of the simulated experience so early in the training programme (second year) is that it allows students to practise introspection of their own feelings while working with and communicating with “patients”. One student reported: I realised that in order to get the
most valuable information I have to engage with the patient. This concurs with the findings of Knecht-Sabre\textsuperscript{11} that a clinical skills unit is a safe learning environment in which educators can guide and support students before the students enter their clinical fieldwork.

The majority of students indicated that the simulated experiences prepared them to communicate and act professionally during the assessment of a real patient\textsuperscript{6,7}. They found that it resulted in the realisation of the importance of listening skills, being professional and the challenges that language might pose during communication. Jacobs et al\textsuperscript{12} also reported that the importance of being an active listener could be elicited when using a simulated experience, as one student reflected: “I realised that in order to get the most valuable information I have to engage with the patient”.

There was also seen an opportunity to put the theory of assessment of OPC and OPA into practice in a safe environment with another student and under the supervision of their lecturers. They experienced the SLE as a practise opportunity to understand some of the expectations and responsibilities during fieldwork rotations. Aangesien dit simulasie was, kon ek seker maak dat ek reg werk/ because it was simulation I could ensure that I worked correctly and that everything does not always go as planned. These sentiments are supported by Botma\textsuperscript{23} and Hill\textsuperscript{11} who describe simulation as a vehicle for translating classroom knowledge into a safe “clinical” learning environment. Although not mentioned by the students in this study, according to the students in the study by Velde et al, “feeling secure is fundamental to the learning process\textsuperscript{19,20}. Students prefer “contact in the real world” to classroom teaching\textsuperscript{11}.

In this study students reflected on their professional experiences as follows: In die toekoms beter voorberei/be better prepared in future; learned how to handle patients with care. Treadwell et al\textsuperscript{22} agree that students needed to plan in advance and they needed to be knowledgeable about the standards and basics of performing procedures.

Other skills needed for clinical fieldwork such as teamwork were also reflected upon: Working together with a peer was viewed by most students as positive and also that it reduced their anxiety. Working in pairs helped to learn from my partner. They also perceived that co-operative learning contributed to helping one another and helped them to learn how to handle the patients. The value of cooperative learning is emphasised by Strand\textsuperscript{23,24} who reports: “both dialogue, which might foster understanding of the subject matter and disagreement that could aid students in reflecting on their mistakes should be considered.” This concept is supported by Ker et al\textsuperscript{25} and Bakhtin\textsuperscript{26}.

In the opinion of the students some of the criticisms that may pose a challenge for the occupational therapy department using SLE are: I did feel overwhelmed by the amount of things we had to assess; like to get feedback straight after doing the assessment and a time frame for the completion of each task. Interestingly, in a study by Griesbrecht\textsuperscript{17}occupational therapy students placed a higher value on simulation patients’ feedback than educator feedback. They mentioned the time frame for the completion of each task. Interestingly, in a study by Griesbrecht\textsuperscript{17} occupational therapy students placed a higher value on simulation patients’ feedback than educator feedback. They appeared to derive a better sense of success that would enable them to cope with real patients in the clinical setting. In this study no comments were made about the simulation patients’ feedback, but rather on the importance of enough educators to give feedback. The age difference between the study groups might have played a role, as most students in our study were 20 years of age, compared to the study mentioned before, in which the mean age was 26.3 years\textsuperscript{21}.

As the study population consisted of only the second year students’ reflections, it is unclear to what extent the responses of the participants of this audit could be generalised to other simulated clinical learning experiences due to the adeptness to reflect. The age of the participants may have had that some of the participants might not have taken the reflections serious, or might have lacked the ability to reflect or the effort or willingness to invest in the depth reflection\textsuperscript{15}. In this study, the researcher acted as a human instrument and could have had an influence on the direction the research took during the audit.

CONCLUSION

Finally the results demonstrated that while the majority of students is positive towards simulated learning experiences there are aspects in the presentation of the learning experience that should be considered. The criticisms were related to a lack of time in skills training and specific information on what to expect in the simulated assessment training.

Holmboe\textsuperscript{14} states that skills with regard to interviewing and physical examination (assessment) remain vital to effective patient care, yet research continues to document serious deficiencies in clinical skills among students. He however maintains that health educators must not relinquish the responsibility of skills training through simulating patients and simulation alone. Rather, such approaches should complement teaching and learning\textsuperscript{4}, which concurs with the opinion of Millens et al\textsuperscript{26}.

The researcher is of the opinion that simulated learning experiences have a definite place in teaching skills to occupational therapy students. An added value, although not part of the aim of this study, may be the researcher’s observation on the ability of students to reflect, as reflection has become an integral part of student learning and continuous development as a professional.

POTENTIAL VALUE OF THE RESEARCH

Results of this audit were communicated to the curriculum committee of the Department of Occupational Therapy to be taken into consideration during its evaluation of the second-year curriculum. The strengths and weaknesses of the clinical simulation activities used can be identified and decisions on changes can be informed and implemented in future to improve the use of simulated learning. Staff that was trained by an International Institution in the use of simulated learning experiences can develop a manual to assist other staff in the Department to plan these learning experiences. Furthermore, the utilisation of simulated learning experiences can also be discussed on a national level to strategise on combining the resources of the different training centres.

ACKNOWLEDGEMENTS

Dr. Daleen Struwig, Faculty of Health Sciences, University of the Free State, for technical support.

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Corresponding author

Santie van Vuuren

gnatsvv@ufs.ac.za
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All manuscripts submitted to the SAJOT must be accompanied by an abstract not exceeding 200 words in length. The abstract must contain a succinct structured summary of the study using the headings: Introduction, method, results/findings, conclusions.

Introduction

This should provide a brief rationale for the study and an outline of the aims or questions.

Literature Review

This should be a critical appraisal of the current relevant literature identifying the limitations in the work already conducted on the subject and a rationale for the study. A maximum of 35 references should be included.

Method

This should contain the following: Aims, study method and data collection procedures, population and sampling procedure, methods of analysis of data, information on validity, reliability, trustworthiness and credibility. Details of the ethical clearance and informed consent must be provided.

Results

The results must be presented in a way that makes them accessible to the readers and are clearly linked to the aims and methods of the research.

Discussion and Implications of the research

The implications for occupational therapists and or other health professionals/groups/ contexts must be outlined and the contribution that the study makes to the current state of knowledge of the profession/s stated. Limitations must also be discussed.

Conclusion

There should be a clear summary of the main points of the paper, drawing the article to a close and containing no new information.

Illustrations

Articles may include up to eight tables, graphs or diagrams and should be numbered and clearly labelled with their place in the text indicated as a guide to the editor. (See General Requirements).

4. GUIDELINES FOR AUTHORS OF SCIENTIFIC LETTERS

Letters submitted to the SAJOT must be original and must not have been published elsewhere. Letters should contain new information, add to existing knowledge, resolve controversy or provoke thought and discussion.

The requirements of a scientific letter are as follows:

✥ The letter must have the same scientific format as an article, but is much shorter i.e. 1500 – 1 700 words, to fill only one to two pages of the Journal but does not have an abstract.
✥ It may have only one table of results.
✥ There should not be more than 5 references.
✥ It must be original research.
✥ Peer evaluation will take place as with all other articles submitted to SAJOT.

5. GUIDELINES FOR PUBLISHING A LITERATURE INVESTIGATION / REVIEW

Literature investigations submitted to the SAJOT must be original and must not have been published elsewhere.

The requirements of a critical review of the literature review are as follows:

✥ The review should provide reasons for choosing to review the topic and give the method used to conduct the survey along with the sources consulted.
✥ The review must cover the topic thoroughly i.e. it must include all or most of the major studies that have been conducted on the topic of interest within a given time frame. The most recent literature must be included.
✥ The publications referred to must be the primary source and the review should not rely on secondary sources. Articles reviewed should also not rely on opinion articles but should emphasise research articles.
✥ It should not be merely a summary of past work but must critically appraise and compare the key studies as well as discuss weaknesses and strengths. Important gaps in the literature should be identified.
✥ The review must conclude with a brief synopsis of the current state of the topic and give recommendations for future work.
✥ The format of the review must follow that for all scientific articles i.e. it must contain the following:
   • An abstract.
   • Introduction.
   • Method. In this instance the approach taken to search the literature, the data bases searched, the search parameters and key terms used, the inclusion and exclusion criteria, and the criteria used for the appraisal and how the key information was extracted, must be provided.
   • Results: this should present the main evidence and a summary of its quality.

...... continued on page 89
- Implications: An outline of the implications for occupational therapy, the methodological limitations of the review, identify gaps and make recommendations.
- Conclusion - a clear summary of the main findings must be provided along with the implications for occupational therapy, the methodological limitations of the review. Gaps in the research presented in the literature should be identified and recommendations made for future research.

6. GUIDE LINES FOR WRITING AN OPINION PIECE
Opinion pieces provide authors with the opportunity to express an opinion concerning any aspect of occupational therapy. They are designed to encourage topical debate and the exchange of ideas. Contributors may discuss specific aspects of occupational therapy practice or debate the impact of occupational therapy on the health of people. Opinion Pieces may also deal with health care and relevant social practice/issues in general such as consumer rights that may impact on the profession. They may also debate the impact of the current political and financial climate on the practice of the profession and its ability to meet all in need. Irrespective of the topic discussed, opinions should be supported by evidence or theory. They should include:

- An abstract.
- Headings which give structure to the paper.
- References (a maximum of 15).

Opinion pieces are subject to the same critical review process that other submissions undergo. Opinions are not necessarily those of the Occupational Therapy Association of South Africa nor The South African Journal of Occupational Therapy but never the less my provide information for debate.

7. GUIDE LINES FOR WRITING A COMMENTARY
These are similar to Opinion Pieces and are as follows:
A commentary is written on a current event or topic by a person with the background to make an informed comment and should report on an issue or topic of interest and relevance to OT practitioners, educators and researchers. Irrespective of the information being commented upon, commentaries should include:

- An abstract.
- Introduction.
- Coherent body with headings which give structure to the paper.
- Recommendations and conclusion.
- References (a maximum of 15).

Commentaries are subject to the same critical review process that other submissions undergo.

8. INSTRUCTIONS FOR REVIEWERS OF BOOKS
A book review should contain the following information:

- The full title of the book.
- The full name of the author(s) and their qualifications and the position that they hold.
- Details of the book:
  1. Name of Publisher.
  2. Whether it is a paperback or hard copy and the number of pages
  3. The publication Date.
  5. The Price (in SA Rand if possible).
- A review of the content which should include:
  1. The aim of the book.
  2. The way in which the information is structured.
  3. A brief summary of the content of each chapter.
  4. A comment on its relevance to health care generally and SA occupational therapy specifically.
- The name, qualifications and work position of the reviewer.

9. GUIDELINES FOR WRITING A BIOGRAPHY
A biography has been defined as “a written account or history of the life of an individual” and “the art of writing such accounts”¹. The biography should have a focus on occupation and/or views on occupation.

Approach to the interview

- Try to get a conversation going rather than a ‘question and answer session’. Very good information is available in Rubin and Rubin².
- Start by explaining what SAJOT is and why biographies are included in the journal. The interviewee might be told that occupational therapists are interested in the impact of chosen occupations on personal development – that we believe people are shaped by the occupations they do. Another point of interest would be the impact of the interviewee’s occupations on other people (this is usually only relevant to their work-occupation), for example, teachers or politicians.
- Explain what the intended product at the end will look like (or show an example).
- Give your assurance that the draft biography will be returned to the interviewee for ‘checking’ accuracy and that suggested changes will be made (ensure that this is done).
- Start your conversation with issues that are more public before asking questions that are more private.
- A good first question might be: “Tell me your story as you would like it to be remembered”.

...... continued on page 90
Issues to consider for inclusion

Brief discussion of family and early life
Provide some information on the background of the person you’re interviewing. Use questions below as a very loose guideline, in other words, do not ask questions that do not seem appropriate given the background and current status of the person being interviewed.

✥ Parents: where they came from, their occupations and roles in the family.
✥ Brothers, sisters and childhood friends: children’s responsibilities, games and leisure activities.
✥ Local geography: the community, village or town; communal areas, land rights and ownership; markets, meeting places and other significant places; neighbours, important people and interesting characters.
✥ Social and cultural life: religion and politics; education and instruction at home, school or work; important friendships, influences and ambitions.

Questions above were adapted from Slim & Thompson3.

Working life
The interviewee might feel more comfortable to start the interview with a discussion of work life. This is usually also the part that is already known and therefore not necessarily the most interesting.

✥ Occupation(s) inside and outside the home: domestic, agricultural, vocational, professional, formal, informal, paid and unpaid.
✥ How the skills were learnt; the work environment; what the work involves and who with; formal or informal training or apprenticeship.
✥ Important influences at work: mentors, colleagues, friends.
✥ Wider changes affecting work: environmental, industrial, political etc.

Questions above were adapted from Slim & Thompson3.

Other occupations
It would be very interesting to know a range of occupations the person is involved in; the meaning and purpose of these in their lives.

✥ Leisure activities: hobbies; music, religious or cultural festivals and entertainments.

Future perspectives
Ask questions that will allow an opportunity for the person to share future directions (pertaining personal, career or broader issues) he/she would hope for / aim at achieving / advise others to take.

References
Step 3 - Entering the submissions metadata

- **Authors** – Information about all the authors must be provided here.
- The bio statement box should be used to complete the details of the qualifications of the authors (i.e. degree and where obtained.) as well as the place of work and position held.
- **Title and abstract** – Please copy / type in the full title of your article into the box provided. Paste in a copy of the abstract into the block provided.
- **Indexing** – ignore this section.
- **Supporting agencies** – complete if relevant eg funding organisation.
- Click **save and continue**.

Step 4 – Uploading supplementary information

You may upload tables and figures here if they have not been included within the main article. You do not have to complete this section but must click **save and continue** to go to the next step. Photographs should be also be loaded here. Please note that there are two steps here.

**Step 4 and Step 4a**

In step 4 the file/files containing the tables can be uploaded. Click save and continue. This will bring up step 4a where you can add any information needed to identify the supplementary information. This is the place where the nomination of a reviewer may be included. The only compulsory window is the title window.

- **Click save and continue**. This will bring you back to step 4 here another file can be uploaded.

Step 5 – Confirming the Submission

- **Click Finnish Submission**. Please remember to do this otherwise your submission will not be recorded. It is very important to note that once you have confirmed the submission you will be unable to make changes to your documents.

Any changes that you wish to make will need to be done via a completely new submission.

**Resubmission of article after revisions/amendments suggested by the Editor**

Scroll to the section at the bottom of the Review page of your article to the section labelled Editor Decision. There you will see the box “Upload author version”. Please post your revised copy here. **Please also note** that the article, tables and diagrams should be included in one document at this stage in the process.

Help with this submission process can be obtained by emailing the editor at sajot@mweb.co.za.
GUIDE TO REVIEWING AN ARTICLE FOR SAJOT

BASIC PRINCIPLES TO WHICH REVIEWERS OF ARTICLES SHOULD ADHERE

The following summary of guidelines for conducting a review is provided for reviewers of articles. It is strongly recommended that reviewers read the complete information given in the “Ethical Guidelines for peer review” provided by the Committee on Publications Ethics (COPE) and in the Ten Simple Rules for Reviewers published by Bourne, P.E., Korngreen.

“Respect the confidentiality of peer review and do not reveal any details of the manuscript or its review during or after the peer review process beyond those that are released by the journal”. Many of us have received reviews where it is fairly obvious who reviewed the work. It is hard to maintain anonymity in small scientific communities, and you should reread your review to be sure (that) it does not endanger the anonymity. Do not share the manuscript with colleagues unless the Editor has given the green light. If the identity of the author(s) has been inadvertently discovered, the reviewer should refrain from discussing the review with the author(s) at the time of the review AND at the time of publication. Other detailed instructions for ensuring a blind review can be seen under the “Instructions to authors”. If the identity of the author(s) has been inadvertently discovered, the reviewer should refrain from discussing the review with the author(s) at the time of the review AND after publication.

“Do not use information obtained during the peer-review process for your own or any other person’s or organisation’s advantage, or to disadvantage or discredit others”. You must contact the editor before communicating with anybody else regarding the paper under review.

“You should declare all potential conflicting interests, seeking advice from the journal if you are unsure whether something constitutes a relevant interest”. “....The cloak of anonymity is not intended to cover scientific misconduct. Do not take on the review if there is the slightest possibility of conflict of interest. Conflicts arise when, for example, the paper is poor and will likely be rejected, yet there might be good ideas that you could apply in your own research, or, someone is working dangerously close to your own next paper. ….With conflict, there is often a gray area; if you are in any doubt whatsoever, consult with the Editors who have asked you to review”.

“Do Not Accept a Review Assignment unless you can accomplish the task in the requested time frame—Learn to Say No”. “Late reviews are not fair to the authors, nor are they fair to journal staff. Think about this next time you have a paper under review and the reviewers are unresponsive. You do not like delays when it is your paper, neither do the authors of the paper you are reviewing. Moreover, a significant part of the cost of publishing is associated with chasing reviewers for overdue reviews. No one benefits from this process”.

Write Reviews You Would Be Satisfied with as an Author

“Terse, ill-informed reviews reflect badly on (the journal). Support your criticisms or praise with concrete reasons that are well laid out and logical”. “Be objective and constructive in (your) review, refraining from being hostile or inflammatory and from making libellous or derogatory personal comments”. A poorly written review is as bad as a poorly written paper. …Try to be sure the editors and the authors can understand the points you are making. A point-by-point critique is valuable since it is easy to read and to respond to. For each point, indicate how critical it is to your accepting the paper. The form provided on the website will assist here. “...Give the Editors a clear answer as to your recommendation for publication”. Reviewers must select an option (ie Accept submission, Revisions required, Re-submit for review, Re-submit elsewhere, Decline submission. To enable the review process to be completed, one of these must be selected. Should you choose the option “Revisions required”, the article will not be returned to you for review when it is resubmitted with the corrections.

It is recommended that reviewers also make use of the “track changes” for commenting on different aspects of the article. Should you record your comments and suggestions via track changes on the article itself, the file must be uploaded in the “upload review” panel. Please see instructions for ensuring a blind review under the Instructions to Authors.

REFERENCES

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