THE VALUE OF A SHORT PRACTICAL TRAINING COURSE FOR NEWLY QUALIFIED THERAPISTS WORKING WITH CHILDREN WITH CEREBRAL PALSY IN SOUTH AFRICA

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DECLARATION

I, Takondwa Connis Bakuwa, hereby declare that this research report is my own work except for the help given by the persons listed under the acknowledgements. It is being submitted in partial fulfilment of the requirements of the degree of Master of Science (Physiotherapy) at the University of Witwatersrand. It has not been submitted before for any degree or examination at this or any other university.

Signed this day in Johannesburg

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Signature

16th Day of November, 2018

ABSTRACT

Background: Cerebral palsy (CP) is one of the most complex disabling disorders in children that newly qualified therapists face in practice. Newly qualified therapists do not feel prepared to deal with complex conditions despite being expected to. Short practical training courses could potentially help bridge this gap in readiness. The aim of the study was to determine the value of the practical training course on CP to the practice of newly qualified therapists.

Methods: Secondary analysis of therapists' course evaluation records from eleven short practical training courses was done. Mixed methods were used to establish expectations of course participants, change in their level of CP knowledge, aspects of the course deemed useful for CP practice and change in attitudes, perceptions and practice intents.

Results: Course expectations of the majority of the therapists were met, most of whom reported having also gained skills and confidence. Significant change was observed in the self-perceived level of knowledge in various aspects of CP after the course ($p < .001$). Aspects on communication and play therapy showed the most significant difference ($p < .001$). Therapists appreciated adult teaching and learning methods, conducive learning environment, the relevant and organised content and holistic approach of the course. They reported readiness to adopt positive attitudes and perceptions and practice.

Conclusion: A short practical training course was therefore valuable in addressing the perceived lack of readiness amongst newly qualified therapists working with children with CP. It was capable of improving their knowledge and changing their attitudes, perceptions and practice intentions positively.

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OPERATIONAL TERMS

Cerebral Palsy	:	"Cerebral palsy (CP) describes a group of disorders of the development of movement and posture, causing activity limitation that is attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, cognition, communication, perception, and/or behaviour, and/or by a seizure disorder, and /or by secondary musculoskeletal disorders" (Rosenbaum et al., 2007).
Readiness to work with children with CP	:	Preparedness to provide service to children with CP as influenced by attitudes and perceptions and clinical practice/ behaviour intentions
Self-perceived readiness	:	The sense of preparedness to meet a situation and carry out desired action <u>as felt by oneself</u>
Attitude:	:	A cluster of beliefs that make up the general evaluations organised around people, objects, issues and situations (Pajares, 1992)
Perception:	:	The recognition or interpretation given to a situation or issue as influenced by beliefs (Pajares, 1992)
Therapist:	:	In this study, therapist can refer to Physiotherapist/ Occupational Therapist/ Speech Therapist
Newly qualified therapist:	:	Therapist (as above) who has less than four years of working experience

LIST OF ACRONYMS

CP	- Cerebral Palsy
CPD	- Continuing Professional Development
EBP	- Evidence Based Practice
FCA	- Family Centred Approach
GMFCS	- Gross Motor Function Classification System
ICF	- International Classification of Function, Disability and Health
OT	- Occupational Therapist
PT	-Physiotherapist
NPO	- Non-Profit Organisation
ST	- Speech Therapist
UK	- United Kingdom
US	- United States
CVI	- Cerebral Visual Impairment

CHAPTER 1

1 INTRODUCTION

Cerebral palsy (CP) remains a challenge in Africa as children with CP are still presenting with more severe disability compared to other cohorts in the rest of the world (Cooper, 2015, Donald, Kakooza and Wammanda, 2015). The global prevalence of CP ranges from 1.5 to 4 per 1000 children (Kakooza-Mwesige, Andrews and Peterson, 2017; Ryan, Allen and Gormley, 2018; Shevell, Dagenais and Oskoui, 2013). However, the prevalence is poorly estimated in developing countries (Donald et al., 2015, Gladstone, 2010). As a response to calls for prevalence studies in Africa, a large population based study was done in Uganda where approximately 3 per 1000 children were reported (Kakooza-Mwesige et al., 2017). In South Africa, population based prevalence for CP was estimated more than fifteen years ago in Kwa-Zulu Natal province where the prevalence was reported to be 10 per 1000 children (Couper, 2002). The lack of prevalence data on CP in South Africa can affect planning for lifelong care needs in terms of resources and early intervention programmes.

As a consequence of limited access to early therapeutic interventions, children with CP in Africa tend to have severe disability (Cooper, 2015, Donald et al., 2015). This consequently makes rehabilitation of children with CP even more complex; needing specialized collaborative skills from several rehabilitation professions to deal with secondary health problems (Burton, 2015, Cooper, 2015, Donald et al., 2015). The complexity is compounded by the lack of both human and material resources and specialized services (Donald, et al., 2015).

The current model of care for children with CP in South Africa is inadequate in that currently, the majority of children with CP attending public service hospitals receive less than optimal hours of therapy in their lifetime (Adan, 2016). Moreover, the approach to care is coming short of being evidence based in terms of being family centred (Davies, 2016; Saloojee, Rosenbaum and Stewart, 2011). Shortage of therapists and specialised skills is among the reasons for the poor management of CP. The challenge is made worse by the current state of the healthcare system which has relatively few therapists and limited resources (Myezwa and Van Niekerk, 2013). This indicates a need to strengthen the model of care through training more therapists or ensuring that the current employed therapists are fully equipped to manage the needs of children with CP.

The shortage of staff places newly qualified therapists in situations where they have to work unsupervised. There is evidence indicating that newly qualified rehabilitation therapists in South Africa, have reported a lack of readiness to work in primary healthcare settings (Naidoo, Van Wyk and Waggie, 2017; Ramklass, 2009b, Singh, Booth and Choto, 2015). Other studies have highlighted the inability of undergraduate training to adequately foster resilience, reflective practice and contextualized learning (Mostert-Wentzel, Frantz and Van Rooijen, 2013b; Ramklass, 2009a). In addition, the studies have highlighted poor nurturing and lack of support provided to newly qualified therapists (Naidoo et al., 2017, Van Stormbroek and Buchanan, 2016). Given the fact that newly qualified staff feel unprepared for work in primary health settings and in difficult working environment, there is a need for continual professional training post-graduation.

To address the readiness gap in the transition of qualified therapists in South Africa, remodeling of undergraduate curricula has been recommended (Mc Mahon, Doody and Cusack, 2013; Mostert-Wentzel et al., 2013b). Suggestions made to the curricula include the strengthening of undergraduate community service learning with more exposure and practice of transferable skills such as leadership, perseverance and creativity (Mostert-Wentzel et al., 2013b, Van Stormbroek and Buchanan, 2016). These skills would enable them to easily adapt and thrive in poor resource areas. Improvement of undergraduate curricula is quite a sustainable and effective solution to this problem of readiness for practice since undergraduate training is the foundational stage of training. However, like any other curricula change, it may take a relatively long time to actually yield desired effects (Futter, 2003).

In the interim, recommendations have been made with regards to continuing professional development (CPD) for newly qualified therapists already practicing in South Africa (Singh et al., 2015). Suggestions in this area include formation of virtual communities of practice, multidisciplinary groupings, mentorship programmes and employment of focused short training courses (Mostert-Wentzel et al., 2013a, Singh et al., 2015, Van Stormbroek and Buchanan, 2016). Focused training courses in the form of CPD short courses have been particularly recommended as an effective means of equipping rehabilitation therapists with practical evidence-based techniques and communication skills to foster “therapeutic relationships” and encounters in the local setting (Gunn and Goding, 2009, Saloojee et al., 2011, Singh et al., 2015). The training courses are ideal in enabling newly qualified therapists to draw and build from the “real-life” situations that are part of their new work setting, thus enhancing competence (Singh et al., 2015).

1.1 PROBLEM STATEMENT

South Africa, like other countries with resource constraints, has a relatively huge burden of severe CP (Donald et al., 2015). Current practice in management of CP shows gaps in terms of meeting actual needs of the children and their families (Saloojee et al., 2011). Several studies have shown that newly qualified therapists lack a sense of readiness and preparedness to work in the community setting (Naidoo et al., 2017, Ramklass, 2009b, Singh et al., 2015). A Johannesburg based non-profit organisation, Malamulele Onward has been offering practical training courses on CP for newly qualified therapists since 2014. However, the value of these training courses in terms of addressing the readiness gap has not been formally studied.

1.2 RESEARCH QUESTION

What is the value of a short practical training course on the self-perceived readiness of newly qualified therapists working with children with CP?

1.3 RESEARCH AIM

To establish the value of a short practical training course in bridging the readiness gap of newly qualified therapists.

1.4 RESEARCH OBJECTIVES

- To describe the demographic profile of the therapists who attended the CP practical training course.
- To establish whether the expectations of the therapists who attended the CP practical training course were met.
- To determine change in self-perceived knowledge regarding CP among the therapists.
- To describe the self-perceived change in attitude, perception and intention to clinical practice regarding CP among the therapists.
- To describe elements perceived as vital components of a short course on CP by the therapists.

1.5 SIGNIFICANCE OF THE STUDY

Data from this study will provide insight into the current perceptions of therapists working in public service regarding their self-perceived readiness to work with children with CP. The revealed state of readiness will provide valuable feedback in terms of the extents to which undergraduate training practically prepares therapists for work with children with CP. This can inform curriculum development for undergraduate training. In addition, by highlighting the essential components of an effective focused short course on CP (in relation to identified gaps in current training and practice), this study will contribute to the body of knowledge on practical training courses within CPD activities with specific reference to CP management. Lastly, the findings of this study can inform future research in the field of CP management.

CHAPTER 2

2 LITERATURE REVIEW

2.1 INTRODUCTION

This section is a discussion of evidence available on cerebral palsy (CP) regarding definition, prevalence and issues around the management of CP. Issues around management focus on practice among rehabilitation therapists and the status of the rehabilitation workforce, the readiness of newly qualified therapists and the role of continuing professional development (CPD). Relevant literature was obtained through searching PubMed, EBSCO, Cochrane and Scopus databases. The literature on the current status for newly qualified therapists was necessarily confined to the past ten years so as to capture current issues. However, literature on trends and evidence in CP and CPD spans as far back as 1998. This was done to capture relevant primary information.

Search terms: CP, management practice, newly qualified therapists, CPD, course evaluation.

2.2 CEREBRAL PALSY

CP is one of the most complex health conditions occurring in childhood. The complexity of CP is evident in the different descriptions by which CP has been defined over years. A study by Bax, Goldstein and Rosenbaum (2005) was the first to comprehensively describe CP as an umbrella term for disorders of the development of movement and posture, causing activity limitations, that are attributed to non-progressive disturbances that occurred in the developing foetal or infant brain (Bax et al., 2005). In addition, they also identified associated impairments that accompany the disorder including disturbances of sensation, cognition, communication and perception which greatly affect the child's behaviour (Bax et al., 2005). The definition of CP was later expanded to accommodate all other associated impairments (including musculoskeletal impairments) that have a significant impact on the functional ability of the child in terms of activity and participation (Graham, 2006; Rosenbaum, Paneth and Leviton, 2007). Although some authors tend to refer to CP as merely a 'motor disability', there is evidence that the associated impairments, activity limitations and participation restrictions need to be an integral component of the definition of CP since they have a significant impact on the quality of life of the child (Burg, 2016; Delacy, Reid and Group, 2016). The way that CP is defined has implications on management approach.

Therefore, there is a need to further refine the definition of CP to align with the International Classification of Function, Disability and Health (ICF) which acknowledges the impact of personal and environmental factors (ICF) in the interaction between associated impairments, activity limitations and participation restrictions (Fauconnier, Dickinson and Beckung, 2009).

CP is considered a heterogenous condition because its clinical manifestations present variably in different individuals (Novak, 2014, Oskoui, Coutinho and Dykeman, 2013). Children with CP present with varying degrees of impairment, activity limitation and participation restrictions (Novak, 2014, Rosenbaum, Palisano and Bartlett, 2008). For example, impairments that are commonly seen include seizures, hearing and/or visual problems, cognitive, attentional, behavioural and communicative impairments (Novak, 2014, Rosenbaum et al., 2008). The impairments may also further interact and the extent of that interaction further determines the nature of the child's activity and participation in life situations such as eating, sleeping and playing (Fauconnier et al., 2009, Novak, 2014). This characteristic makes it difficult to describe the patterns presented by a child with CP. As a result, it becomes difficult to predict service needs of the children, compare outcomes and generalise and even evaluate change (Novak, 2014). This attribute necessitated the development of classification systems as a more meaningful way of understanding CP (Rosenbaum et al., 2007).

Previously CP was classified according to type of movement disorder and body part/s involved (Rosenbaum, 2006). Although this form of classification simplified the understanding of CP, it added little as a guide towards actual management of the condition (Rosenbaum et al., 2007). Moreover, there is evidence indicating that no single classification system would capture all aspects of CP (Rosenbaum et al., 2007). For this reason, various classification systems were developed, which also keep updating as research advances (Fauconnier et al., 2009, Novak, 2014). The various classification systems are useful for different purposes ranging from classification according to typology of the motor disorder to classification according to activity limitation and participation restriction (Novak, 2014, Rosenbaum et al., 2008). Classification of CP is important to ensure optimal rehabilitation of CP according to the specific clinical picture. The existence and continual advancement of classification systems and guidelines suggests a need for therapists to keep up to date with new practical information continually. This is more relevant also for novice therapists who may need further guidance in terms of choice, consistent and appropriate use of classification tools and guidelines.

2.3 PREVALENCE OF CEREBRAL PALSY

Evidence on the prevalence of CP varies considerably across study designs and different contexts. Population-based studies tend to yield more accurate figures (Gladstone, 2010) and presence of multiple aetiological factors tends to contribute to high figures (Donald et al., 2015). Globally, estimates for the prevalence of CP from population-based studies range between 1.5 to 4 per 1000 children (Kakooza-Mwesige et al., 2017, Ryan et al., 2018, Shevell et al., 2013). A prevalence rate higher than 3 per 1000 children has been reported in the US and South Korea (Kirby, Wingate and Braun, 2011). However, there is evidence of a decreasing trend in the prevalence of CP in high income countries over the past decade (Hollung, Vik and Lydersen, 2018; Sellier, Platt and Andersen, 2016). The decline in CP in high income countries has been attributed to improved neonatal care (Hollung et al., 2018, Sellier et al., 2016). On the contrary, population-based studies on CP have been scarce in low income countries (Gladstone, 2010). Nevertheless, several researchers have suggested that the prevalence of CP, is greater in low-middle income than in high income countries (Dan and Paneth, 2017, Donald et al., 2015). This is because there are comparatively more risk factors including post-natal infections for CP in low income countries than in high income countries (Donald et al., 2015, Gladstone, 2010).The few epidemiological studies conducted in low-middle income countries have been either hospital based (as opposed to population based) or confounded with inaccuracies arising from technical issues in case identification (Donald et al., 2015, Gladstone, 2010). This suggests the need for improved research and healthcare in CP in low income countries.

The most recent population-based study in Africa was done in Uganda, where a crude prevalence of 2.7 per 1000 children was reported (Kakooza-Mwesige et al., 2017), a rate which Dan and Paneth (2017) suggested would increase to 3.1 per 1000 children after triangulation (Dan and Paneth, 2017). This figure sits on the higher end of the global prevalence of CP implying a big burden for the healthcare system. This figure is most likely to be similar to that of most low-middle income countries in Africa, including South Africa, since the socio-economic status and childhood disease profiles are comparable. In South Africa, the only population-based prevalence study on CP dates as far back as 2002, where Couper (2002) found the prevalence to be 10 per 1000 children. This was certainly a high prevalence indicating a huge burden on the healthcare system. Considering that the actual prevalence of CP in South Africa is still unknown, it is likely that therapists in most poorly resourced settings of South Africa manage larger numbers of children with CP than is accounted for. This suggests a gap in paediatric rehabilitation, since it is only through appropriate knowledge of the gravity of a problem that adequate and appropriate resources can be provided to address it. Therefore, the lack of information on the prevalence of CP in South Africa calls for the awakening of interest in research in this particular field.

2.4 MANAGEMENT OF CEREBRAL PALSY

The management of CP is complex since the heterogeneity of CP presents difficulties in defining standard therapies for children with CP (Novak et al., 2013). This is a concern even in high income countries where it has been difficult to obtain tangible evidence on the effectiveness of therapies despite the availability of resources for research (Lungu, Hirtz and Damiano, 2016). This is mainly because in any given CP population, each heterogeneous group represents a small sample size (Lungu et al., 2016). A systematic review by Novak et al., (2013) sought to systematically identify and describe the best available interventions from all professions for children with CP. The review found that some interventions demonstrated some level of evidence for efficacy, most of them either demonstrated poor evidence or remained inconclusive (Novak et al., 2013). Controversy surrounding this state of evidence remains (Novak et al., 2014). Experts in the field have argued that the effectiveness of most interventions is yet to be accurately studied (Novak et al., 2014). This highlights the fact that research on interventions for children with CP will also have limitations. It seems that experience and clinical reasoning on CP management and intervention is vital to complement research in this field. This may be a special difficulty for novice clinicians who lack such level of experience. Support in the form of CPD to enhance clinical reasoning skills, knowledge on different models of best practice in CP management and access to more experienced therapists may be a great benefit to the newly qualified in this respect.

The Family centred approach (FCA) has been identified as the fundamental model of best practice in paediatric care and more so for children with disabilities (King and Chiarello, 2014, Mcdowell et al., 2015, Novak, 2014). It is an approach where healthcare professionals optimise services through facilitating the child and family’s choice and control by means of partnership throughout care (King and Chiarello, 2014, Mcdowell et al., 2015, Palisano, Almarsi and Chiarello, 2010). This approach has been found to improve outcomes of healthcare since they are built on family priorities and are built around the natural environment and life situations of the child. The FCA was adopted as a departure from old practices that were more centred around the professional and yielded poor functional outcomes (Novak, 2014). However, it has remained conceptual with little available evidence of practical guidelines regarding its applicability (Mcdowell et al., 2015). Some parents still report dissatisfaction with services in terms of not feeling as involved and informed as they should (Reid, Imrie and Brouwer, 2011). Moreover, it has been found that the FCA is difficult to implement in low resource settings because of the interplay of hindering factors such as limited financial resources and time/space for therapists to accommodate each family (Davies, 2016, Mcdowell et al., 2015). This is the exact situation in South Africa too, where therapists have reported difficulties in collaborating with caregivers and parents effectively (Davies, 2016). The reasons given for this difficulty include time constraints on the part of the professional and lack of awareness amongst caregivers and parents of their active role in their child's rehabilitation (Davies, 2016). This suggests a need for improving parental awareness and competency in the collaborative practice with therapists. There is also a need for practical, context specific guidance for therapists to ensure that the FCA is utilised in the rehabilitation of a child with CP in South Africa.

The International Classification of Functioning, Disability and Health (ICF) has also been identified as a framework from which rehabilitation plans should evolve (Hayles, Jones and Harvey, 2015). The ICF framework characterises the multidimensional interactions between an individual's health, functioning, participation and the personal and environmental context of their life (World Health Organization, 2001). Therefore, it enables health professionals to identify and determine all the factors at play in the pursuit of the child's wellbeing, hence serving as a guide to make interventions appropriate. It also serves as a reference for tools when classifying CP considering the child's impairments, activity levels and participation in life situations (Rosenbaum et al., 2007, Rosenbaum et al., 2008). Similar to the FCA, the challenge for health professionals in the management of a child with CP is the application of the ICF in clinical practice (Hayles et al., 2015). Therapists tend to focus more on impairments and little on participation in their approach to CP management (Hayles et al., 2015). This may suggest a gap in undergraduate training which may still be taking a biomedical approach (which focuses on management of impairments) in training therapists.

2.5 CEREBRAL PALSY MANAGEMENT AND THE HEALTHCARE WORKFORCE

Optimum care for children with CP requires a multidisciplinary and integrative approach (Hayles et al., 2015, Novak, 2014). Considering the multi-dimensional needs of a child with CP, various professions i.e. occupational therapy, physiotherapy and speech therapy are required to give therapeutic input. Allied health professionals are said to be well placed to provide the most needed interprofessional care in the form of therapy and health promotion services (Keane, Smith and Lincoln, 2008). However, globally, the availability of allied health personnel is a challenge (Gupta, Castillo-Laborde and Landry, 2011). This is a crisis especially in Africa and most low income countries (Donald et al., 2015). The critical lack of healthcare workforce has been found to be directly linked to demographic changes, epidemiological shifts and redistribution of disease burdens. These three factors are affecting countries in different ways across the globe (Gupta et al., 2011). Generally, it has been found that retention of healthcare professionals, especially allied healthcare workers, in rural and remote areas is difficult both in high and low-income countries (Gupta et al., 2011).

South Africa is relatively endowed with a wider range of rehabilitation professionals (physiotherapists, occupational therapists and speech therapists) compared to other African countries (Gupta et al., 2011). However just like the trend across the globe, the therapist to client ratio is still inadequate especially considering the rate at which the population and most importantly, the rate at which the quadruple burden of disease is growing (Harrison, 2009). There is evidence of the inadequacy of therapists in public health service where caregivers wait on long queues to receive service for their children with CP (Adan, 2016). Moreover the contact time for the service and follow up is little (Davies, 2016). This suggests poor capacity of the few therapists based in public health facilities to deliver services to children with CP. There is a need to strengthen health service delivery in low resource settings by building capacity in terms of improved skills of the available therapists.

Various remedies have been proposed to address the issue of shortage of health workforce in rehabilitation and the rest of the healthcare system. One option is “bonding” health workers to serve for a determined length of time in their country of training and hopefully origin (Crisp and Chen, 2014). This service is usually required for the first year of all health professionals upon graduation. Countries across the globe run this program as a way of retaining the healthcare workforce (Frehywot, Mullan and Payne, 2010). Although not a permanent solution, this practice seems to be making a difference in terms of improving service delivery in resource constrained settings (Frehywot et al., 2010). However, this system has also surfaced new concerns especially in settings where the newly qualified have to work without support from senior staff and mentors. Literature suggests that newly qualified therapists are still in need for support as they transition from being students to becoming practitioners (Jones, Mcyntyre and Naylor 2010; Singh et al., 2015). There is therefore need to create other support mechanisms in settings where support from immediate senior staff may not be available.

2.6 READINESS OF NEWLY QUALIFIED THERAPISTS TO DELIVER SERVICES

In South Africa, all newly qualified graduates are required to serve a year-long mandatory community service upon qualification (Naidoo et al., 2017, Wranz, 2011). Healthcare professionals, including qualified therapists are placed in facilities within underserved or rural communities during this period (Naidoo et al., 2017, Singh et al., 2015). These health facilities tend to have limited resources in terms of health professionals (Singh et al., 2015). Consequently, the newly qualified therapists usually find themselves working without any senior supervision (Holland et al., 2012, Singh et al., 2015). There is evidence suggesting that newly qualified therapists from all three professions (occupational, speech and physiotherapy) are not adequately prepared to work at these settings (Naidoo et al., 2017, Ramklass, 2009b, Singh et al., 2015). Therapists feel challenged by the realities of constrained resources, work environments that are different from their training experience and lack of nurturing senior therapists (Mostert-Wentzel et al., 2013a, Singh et al., 2015, Van Stormbroek and Buchanan, 2016).

Amongst newly qualified occupational therapists, there is a sense of being underprepared and unskilled for practice in underserved areas, including rural areas. Maseko et al., (2014) investigated factors that influenced the choice for a placement for community service among newly graduated occupational therapists in Gauteng (Maseko et al., 2014). The study revealed that most occupational therapists shied away from rural placements due to feelings of unpreparedness and lack of skills to approach rural service. They found it more daunting considering the lack of supervision and mentorship that often accompanies a rural placement (Maseko et al., 2014). Another study done in Kwa-Zulu Natal investigated the ability of newly qualified therapists to cope with practice during community service (Naidoo et al., 2017). Newly qualified occupational therapists reported challenges with language and cultural competence. They also perceived their ability to engage active participation of their clients to be lacking, despite this being a vital prerequisite to a collaborative approach. They felt that undergraduate training had not prepared them well to utilise primary healthcare approaches in underserved settings (Naidoo et al., 2017). This suggests a need for strengthening undergraduate occupational therapy training to equip learners with knowledge and skills that are oriented to practice in primary healthcare settings. Additionally, there is need for provision of support systems for newly qualified occupational therapists working in low resource areas.

Newly qualified speech therapists have also reported similar sentiments. A study was done to identify potential gaps between professional's perceived readiness and the demands of the reality in which they work (Wranz, 2011). This was a survey with a mixed method design involving newly qualified therapists from six provinces of South Africa (Kwa-Zulu Natal, Mpumalanga, Eastern Cape, Western Cape, Free State and Northern Cape). Results from this study showed that newly qualified speech therapists perceived themselves as having the required knowledge but not the necessary skills for service delivery during community service (Wranz, 2011). CP was one of the areas where more than 50% of the newly qualified speech therapists expressed a lack of confidence to work in. Similar sentiments were reported in a study done by Singh et al., (2015) on the perceptions of newly qualified speech therapists regarding their preparedness to provide speech, language and communication service (Singh et al., 2015). The majority of the speech therapists reported unpreparedness to provide service for paediatric dysphagia. Participants who had graduated from three out of the six universities included in the study reported fairly comprehensive exposure to assessment theory in paediatric dysphagia and good theoretical knowledge of paediatric dysphagia management. However, across all six universities, participants felt that they had been exposed to limited clinical learning opportunities and hence perceived themselves not ready for practice (Singh et al., 2015). Both studies highlight the need to strengthen the undergraduate curriculum so that it provides more opportunity for acquisition and practice of relevant speech therapy skills and also the need for continuing learning opportunities for newly qualified speech therapists.

Several studies have also investigated into the experience of newly qualified physiotherapists. Ramklass (2009b) examined the disparities between the experiences of newly qualified physiotherapists post-apartheid including the education and training provided. Through answering open ended questions, newly qualified physiotherapists reported feelings of not having been prepared by undergraduate curriculum for real work in the community. They reported that most of their training involved the use of equipment and resources whereas real work required them to provide service in the absence of physiotherapy equipment. Mostert-Wentzel et al., (2013a) used an appreciative inquiry approach to investigate the community service experience of physiotherapists. Participants in this study felt that there was a need to foster positive personal characteristics required for survival in the community service work environment. These included attributes such as resilience, perseverance and creativity (Mostert-Wentzel et al., 2013a). Both studies highlight specific gaps in undergraduate training; pointing towards the need for training that is oriented to specific needs of the context in which the newly qualified physiotherapists work.

Readiness issues are not unique to South African rehabilitation therapists and they have also been reported elsewhere. A study based in the United Kingdom (UK) sought to establish preparedness of physiotherapy students to gain employment (Jones et al., 2010). In this study, the majority of the soon to be qualified therapists saw little potential for working in primary care or community care settings. This was attributed to the predominance of hospital-based clinical placements during training; in that students were not able to recognise the transferability of their skills in other settings such as the community (Jones et al., 2010). An Australian based study investigated the views and perceptions of employers and newly qualified therapists on what they deemed as qualities required for the newly qualified to practice in the field of work injury management and prevention (Adam et al., 2014). Newly qualified occupational therapists reported finding it challenging to be assertive whereas newly qualified physiotherapists reported feeling nervous when using some techniques. In this study employers found that the graduates who had had some prior familiarisation with the clinical setting were better prepared to face the specific requirements of the work (Adam et al., 2014). This is similar to the views presented in the South African setting where preparedness has been linked to the type of service learning offered during training (Van Stormbroek and Buchanan, 2016). Prior exposure to complex real life work settings, common condition relating to the local burden of and experiential learning during service learning have been linked to better understanding and preparedness for work in the suboptimal public sector work environment (Mostert-Wentzel et al., 2013b, Van Stormbroek and Buchanan, 2016).

A state of unreadiness to practice is to some extent expected of any novice and knowledge and skills are expected to grow and develop with experience (Moores and Fitzgerald, 2017, Singh et al., 2015). However, professional development can be influenced by exposure to support from more experienced clinicians. Maseko et al., (2014) found that newly qualified therapists working in urban and well-resourced settings usually receive support in terms of supervision and mentorship compared to newly qualified therapists working in low-resource settings (Maseko et al., 2014). It becomes imperative for newly qualified therapists who might find themselves in low-resource settings to cultivate positive personal characteristics (Mostert-Wentzel et al., 2013a), also referred to as transferable skills (Jones et al., 2010) or rural competences (Van Stormbroek and Buchanan, 2016). These skills would enable them to thrive amidst the poor resources of primary care alongside having adequate knowledge and skills (Mostert-Wentzel et al., 2013b). Transferable skills include competences such as communication (language), culture awareness, resourcefulness (Van Stormbroek and Buchanan, 2016) resilience, team work and problem solving (Jones et al., 2010, Mostert-Wentzel et al., 2013a). These have been found to be necessary even for newly qualified therapists in well-resourced settings when venturing into a setting that has unique needs such as primary care (Adam et al., 2014, Jones et al., 2010). This is because transferable skills enable professionals to think critically and adjust to settings without difficulty (Jones et al., 2010, Mostert-Wentzel et al., 2013a). These positive personal competencies for community practice need to be fostered in students from an early stage during training considering that practice drives learning (Mostert-Wentzel et al., 2013a, Van Stormbroek and Buchanan, 2016)

Recommendations from studies involving newly qualified physiotherapists have led to improvements in physiotherapy undergraduate curricular especially in terms of orienting the curricula towards primary care needs (Wranz, 2011). Strengthening curricula is the best and more lasting solution for the problem of readiness amongst new graduates (Singh et al., 2015, Van Stormbroek and Buchanan, 2016). Progress has been made towards improvement of the different curricula of therapists in South Africa (Mostert-Wentzel et al., 2013b, Wranz, 2011). However, these improvements vary from university to university suggesting a needs to ensure consistency in curricula (Mostert-Wentzel et al., 2013b). Therefore, more dialogue among academics on the curriculum and research on the pedagogy of health professional education is imperative.

2.7 CPD: VALUE OF SHORT PRACTICAL TRAINING COURSES

Short practical training courses have been identified as an important and readily available tool for meeting the skill and knowledge gaps in therapists that are already practicing (Singh et al., 2015). Singh et al., (2015) argued that newly qualified therapists need CPD which can be in a form of short courses to enhance patient care. CPD is a process by which healthcare professionals advance their knowledge and expertise following entry level graduation, so as to keep up the professional and personal qualities required throughout their years of practice (Chipchase, Johnston and Long, 2012; Keogh and Byrne, 2015). Key to CPD is the fact that the professionals take control of their own learning through engagement and ongoing critical reflection (Foucault et al., 2018). CPD is recognised as a vital responsibility of every professional to foster lifelong learning skills in order to render quality health service delivery (Chipchase et al., 2012). Therefore, CPD is considered a mandatory support system for professionals to enhance skill maintenance and development in most countries (Foucault et al., 2018, French and Dowds, 2008, Stagnitti et al., 2005). Some professional bodies also set CPD targets as a mandatory requirement for maintenance of accreditation (Foucault et al., 2018, Gibbs, 2011). The ultimate goal for CPD is maintenance of up to date standards for healthcare service delivery (Gibbs, 2011, Gunn and Goding, 2009).

In South Africa, CPD is also regarded as a mandatory requirement for maintaining accreditation and registration with professional bodies (Van Vuuren and Nel, 2013). Recent calls in CPD for health professionals in South Africa have been to transform CPD into competence based activities and not mere platforms of retaining registration (Van Vuuren and Nel, 2013). Thus CPD is expected to be a forum that builds on the learner's previous experience and prior knowledge, and that actively engages the learner in practical tasks and problem solving (Feldacker, Pintye and Jacob, 2017; Van Vuuren and Nel, 2013). CPD should also be a transformative exposition of relevant subjects that take into account the primary care contexts of the professionals focusing on areas of need as they evolve (Feldacker et al., 2017, World Health Organization, 2013). This suggests a challenge for all CPD interest groups and organisations in ensuring that all forms of CPD activities align with the aim of supporting health professionals to develop skills and competences that are practically relevant to the local healthcare needs at all times.

CPD can take the form of both formal and informal learning. Informal learning includes learning activities that take place in non-typical classroom setting such as the workplace itself (Chipchase et al., 2012, Foucault, Vachon and Thomas, 2018). Formal learning includes learning activities such as enrolment in registered short courses (Chipchase et al., 2012). Although informal learning models could be valuable in providing CPD in various settings, there is evidence that therapists find formal learning models of CPD in a form of short courses to be even more valuable in evaluating CPD gains (Chipchase et al., 2012). A study was conducted in the UK to investigate individual CPD experiences of physiotherapists working in primary care trusts (Gunn and Goding, 2009). It revealed that therapists preferred formal course based learning where there is an opportunity to be challenged, recognised and formally build professional achievements (Gunn and Goding, 2009). This finding is similar to a study that was done in South Africa. The study investigated CPD needs of qualified dieticians, occupational therapists and physiotherapists with the aim of informing the provision of relevant CPD activities at a skills unit (Van Vuuren and Nel, 2013). Therapists reported preference for formal short practice-based CPD forums where they can learn from experts, perceiving that observing experts demonstrating practical skills enhances acquisition of skills (Van Vuuren and Nel, 2013). Both studies suggest how formal learning is esteemed by therapists and hence the need to increase accessibility of formal short courses for therapists.

Formal learning CPD forums ought to take into account the principles of adult learning (Chipchase et al., 2012). Adults learn better when they take charge of the learning process and internalise what they learn in a way that shifts their way of thinking (Chipchase et al., 2012, Teal Center, 2011). In addition, adult learners prefer to learn through actively engaging with the learning process, where the experience is as close to the real-life situation as possible (Grace, Innes and Patton, 2017; Teal Center, 2011). They also prefer a learning environment that is comfortable and unthreatening to self-expression and mutual feedback (Grace et al., 2017, Teal Center, 2011). Therefore, it is essential for all CPD short courses to incorporate principles of an adult learner in the development of the curriculum and the delivery of the CPD short courses in order to enhance the learning of the therapist.

CPD courses need to be up to date and focussed on areas of current needs for therapist. A study was done in the Free State and Northern Cape provinces of South Africa to investigate the CPD needs of allied health professionals (Van Vuuren and Nel, 2013). The professionals reported preference for learning to include hands on practice opportunity as opposed to exclusively lecture based learning. They felt that skill-based learning facilitated by experts in the field was more meaningful and relevant (Van Vuuren and Nel, 2013). This is in keeping with the findings of an integrated review that was done to determine the best e-learning instructional designs for therapists who work with patients requiring chronic care (Lawn, Zhi and Morello, 2017). The review showed how useful online learning is in reinforcing existing skills but revealed that professionals valued face to face learning and real-world practice for learning new skills. Moreover, professionals also valued face to face sharing of ideas with peers in the safe environment afforded by short practical workshops (Lawn et al., 2017). It is therefore important that CPD be carried out in a manner that will enhance the learning experience of the participants and hence achieve the purpose of meeting identified knowledge and skill gaps.

2.7.1 Impact of CPD: Short Practical Training Courses

CPD in the form of active learning and formal based courses can change the professional's practice and internal perceptions (Gunn and Goding, 2009). Confidence as well as competence in a particular area of focus does improve, resulting in effective therapeutic relationships with patients and clients (Gunn and Goding, 2009, Myers and Lotz, 2017, Nichols, 2017). Studies in different areas of rehabilitation have also demonstrated the value of CPD in form of short practical training courses in meeting specific knowledge and skill needs (Bennett, Hoffmann and Arkins, 2011; Li, Hurkmans and Sayre, 2010; Nichols, 2017). Li et al., (2010) conducted a study to assess the value of CPD in form of a three-day practical training course for therapists working in arthritis care. Post- training, therapists not only reported increased knowledge, skills and confidence but also reported ability to take up more roles in arthritic care. In another study, fieldwork educators (occupational therapy practitioners) showed improvements in their knowledge, skills and confidence in using evidence based practice with students after a three-hour introductory course on EBP (Nichols, 2017). Both studies did not reveal whether these CPD gains were sustained, but they revealed the ability of CPD to improve therapists' own perception of their professional growth and ability to improve service delivery in the different fields. The studies also demonstrate the need for on-going research in CPD to ensure that it remains relevant and useful considering its important role in bridging potential knowledge and skill gaps.

2.8 EVALUATING CPD ACTIVITIES

Evaluating the value and impact of formal CPD short courses is imperative for short course programme improvement (Campbell, Taylor and Douglas, 2017). Evaluation refers to the assessment of the effect of the course which can be done at different levels viz, the effect on the participants self-efficacy, the effect on professional behaviour and effect on healthcare outcomes (Sinclair, Kable and Levett-Jones, 2016). There are various methods used to evaluate CPD short courses, most of which are variations, improvements or modifications of Kirkpatrick's level model of CPD evaluation (Coldwell and Simkins, 2011). Kirkpatrick designed a level model of course evaluation as a practical framework to aid individuals involved in the process of evaluating a training program (Kirkpatrick and Kirkpatrick, 2006). The framework breaks down evaluation into four logical steps that trace the effects of training in a successive order or interlined manner (Campbell et al., 2017, Coldwell and Simkins, 2011). The first level identifies participants' reaction to the training or course. This includes satisfaction with the course delivery and also deliverables. The second level assesses participants' learning in terms of acquisition of knowledge and skills whilst the third level assesses transferability of learning in terms of change in behaviour of practice. The fourth level assesses desired results in terms of overlying impact of the changes in practice to the institution or organisation. The level model is necessarily applicable as a practical way of enabling training evaluators to assess the impact of course more systematically (Coldwell and Simkins, 2011). The evaluation model in this study draws from Kirkpatrick's level model of evaluation, from which the objectives of the study were also derived.

Examples of CPD evaluation exist in literature although some of them are not embedded in any theoretical evaluation framework. Campbell et al., (2017) used Kirkpatrick's level model to conduct a review aimed at evaluating the effectiveness of online education in cancer care for nursing and allied health professionals. The review revealed that the use of pre and post test tools for evaluation was common and also effective in showing effect of the course especially when there was consistency in response rates (Campbell et al., 2017). Additionally, the review showed that most course evaluations are done at the first levels of Kirkpatrick's model, whereby evaluators focussed on investigating participants' views and establishing changes in participants' attitudes, knowledge and skills (Campbell et al., 2017). There were only few studies in which evaluation demonstrated the impact of the course on patient and health outcomes. The review acknowledged need for better and rigorous methodology and theoretical frameworks in designing evaluation of courses that can demonstrate long term effectiveness and impact on patient outcomes. This finding is similar to what Sinclair et al., (2016) found in their systematic review that was aimed at appraising and synthesising the best available evidence for the effectiveness of e-learning CPD activities on healthcare professional behaviour and health outcomes. They also found that e-learning programmes improved healthcare behaviour but none of the papers reported impact of e-learning on patient outcomes. Both studies demonstrated current practice in course evaluation although the later did not use any theoretical model of evaluation. They both highlighted the need for more holistic methods of CPD evaluation to demonstrate long-term effectiveness of CPD that have impact on patient outcomes.

2.9 METHODOLOGICAL CONSIDERATIONS

There were two main methodological considerations for this study. The first was to do a secondary analysis and the second was to employ mixed methods data analysis techniques (qualitative and quantitative). Secondary data analysis is defined as the analysis or re-analysis of data that was collected by another person for other primary reasons, in order to answer a new question (Boslaugh, 2007, Glass, 1976, Johnston, 2017). For the current study, short courses were conducted and the therapists who attended the courses were given a chance to evaluate the course. The evaluation data was collected and stored by the facilitators of the course. This analysis is considered a "supra analysis"; where the aims of the current researcher not only converged with the aims of the primary data collector but also transcended the original purpose for which the data was collected (Heaton, 2008). Primarily, the data was collected to help the course facilitators to pragmatically evaluate the delivery of the course. However, the current researcher also took a step further; which was assessing the overarching value of the course building under five exploratory objectives that borrow from Kirkpatrick's level model of evaluation.

Secondary analysis has both advantages and disadvantages to it. The advantages include saving time and resources and also making longitudinal comparative studies feasible (Johnston, 2017). Most importantly it allows for the discovery of new insights that would have otherwise be missed (Heaton, 2008). Potential disadvantages of doing secondary analysis include difficulty of constructing measurement models around data that may be running on broad and parallel tangents that do not match the present study (Koziol and Arthur, 2011). This particular study had an advantage in this aspect in that the primary data was already embedded in a model (Kirkpatrick's level model) when it was collected that resonated well with the objectives of the current study. The other disadvantage is the lack of control over the quality of the data (Johnston, 2017). In the present study, the researcher made sure to check the validity of the data through verifying the primary data collection procedure and instrumentation that were used.

The study used a mixed methods design for data analysis defined as the analysis of both quantitative (closed ended) and qualitative (open ended) data and integration of the two sets of results to draw interpretations that best answer the research question (Clark and Creswell, 2008). The strength of this design is that the qualitative data could be used to validate the quantitative data and therefore enhance interpretation of the results (Fetters et al., 2013). The course evaluation tools were designed to gather both quantitative and qualitative information. Thus, this method was chosen to enhance complementarity in the two different types of information gathered (Schifferdecker and Reed, 2009). It was the hope that the qualitative data would elaborate and clarify quantitative data obtained. An advantage of using this design is to be able to verify and confirm different types of data by means of triangulation (Clark and Creswell, 2008, Fetters, Curry and Creswell, 2013). Moreover, analysing the qualitative data also allowed for an understanding of the views of the therapists who attended the courses.

2.10 CONCLUSION

It is evident from literature that CP is quite a complex and fairly prevalent healthcare condition among children in Africa. The management of it in resource constrained settings is similarly complex requiring competent rehabilitation therapists who continually develop their knowledge levels and skill sets to ensure better outcomes. It is also evident that due to workforce retention policy in resource constrained countries; newly qualified therapists find themselves responsible of independently managing complex conditions such as CP. South African newly qualified therapists have reported a general lack of readiness to practice hence needing CPD and continued support from more experienced clinicians. Literature has shown that CPD in form of short courses can be useful in bridging this readiness gap for newly qualified therapists, hence the need to establish the value of a short practical training course on the self-perceived lack of readiness of newly qualified therapists.

CHAPTER 3

3 METHODOLOGY

This chapter describes the methodology employed in the study. It includes the procedures undertaken in the primary collection of the data.

3.1 STUDY DESIGN

The study was a secondary analysis of data that was primarily collected as information on and evaluation of a short practical course in CP.

3.2 STUDY SETTING

3.2.1 Malamulele Onward

Malamulele Onward is a non-profit organization (NPO number: 2006/032287/08) based in Johannesburg, Gauteng Province, in South Africa that invests in rural CP services. The main aim of the organisation is to offer innovative solutions to improve the quality of life of children with CP and their families living in rural resource-constrained settings. Malamulele Onward offers rehabilitation outreach services in rural settings to equip both the caregivers of children with CP and the therapists in rural hospital settings. In addition, the organisation offers short courses and practical hands-on sessions on CP for rehabilitation therapists.

3.2.2 Information on the Malamulele Onward short practical courses

The short practical course for rehabilitation therapists comprises intensive six days of teaching, practical treatment, discussions and reflection sessions. The objectives of the course include equipping therapists with practical understanding of the different types of CP, classification of CP, treatment and management ideas for the different types of CP, functional goal setting according to the type of CP, incorporation of play, communication and functional visual training into the child’s daily routines, basics on feeding techniques (safe eating and drinking), implementing a 24-hour postural management programme, group rehabilitation, making basic equipment for children with CP and working effectively and respectfully with parents and caregivers (see Appendix VII for detailed programme).

Table 3.1: Objectives of the Malamulele Onward Six-Day Course for Therapists

COURSE OBJECTIVES / LEARNING OUTCOMES
❖ Identify the main types of CP and classify children according to the GMFCS
❖ Demonstrate treatment and handling ideas for the different types of CP
❖ Understand how to set functional goals according to the type of CP and the GMFCS level
❖ Incorporate play, communication and functional visual training into the child's daily routines
❖ Understand the basics of safe eating and drinking and how to address common eating and drinking problems in children with CP
❖ Implement a 24-hour postural management programme for Level 4 and 5 children
❖ Treat children with CP in a group
❖ Make basic equipment for children with CP
❖ Work effectively and respectfully with parents and caregivers

The course is largely practice-based and participatory. It is administered by an interprofessional team of experienced speech therapists, occupational therapists and physiotherapists. It is open to all therapists (physiotherapists, occupational therapists and speech therapists) working with children with CP and is accredited 30 CPD points. The majority of the therapists attending the course are newly qualified therapists.

Participating therapists complete a general information form that captures details of the background of participants including their professions and workplace (Appendix III). Additionally, the form also captures information on expectations of the therapists from the course (Appendix III). Participants also answer the questionnaire on knowledge intended to determine their perception of their baseline level of knowledge on the different aspects of CP addressed in the course (Appendix IV).

At the end of the course, the questionnaire on knowledge is administered again. Participants are asked to rate their knowledge again to determine their post-training level of knowledge. At this point, therapists are asked to rate their knowledge before the course again so as to actually capture a truer reflection of their perception knowledge before the course "now that they have been on the course". Against this, they are asked to rate what they perceive as their new level of knowledge following the course. Participants also complete a course evaluation form which includes sections on overall satisfaction with the course, feedback on course delivery and learning achieved (Appendix VI).

3.3 STUDY CASES

The study included all records of therapists who attended the Malamulele Onward six-day training courses between January 2015 and May 2017 for both the quantitative and qualitative analysis.

3.3.1 Inclusion Criteria

- Records of speech therapists, physiotherapists and occupational therapists who attended the course between January 2015 and May 2017.

3.3.2 Exclusion Criteria

- Records of mid-level workers or non- therapists (e.g. dieticians) who attended the course.
- Records of therapists with ≥ four years of experience since obtaining undergraduate qualification.
- Records with missing sets of data; specifically, those missing scores in the knowledge questionnaire.

3.4 INSTRUMENTATION

This study utilized four tools:

- **The General Information Form (Appendix III)**

  The General Information Form was designed to capture demographic data of the therapists, including their professional background and practice experience. It also sought information on the expectations of the therapists from the course.

- **The Knowledge Questionnaire (Appendix IV and V)**

  This was a 15-item close ended questionnaire. Therapists were asked to rate their own perception of their level knowledge on the 15 different aspects of CP on a scale of 1 to 10. The same questionnaire was administered twice; before the course and after the course. Hence, the course had two separate questionnaire forms named the before and after Knowledge Questionnaire respectively (see Appendices IV and V).

- **The Evaluation Form (Appendix VI)**

  The Evaluation Form comprising both closed and open-ended questions designed to seek feedback on the delivery of the course, overall satisfaction with the course and readiness to change clinical practice behaviors.

The last part of this form was evaluation in terms of the "way forward". There was a special prompt that was given to help participants identify new behaviors they would adopt going forward and what they would do differently. The special prompt was an open-ended prompt: "Before I used to…now I will…" (see Appendix VI)

3.5 VALIDITY AND RELIABILITY OF THE TOOLS

The tools used to collect evaluation data were developed by the Malamulele Onward therapy team comprising a physiotherapist, occupational therapist and speech therapist in 2014. The tools were based on their clinical experience as well as the objectives of the course (Table 3.1). The aim was to develop evaluation tools that would adequately assess both the theory as well as application to clinical practice and service delivery as stipulated by the FCA (Mcdowell et al., 2015). This would also constitute valuable feedback for the course facilitators in terms of areas needing improvement as well as a greater understanding of the participants' needs and their current practice. The original Knowledge Questionnaire contained 17 items. The General Information Form had ten sections whilst the Evaluation Form had five sections. The tools were piloted on one of the first courses in 2014 for face validity and clarity. Areas of apparent lack of clarity or redundancy or incompleteness were identified. The tools were revised by the same team in 2014. The tools were piloted again in 2015 in the subsequent course.

The final version of the Knowledge Questionnaire therefore contains 15 items. The General Information Form maintained the ten sections. A section that specifically prompted participants to contrast former clinical practice attitudes and behaviors to the ones they were planning to adopt after the course was added to the Evaluation Form.

3.6 DATA MANAGEMENT AND ANALYSIS

3.6.1 Quantitative Data

The quantitative data from the Knowledge Questionnaire and the Evaluation Form were manually entered into Microsoft Excel.

An original data set was saved in an external hard drive that was password protected. The data entered into Microsoft Excel was then imported into Stata software, version 14 for analysis. All analyses were performed using STATA IC version 14.1 and statistical significance was considered at a two-sided α-level of 0.05.
Quantitative data analysis was done to address objective one and three viz:

- To describe the demographic profile of the therapists who attended the CP practical training course.
- To determine change in self-perceived knowledge regarding CP among the therapists.

Frequencies and percentages were used to describe the demographic profile. This included profession, levels of years of experience, training university and workplace, province.
Mean scores and standard deviations for level of knowledge before training and after training were calculated.

Paired t-tests were used to compare the means of the knowledge before the training with the means of knowledge after the training. This was done after checking for normality in the continuous data using the Shapiro-Wilk test.

Table 3.2: Summary of quantitative data analysis

Objective	**Variable**	**Type of Data**	**Statistical Test**
To describe the demographic profile	- Profession - Years of experience - University of training - Workplace province	Nominal Continuous Nominal Nominal	Fisher's exact test
To establish the change in self-perceived knowledge	Knowledge level	Interval	Means and SDs
	Change in knowledge level	Interval	Paired t-test

3.6.2 Qualitative Data

Qualitative data was extracted from all General Information Forms and the Evaluation Forms. The data were then collated into Microsoft Word documents in accordance with the study objectives as outlined in the table below:

Table 3.3: Qualitative data extraction procedure for objectives two, four and five

Objective	Source of data
To establish whether the expectations of the therapists who attended the course were met	Items one and two from the General Information Form
	Item one from the Evaluation Form
To describe the self-perceived change in attitude, perception and clinical practice behaviours regarding CP among the therapists	Item five from the Evaluation Form
To describe elements perceived as vital components of a short course on CP by the therapists	Items two and four from the Evaluation Form

The three sets of qualitative data were analyzed using MAXQDA software version 12.

Thematic content analysis was completed in that data were coded and similar foci were categorized and sub-categorized. Thereafter themes were generated.

Codes within each category (in accordance with the three objectives) were generated inductively. The researcher ensured to generate codes using the actual or original phrases as much as possible so as not to lose actual original expressions. This was done to ensure that eventual themes indeed reflected the views of the course participants.

During the inductive process, the data was constantly compared line by line to either confirm already establish categories or form new ones.

3.7 TRUSTWORTHINESS OF QUALITATIVE ANALYSIS

A number of processes were undertaken to ensure that objectivity, precision and thoroughness in the quality of data analysis and interpretation, qualities which characterise trustworthiness of the analysis (Anney, 2014; Cope 2014). These qualities include dependability, credibility, confirmability and authenticity (Anney, 2014). All or some of these are applicable depending on the design of qualitative study being conducted. For the current secondary analysis, where data had already been collected, the researcher ensured dependability and confirmability.

Dependability

Dependability refers to the ability to establish and preserve the true meaning of data in a way that makes it stable and reliable over time in that specific context (Anney, 2014, Cope, 2014). In this regard the researcher undertook a code-recode procedure with the data whereby the researcher and both supervisors analysed first analysed the data independently and compared the analysis to check for emergent codes, agreement/disagreement in the codes. The codes were then revised and discussed until dependable and consistent meaning was achieved (Clark and Creswell, 2008).

Confirmability

This is the ability to demonstrate that the ultimate interpretations truly originated from the participants' own words and not the researcher's own biases. This was demonstrated in the study in that all records of the participants were reviewed. All responses were considered and inductively built from singular units to codes and into overarching themes. Moreover, As much as single quotes were used to report the data, the number of codes associated with each quote were provided as well.

The concept of **triangulation** was also used to enhance both credibility and confirmability (Anney 2014; Clark and Creswell, 2008). Since the analysis include both qualitative and quantitative data, it was possible to confirm the qualitative data using the quantitative measures obtained. For example, participants' perceived lack of confidence expressed in one aspect of CP was confirmed by their perceived low score in that particular aspect

3.8 ETHICAL CONSIDERATIONS

- Permission to do the secondary data analysis was obtained from the Executive Director of Malamulele Onward (Appendix I).

- Ethical clearance was obtained from the Ethics and Research Committee of the University of Witwatersrand, certificate number M170833 (Appendix II).

- Confidentiality for all personal information on the therapists was preserved throughout the record review. All forms were scanned and identifiable data (name and hospital name) were removed. Original data was retained in the Malamulele database store. All the scanned data was stored in a password protected computer.

3.9 ROLE OF THE RESEARCHER

In the secondary analysis, the researcher undertook the following roles:

- Development of the evaluation concept and protocol for the secondary analysis including the design and precise objectives of the study.
- Extraction of relevant data from the Malamulele Onward database.
- Organization, management and analysis of the extracted data using afore mentioned software and tools.
- Primary interpretation of findings and report writing.

CHAPTER 4

4 RESULTS

4.1 INTRODUCTION

This chapter presents the results of the study, firstly the quantitative results followed by the qualitative results.

4.2 QUANTITATIVE RESULTS

The quantitative results are presented with respect to objectives one and three, viz:

To describe the demographic profile of the therapists who attended the CP practical training course.

To determine change in self-perceived knowledge regarding CP among the therapists.

4.3 STUDY RECORDS

Eleven courses were completed during the two-year study period (i.e. April 2015 to May 2017) yielding a total of 223 participant records. Sixty records were excluded as they were records of participants who had more than four years of work experience and/or were participants who were non-therapists. The number of records used to answer objective one, two, four and five was therefore 163. Objective three (determining change in level of knowledge) used a number of 136 since some records had missing scores on the questionnaire on knowledge.

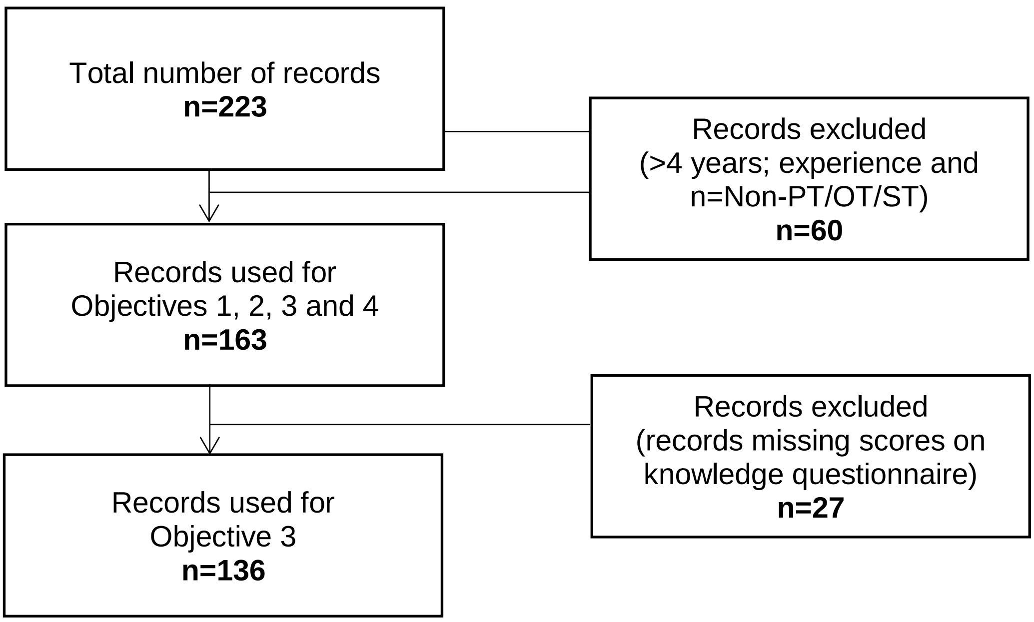

Figure 4.1: Flow chart showing number of records included in the study

4.4 PROFILE OF COURSE PARTICIPANTS

Table 4.1 describes the diverse profile of the participants by profession, years of professional experience, university where the participants graduated and the province where they were working.

Table 4.1: Profile of the therapists who attended the short course

	Number (n)	Percentage (%)
Profession name (n=163)		
Occupational Therapy	91	55.8
Physiotherapy	47	28.8
Speech Therapy	25	15.3
Years of experience (n=163)		
< 1 year	109	66.9
2 years	31	19.0
3 years	10	6.0
4 years	11	6.7
University (n=163)		
Cape Town	32	19.6
Western Cape	15	9.2
Kwa-Zulu Natal	32	19.6
Witwatersrand	8	4.9
Stellenbosch	31	19.0
Pretoria	18	11.0
Free State	22	13.5
Sefako Makgatho	5	3.11
Province (n=163)		
Limpopo	0	0
Mpumalanga	18	11.0
North West	5	3.1
Free State	9	5.5
Kwa-Zulu Natal	58	35.6
Northern Cape	7	4.3
Eastern Cape	46	28.2
Western Cape	3	1.8
Gauteng	15	9.2
Not working yet	2	1.2

With the exception of Limpopo, the study sample comprised participants from every province in South Africa. Just over a third (35.6%; n=58) were working in Kwa-Zulu Natal whilst just over a quarter (28.2%, n=46) worked in the Eastern Cape. Similarly, the sample represents graduates from almost all universities involved in training rehabilitation therapists. The university of Cape Town and Kwa-Zulu Natal were each represented by 19.6% of the sample, whereas 19% graduated from the University of Stellenbosch. Occupational Therapy was the profession with highest attendance numbers with just over half (55.8% n=91) of the therapists who attended the course being Occupational Therapists.

4.5 CHANGE IN THE OVERALL LEVEL OF SELF-PERCEIVED KNOWLEDGE ON CEREBRAL PALSY

There was a significant difference in overall self-perceived knowledge levels between the scores before and after training ($p < .001$)

Figure 4.2: Overall change in CP knowledge after training

The overall mean score of knowledge before training was 44.5 (standard deviation (SD =±20.9), which significantly increased to 118.5 ±19.6 after training ($p < .001$).

4.6 CHANGE IN LEVEL OF SELF-PERCEIVED KNOWLEDGE IN DIFFERENT ASPECTS OF KNOWLEDGE IN CEREBRAL PALSY

The self-perceived knowledge was further subdivided into five categories that corresponded to Assessment (items 1-3), Treatment (items 4 and 5), Communication and Play (items 7,8,13,14 and 5), Management (items 6,9 and 10) and Cerebral Visual Impairment (items 11 and 12) respectively.

Results from the paired t-tests showed a significant difference in the before and after self-perceived knowledge levels in all five categories ($p < .001$ for each category) as shown in figure 4.3 below.

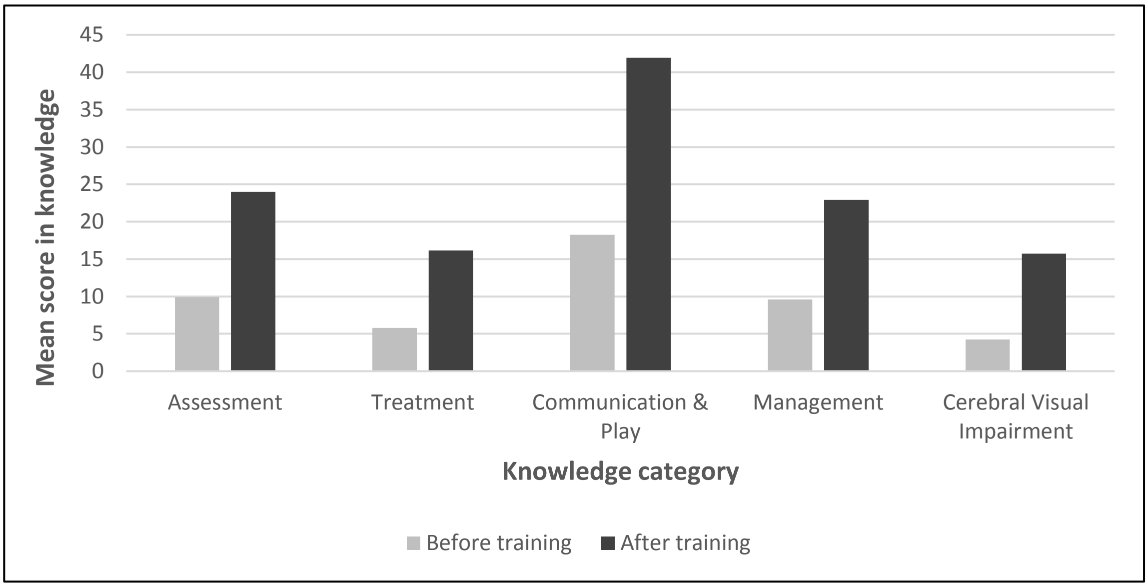

Figure 4.3: Change in level of knowledge in five aspects of CP

The greatest change in level of self-perceived knowledge was found in the Communication and Play category, which was 17.58 ± 9.59 before the course and 41.92 ± 4.79 after the course, followed by the Assessment category which was 9.3 ± 4 before the course and was 23.98 ±3.99 after the course.

4.7 QUALITATIVE RESULTS

The qualitative results are presented with respect to objectives two, four and five viz:

2. To determine whether expectations of the therapists attending the course were met.
4. To describe the self-perceived change in attitude, perception and clinical practice behaviors regarding CP among the therapists.
5. To describe elements perceived as vital components of a short course on CP by the therapists.

The (n) included in the tables represents the number of other codes associated with the quote presented

Profession specific comparisons were not possible since the qualitative data were not matched to respondents as were quantitative data. Only one category of the quotes was identifiable to a specific profession as suggested by the contents of the quotes. This category was that of unmet expectations of therapists as shown in table 4.3.

4.8 OBJECTIVE ONE: EXPECTATIONS OF THE THERAPISTS

The course met the expectations of the majority of the participants [97.5% (n= 159)]

Table 4.2 below summarises the perceptions of the participants whose expectations were met.

Table 4.2: Summary of perceptions of participants whose expectations were met

THEME	CATEGORY	CODE	*(n)*	QUOTE
Met expectations	Course exceeded expectations	Experiential and practical	*38*	"*Yes, the course exceeded my expectations! I expected to be taught a bit and have practical sessions but I did not expect such collaboration between lectures and practicals which really emphasized the concepts"*
		Interprofessional experience	*27*	*"Yes, this course exceeded my expectations, since it wasn't only focused on OT –treatment; I know feel more confident in areas that are more relent to other professions (e.g. speech therapy) and will be able to treat these aspects since and speech therapists is not available in our area"*
	Course met expectations	Applicable and appropriate	*12*	*"Yes, the course was very informative and covered a wide range of topics that was applicable to my profession as an occupational therapist. I actually learned about so much more that what I was thought I would."*
		Practical and experiential	*24*	*"Yes, the course has been extremely informative; I feel more knowledgeable about CP after the course. The practical element of the course allowed for experiential learning of skills. This was the best way to learn skills and I believe I'll be able to transfer them to the context in which I work."*
		Informative and comprehensive	*32*	*"Yes, it has met my expectations because I have learned everything I thought I need to know when working with CP children. I learned much more'*
		Well-structured and organised	*13*	*"Yes. I found the course to be very well organised and run efficiently with very knowledgeable experienced therapists running it. The structure of the course is also impressive. I love the fact that the care givers are being trained on the same information. Brilliant!"*
		Good learning material and resources	*10*	*"... The learning materials were very neat and organised, thank you."*

A small number of the participants (n=4 (2.5%)) reported that the course did not meet their expectations or had mixed feelings.

Table 4.3: Summary of perceptions of participants whose expectations were not met

THEME	CATEGORY	CODE	QUOTE
Unmet expectations	Mixed feelings	Practice time not adequate (n=1)	*"In a way yes, in a way no. I came with the hope that I would be able to more effectively treat my CP kiddies. (Which in essence I have learnt a lot) but in the context of my hospital and clinics it hasn't helped as much as I thought it would. Ideally, I would love to be able to spend 30 minutes preparing the child's body but that would practically take too long"*
	Course did not meet expectations	Less relevant to speech therapy (n=1)	*"No. I thought the course was more physio and OT oriented. As a speech therapist I mostly did not feel I played a big role or had my expertise maximized topics covered were mostly related to physio and OT"*
		Speech therapy topics not sufficiently covered (n=2)	"*No. I came on the course looking for more information on communication intervention. I thought this would be covered. The information covered in the communication lecture was not sufficient as it was everything that I already knew. I paid a lot of money to come on the course which was aimed on OTs/PTs only"*

4.9 OBJECTIVE FOUR: CHANGE IN ATTITUDE, PERCEPTION AND INTENTION FOR CLINICAL PRACTICE

There are several categories of change that were mentioned under the theme of ‘change in attitude, perceptions and clinical practice’.

The change referred to here is not the actual practice or behaviour seen by observation after the training but rather refers to the ‘perceived intentions to change in these areas’.

4.9.1 Self-perceived change attitude towards CP

In terms of attitude, participants said that prior to doing the course, they had negative attitudes towards both children with CP and their caregivers as a result of poor self-efficacy, and misconceptions around CP management and prognosis. Going through the course gave them more confidence in dealing with CP as well as insight into the possibilities of what could be achieved with the children. Moreover, they found it eye opening to understand the challenges faced by caregivers and their crucial role caregivers play in therapy.

Table 4.4: Self-perceived change in attitude towards CP

CATEGORY	CODE	QUOTE	
		Before I used to…	**Now I will …**
Attitude	Confidence with CP management (n=38)	*"Feel overwhelmed and incompetent as soon as a child with CP came"*	*"be confident with CP and just remember that a child with CP is just a child"*
	Positive reception of children with CP(n=23)	*"Be scared of children with CP and therefore cringe when they were referred. I always felt like I should know more but I didn't"*	*"Feel excited when a CP kid arrives for therapy …confidently greet and smile the child and caregiver"*
	Empathy for caregiver (n=16))	*"Jump to conclusions about what the caregivers were doing right/wrong and tell them what to do instead of looking at the whole picture and understanding why the caregiver does things the way that she does"*	*"Be patient and supportive to parents"*

4.9.2 Self-perceived change in perception of CP

Participants change in perception was mainly regarding their understanding of the possibilities with a child with CP and the needs of a child with CP. They reported that the course gave them insight into the possibilities that could be achieved with children with CP and their needs.

Table 4.5: Self perceived change in perception of CP

CATEGORY	CODE	QUOTE	
		Before I used to…	**Now I will**
Perception	Seeing possibilities in a child (n=21)	*"…not see the real potential of children with CP"*	*"…think of CP as a way of life, in which the child has a lot of possibilities with each passing day…and place expectations on the child"*
	Understanding child's needs (n=26)	"…*box all CP children and think that all children with CP have somewhat cognitive involvement and would not have a good choice making concept"*	*"…adapt treatment to the child and offer more choice making and opportunities for the child to communicate"*

4.9.3 Self-perceived change in clinical practice (readiness to adopt new practice)

Regarding clinical practice, participants reported several areas where they intended to change their way of practice. These areas could be further grouped into four categories namely: approach to child management, caregiver involvement, service delivery and continuity of care.

Table 4.6: Summary of the changes in clinical practice that participants intended to implement

CATEGORY	SUB-CATEGORY	CODE	QUOTE	
			I used to …	**Now I will…**
Clinical practice	Approach to child management	Thorough assessment and classification (n=35)	*"rush assessment and only concentrate on physio issues more …* *"...just assess the child and not classify them accordingly and mostly not classify them at all."*	*"slow down* thoroughly assess each child and determine their classification."
		Holistic approach (n=27)	*"Rush Assessment and only concentrate on physio issues more, talk to parent/carers as if I always knew more based on training".*	*"Assess my patient in a more holistic and organised manner with a more methodical guideline."*
		Individualised therapy (n=29)	"To think that all children with CP have somewhat cognitive involvement and would not have a good choice making concept." *"Box all CP children."*	*"Adapt treatment to the child and offer more choice making and opportunities for the child to communicate."*
		Goal directedness (n=17)	*"I did not know how to comprehensively assess a child with CP in order to be able to determine priority treatment goals."*	*"use knowledge, the mom's experience and the child's potential to achieve functional, realistic goals."*
		Child engagement (n=33)	*"…not to focus on the child's ability, never involved the caregiver, and did not include play as a session (therapy goal)."*	"*I will give the child opportunity…and allow the CP children to play and engage with the environment (increase play)."*

CATEGORY	SUB-CATEGORY	CODE	QUOTE	
			I used to …	**Now I will…**
		Creative use and making of assistive devices (n=12)	*“… just think there are no toys and resources and equipmen.t”*	“…give moms ideas and help with making inexpensive, effective and accessible toys and equipment.”
	Caregiver involvement	Empowerment through education (n=27)	*“Underestimate what children with CP can do and not always focus enough on parent education.”*	*“treat CP as a way of life – ADL!!...let the caregiver interact with the child and run groups and so educate and empower caregiver.”*
		Collaboration with the mother (n= 26)	*“Never involve the caregiver.”*	*“…involve the caregivers more ...”*
		Mother as key team member (n=9)	*“Feel hopeless and useless in my attempts to help mothers and could not assist in feeding.”*	*“be able to handle CP in the best way possible, using the parent as the biggest team member in therapy”*
	Service delivery practice	Improve record keeping (n=10)	*“Not have a good guideline for treatment and assessment. I would just use drips and drabs of information and apply it randomly.”*	*“Try standardise our CP assessment forms and work out an efficient CP database so children are not neglected.”*
		Efficient use of available resources (n=12)	*“… just think there are no toys and resources and equipment.”*	*“…give moms ideas and help with making inexpensive, effective and accessible toys and equipment.”* *“Do better group therapies.”*
	Continuity of care	Home rehabilitation (n=17)	“Forget about the future and focus on a thing that cannot	“Look more holistically,

CATEGORY	SUB-CATEGORY	CODE	QUOTE	
			I used to …	**Now I will…**
			"necessarily be changed and neglecting caregiver's role."	Include caregiver much more and empower them And think future and 24-hour management."
		Social environment to inform intervention (n=22)	"… not know how to use the home environment for CP children."	"…explore possibilities for going on home visits to observe and assess child in the natural environment."

4.10 OBJECTIVE FIVE: ELEMENTS IDENTIFIED AS USEFUL COMPONENTS OF A COURSE

There were several elements that participants identified as useful components that made the course successful. The elements could be categorised into four categories namely the teaching and learning method, the teaching and learning environment, the multidisciplinary approach and the curriculum content as shown in table 4.7 below.

Table 4.7: Elements perceived as vital components of CP short practical training course

CATEGORY	CODE	QUOTE
Teaching and learning method	Practical application of theory (n=36)	*"The structure of the course – being able to hear the theory, see photos of case examples, work with a mother and child and then discuss therapy sessions helped me think through problems. CP as a way of life really brought everything together for me."*
	Working with an actual child (n=23)	*"The large amount of clinical practicals and continuous involvement with the same child."*
	Involvement of a caregiver (n= 16)	*"The variety of aspect covered during the course, the videos, and having the caregivers and mothers with us during the sessions."*
	Constant feedback (n=11)	*"Practical experience; well organised theory notes for reference, lots of feedback from all participants and experience with a variety of different children, diagnoses and levels of functioning."*
	Demonstrations by experts (n=24)	*"All the standardised classification tools, the hip surveillance information and hands on practical demonstrations; so helpful to watch and learn from skilled specialised therapists."*
	Sharing among peers (n=31)	*"The process of working with a child throughout the course as this was like a crash course in what the assessment and treatment planning phases in a CP child would likely involve. The sharing between participants allowed for exposure to a variety of CP children."*
	Use of a resource file (n=8)	*"The resource files with the info were fantastic, very well organised, neat and comprehensive."*
Teaching and learning environment	Safe environment (n=21)	*"The openness and freedom to engage with the Malamulele members and ask questions… It was also really helpful to have a facilitator and someone to ask questions. It was very nice how we didn't feel any question was stupid."* "*It was amazing to learn from the team and share ideas in "a comfortable environment" and get feedback and guidance."*
	Presenters perceived as experts in their field (n=13)	"*All the standardised classification tools, the hip surveillance information and hands on practical demonstrations; so helpful to watch and learn from skilled specialised therapists."*

CATEGORY	CODE	QUOTE
Multidisciplinary team approach and interprofessional learning	Allowed for peer learning (n=23)	"…*I liked that we had Mixed therapists to have range of ideas and skills, holistic approach and education. Theory, then practical, then feedback."*
	Holistic view (n=28)	*"I found the holistic view of the course most useful. Instead of just learning about speech therapy related assessment and treatment, I was exposed to positioning, fine and gross motor assessment and management relating to OTs and PTs which are still relevant , if I were handling a CP child of my own."*
	Source of ideas (n=15)	*"It was amazing to learn from the team and share ideas …"*
Curriculum content	Classification of CP (n=37)	*"I learned the importance of assessing and classifying a child with CP the correct way and also learned how to do this; it is great to now be able to use this to guide my treatment to ensure better functionality."*
	Cerebral Visual Impairment (n=22)	*"I did not have any practical exposure at my university in CP. Before the course I thought CVI stood for Cerebral Vascular Infarct. The course was informative and since it was rural based, it will make the skills that I have learnt very useful and applicable to us in the rural setting."*
	Preparation of the child (n= 14)	*"I found the loosening and preparation techniques useful as I didn't know them before."*
	The concept of looking at CP as a way of life (n=41)	*"To realise CP is a way of life and everyday activity is a part of treatment and management."*
	Assistive devices and equipment (n=13)	*"The practical techniques in feeding and different communication tools and the making of low cost equipment and toys."*
	Postural management (n=17)	*"I found the information on postural management and handling most useful as our skills at university did not cover this well but it was good to recap on everything."*
	Communication and feeding (n=11)	*"All the topics that were covered were very useful to me. But especially the communication, feeding, posture and vision. I could relate to them easily."*
	Physical handling (n=13)	"… physical handling of CP children, warm up, How to take therapy to a home environment and incorporating CP as a "way of life" , stretching, massage, learning how to do trunk and limbs, observing Kabi's session on play and learning about seating and how to use objects like buckets and basins to position children."

4.11 CONCLUSION

The Malamulele Onward six-day Practical courses attracted therapists with less than two years of working experience, the majority of which were occupational therapists. Participants came from all training universities in South Africa and with the exception of Limpopo, from all provinces. The course met the expectations of majority of the course participants, with just a few reporting unmet expectations. Participants' self-perceived level of knowledge increased significantly as a result of attending the course, with greatest increase in the self-perceived knowledge of play and communication. Aspects of the course identified as most useful included the multiple and suitable teaching methods, the favourable learning environment, the multidisciplinary approach and the relevant and well organised course content. Participants also identified areas in their own clinical practice, attitudes and behaviours which they wanted to change and improve. It is noteworthy that there is agreement between the qualitative and quantitative results. For instance, the quantitative results show that the overall self-perceived knowledge level increased, which is confirmed by the participants' qualitative expressions that their expectation "to gain applicable knowledge" had been fulfilled.

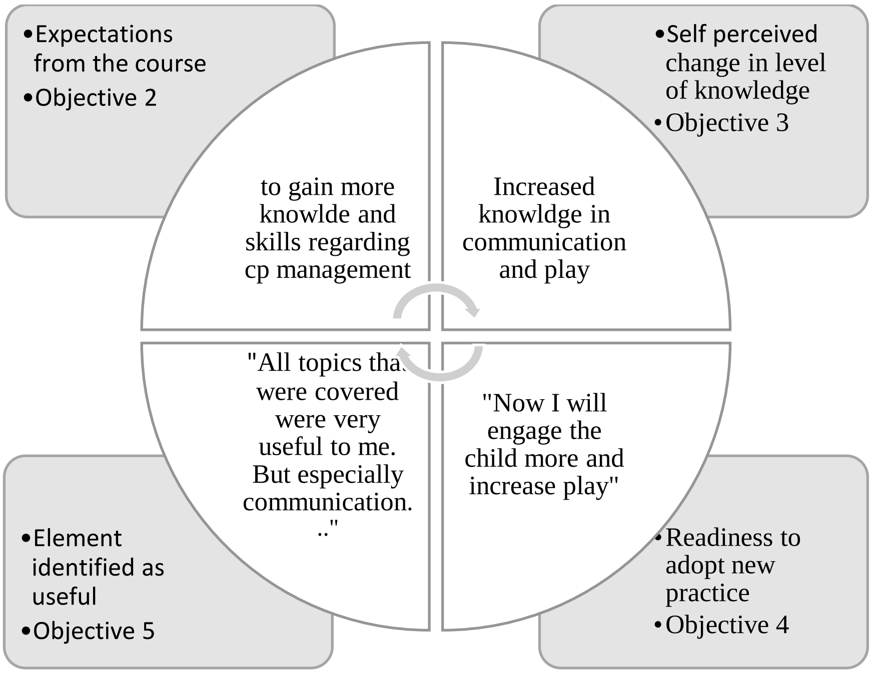

Figure 4.4. Illustration of triangulation in the data

CHAPTER 5

5 DISCUSSION

5.1 INTRODUCTION

This chapter discusses the value of the short training course as demonstrated by the findings from the study. The profile of course participants is discussed as well as the implications thereof. This is followed by a discussion on the expectations of the course participants. The perceived value of the course in terms of changing self- perceived knowledge, attitudes and clinical practice intentions of the participants will also be discussed. The final section discusses essential components of a short course as identified by the participants in the course.

5.2 PROFILE OF PARTICIPANTS

Therapists attending the course came from all provinces in South Africa except Limpopo and were also graduates from all the training universities; the majority from University of Kwa-Zulu Natal and the University of Cape Town. There are two possible explanations for this outcome. Firstly, five of the eleven courses were held at hospitals based in the Eastern Cape or Kwa-Zulu Natal (viz. Frere Hospital and Nelson Mandela Academic Hospital in the Eastern Cape; Mseleni, St. Appollinaris and Benedictine Hospitals in Kwa-Zulu Natal). Secondly, the majority of rural sites where Malamulele Onward programme is active are in these two provinces. It is interesting that although Malamulele Onward programme has four sites in Limpopo, there were no young therapists from Limpopo on the course. This could be because no courses were held in Limpopo or that the therapists working in Limpopo have different professional needs. It could therefore be suggested that the sample in this study was representative of the larger population of newly qualified therapists in South Africa.

Over two thirds of the participants were therapists with less than two years of work experience. This was true even when participants with greater than four years of work experience were accounted for. This demonstrates that newly qualified therapists are particularly interested in attending short practical courses in CP compared to experienced therapists. In agreement with this, studies have shown that CPD is especially important during the critical years where the professional is transitioning from being a student to being a practitioner (Singh et al., 2015). Newly qualified therapists particularly seek to develop confidence, professional identity, interpersonal skills and practical field specific skills (Moores and Fitzgerald, 2017). Hence newly qualified therapists will naturally be more attracted to CPD activities that have a practical interprofessional approach, and this was confirmed in this study. Another factor accounting for this observation is that the Malamulele Onward practical training course was particularly targeted at newly qualified therapists and therapists with little experience in working with children with CP, hence the fact that the majority of course participants had less than two years' experience is not that surprising and suggests that the organisation is reaching its target market.

There are more physiotherapists than occupational therapists and speech therapists in South Africa so it would be expected that their proportions would also be greater too in the short course (Agho and John, 2017). However, the results show that the course is most popular for occupational therapists, as they comprised 55.8 % of the course participants. There are two possible explanations to this outcome. First, it suggests that occupational therapists felt less prepared to work with children with CP. Secondly, it suggests that occupational therapists worked more with children with CP than the other two professionals hence felt they need to equip themselves with the necessary skills to manage CP. This phenomenon certainly needs to be further investigated to ascertain the exact reason for the differences in the course's attraction to the three professions. It might provide further insight into the true nature of their professional development needs as well as which profession is predominantly involved in working with children with CP at public service hospitals.

5.3 EXPECTATIONS OF PARTICIPANTS

Majority of the course participants (97.5%) were satisfied with the course with some even expressing that their expectations had been exceeded. They felt that the course had been informative, and comprehensive, experiential and practical and a positive learning experience, with good learning resources. The interprofessional approach and close collaboration of theory and practice were qualities that exceeded the participants' expectations although others felt they still did not practice enough. This shows that the course was indeed valuable and that it appealed to the preferences of the participants. However, there were a few (2.5%) who were not satisfied with the course. They felt that that the course was more oriented to occupational and physiotherapy, which suggests that they were speech therapists. They felt that the aspect of communication had not been tackled as much as they had expected. While this may indeed be an area of training need for speech therapists, the interprofessional nature of the course may not have allowed for in depth teaching of specific intra-professional topics. The course aimed to expose therapists to the roles of the other professions in a way that reinforces team and holistic approach. Moreover, this specific finding may also suggest a need for profession- specific course for speech therapists to adequately address this very specific technical skill. Nevertheless, there is room for improving the course in a way that increases the intra-professional gains for speech therapists.

5.4 ATTITUDES, PERCEPTIONS AND CLINICAL PRACTICE OF THERAPISTS BEFORE TRAINING

The attitudes, perceptions and clinical practice behaviours that participants reported before coming on the course provide insight into the current practice of newly qualified therapists and also status of rehabilitation service for children with CP in South Africa. Participants reported that prior to the training, they lacked confidence, positive reception and empathy for the caregiver. They perceived CP as "hopelessness" and did not adequately understand the needs of the child with CP. With regards to practice, they were not child centred, did not involve the caregiver, had poor record systems and did not always consider continuity of care. This is all contrary to the key elements that constitute optimal rehabilitation of children with CP. Optimal rehabilitation for children with CP has to be child centred and family centred (Lillo-Navarro et al., 2015). Moreover continual assessment that is goal directed using guidelines and tools comprises best practice in child rehabilitation (Oeffinger, 2016). In addition, continuity of care is defined as the ultimate route for a child to attain to full participation in the community (Chiarello et al., 2016). On one hand, this finding suggests that therapists may not adequately equipped and competent for work with children with CP. On the other hand, it also suggests that the children with CP under their care received less than optimal care. This is a concern considering that most of the newly qualified therapists in South Africa tend to be the only available therapist in the clinics in public service (Naidoo et al., 2017). Therefore, it is likely that most children with CP in South Africa receive poor rehabilitation in public service.

The negative attitudes and perceptions expressed by the therapists are also consistent with reports from previous studies regarding readiness and preparedness of therapists to provide service after graduation. Whilst most previous reports cited a general lack of readiness (Ramklass, 2009b, Singh et al., 2015, Van Stormbroek and Buchanan, 2016), this study highlights issues concerned with the field of CP which cuts across assessment, treatment and management, as well as all professions and all universities in general. Moreover, participants in this course also had the perception that undergraduate training did not adequately prepare them for actual practical work especially in public service where resources are few. This is consistent with the perceptions that have been reported concerning the lack of readiness of newly qualified therapists (Ramklass, 2009b, Singh et al., 2015, Van Stormbroek and Buchanan, 2016). This could imply that there is still a gap in the current training strategies at University institutions despite reports of improvements being made to the undergraduate curriculum of therapists at all universities in South Africa.

The lack of readiness to practice could also be explained by the fact that the pressure of working without supervision puts the newly qualified therapists in a position of uncertainty and self-doubt despite possessing adequate competencies from undergraduate training. Some participants expressed that coming on the course reaffirmed what they already knew and hence improved their confidence and readiness manage a child with CP. This highlights the important role of CPD and other forms of nurturing therapists as they transition from being students to practicing therapists. Secondly, it also highlights the role of undergraduate curriculum in preparing practitioners with resilience and the ability to thrive in a demanding healthcare system where new graduates are expected to “hit the ground running” (Mostert-Wentzel et al., 2013a).

5.5 SELF-PERCEIVED CHANGE IN KNOWLEDGE AFTER TRAINING

There was a significant change in self perceived level of knowledge after the course as shown from the before and after evaluation of the Knowledge Questionnaire ($p < .001$ in all categories). Similar studies support the findings that short practical courses targeting specific areas of healthcare bring about marked improvement of knowledge (Clark, Whalen Smith and Kohls, 2018; Mccluskey and Lovarini, 2005). In Rwanda, physiotherapists were involved in a practical CPD course that targeted clinical decision making and use of evidence-based practice in paediatric rehabilitation (Clark et al., 2018). The facilitators conducted a pre- and post- course assessment which showed significant improvement in knowledge of the course content among the participants (Clark et al., 2018). Similarly, in Australia, a two-day course on evidence based practice revealed significant increases in knowledge among Australian occupational therapists (Mccluskey and Lovarini, 2005). This suggests that formal practical training courses are an effective model for improving the level of knowledge of participants in particular area of focus.

In particular, the area of communication and play showed the greatest significant difference in self-perceived improved knowledge. This is not surprising as these elements were the competencies therapists were not confident with before the course. This was mostly attributed to perceived inability to interact with a child with a disability. This is similar to findings in a case report by Clark et al., (2018) describing an education intervention model for physiotherapists working in paediatric rehabilitation in Rwanda. During the education intervention, the concept of playing and communicating with the child during therapy seemed to be a “paradigm shift” for Rwandan physiotherapists. Before gaining the practical knowledge on play and communication, they were observed to approach treatment of a child in a “perfunctory and serious manner” (Clark et al., 2018). This suggest that therapists have a poor background in training on the concepts of play and communication, particularly in children with a complex disability such as CP. Undergraduate training is probably limited in terms of allowing for adequate development of these specific skills. While there is room for improving this side of undergraduate training, CPD platforms such as short practical training courses could also help bridge these gaps in such specialised areas as shown in this study.

5.6 SELF-PERCEIVED READINESS TO WORK WITH CP POST- TRAINING

Readiness to work with a child with CP in this study referred to preparedness to provide service to children with CP as influenced by attitudes and perceptions and clinical practice/behaviour intentions. Participants’ self-reported attitudes, perceptions and clinical practice intentions did change following the course.

5.6.1 Attitudes and Perceptions

Participants’ previous attitudes and perceptions had tended more to fearing CP, boxing kids with CP, judging carers and seeing CP as a case of hopelessness. Following the practical course, they were ready to approach CP with confidence, seeing each child as a unique CP child, and being supportive and appreciative of the caregiver. Negative attitudes and perceptions have been reported in literature. Lillo-Navarro et al., (2015) investigated the perceptions of parents regarding how physiotherapists prescribed exercises for their children with disabilities. The study revealed that parents felt that therapists at times failed to understand their personal experience (Lillo-Navarro et al., 2015). As such therapists failed to tailor the program to suit their specific day to day needs. This study highlighted the need for therapists to understand the unique situation of the caregiver and importance of tailoring management to fit the unique circumstances of both the child’s and caregiver’s daily life. In another study, Huang, Kellett and St John (2010) described the experience of mothers in learning about their child's diagnosis of CP from physicians. In this study mothers reported that the practitioner usually communicated their child's condition as being severe and hopeless with no hope for any future possibilities (Huang et al., 2010). While the children of most of the mothers involved in the study indeed had severe disability, the study recommended and highlighted the need for positive perception on the part of the practitioner which can enable them to support and educate parents and caregivers. Both studies demonstrated the impact of the practitioner's attitude and perception on the caregiver and implications on the process of rehabilitation of a child with CP. The recommendations made in both studies are in line with the new attitudes and perceptions that therapists in the course expressed. This demonstrates the important role of short practical courses in influencing positive attitudes and perceptions.

5.6.2 Clinical Practice

In terms of clinical practice, old practices of assessment, treatment and management of CP consisted of merely skimming through assessment, missing assessment of important t elements such CVI, the exclusive use of passive modalities, poor employment of group therapy, ineffective use of equipment and little involvement of caregivers. As a result of the course, participants reported readiness to spend more time in assessment, utilise more of standard assessment tools, make treatment more active (participation-based, goal directed and child directed).

Readiness to adopt new practice following a practical short course is also supported by the literature. In a study done by Brangan, Quinn and Spirtos (2015), Irish occupational therapists reported readiness to use evidence-based practice following a practical course on use of evidence-based practice (Brangan et al., 2015).The course involved practice on used of search strategies, didactic lectures, small group work and discussions, all of which the occupational therapists found to have increased their confidence to use evidence-based practice. In another study done by Tunpattu, Newey and Sigera (2018), Sri Lankan physiotherapists perceived their confidence in implementing practical skills to have increased following a short skills training course for critical care. The course included practice in small group skills stations and short didactic sessions focussing on practical knowledge and skills unique to critical care (Tunpattu et al., 2018). Both studies did not investigate the long-term retention of the newly gained practical skills however both courses were deemed a positive influence to the therapists' practice. Therefore, the evidence shows that increase in practical knowledge results in increase in confidence which results in readiness to adopt new practice.

5.7 VITAL COMPONENTS OF A SHORT PRACTICAL TRAINING COURSE

Through emphasising aspects that met their expectations and components of the course they found useful, the participants identified components necessary for a successful short practical training course. The essential components that the participants identified can be summarised into four elements namely: adult teaching and learning methods, a conducive learning environment, provision of relevant and organised content and following a holistic approach; each of which is described below.

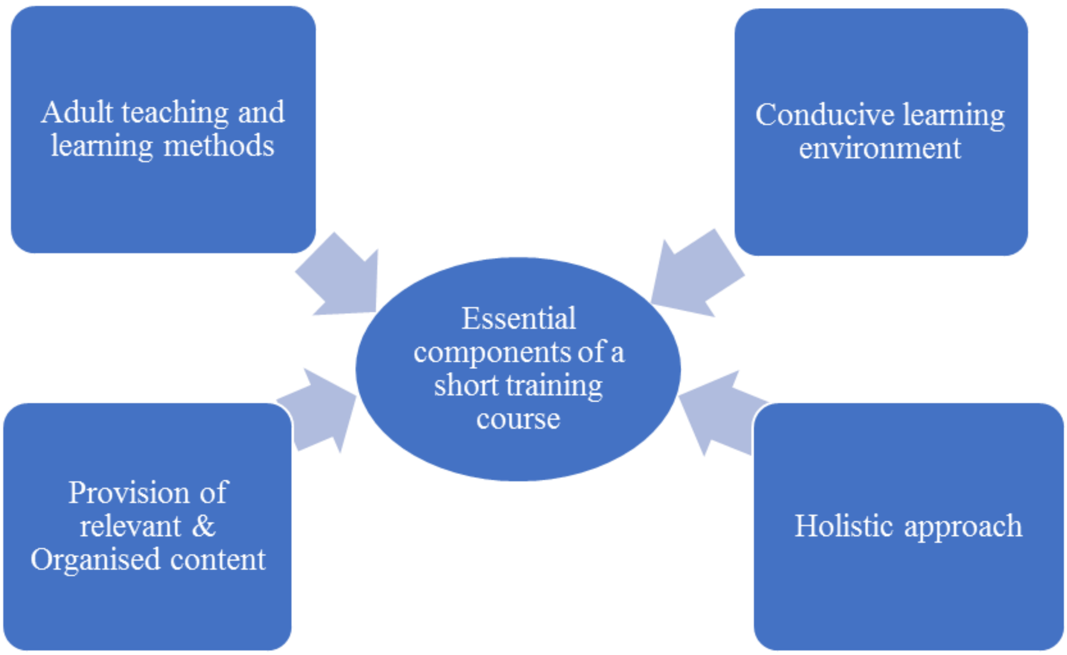

Figure 5.1: Vital components of a short practical course

5.7.1 Adult teaching and learning methods

Participants in the course were content with the large practical component of the course especially as it complemented the theory that was delivered. This was achieved because the course was largely practice based where the participants worked with an actual child and caregiver throughout the course. This allowed for real world application of skills which others qualitatively referred to as 'experiential learning' (Grace et al., 2017). Participants in this course also appreciated the fact that the course allowed for both peer learning through sharing of experiences and learning from experts through the practical demonstrations. They also found the constant feedback given to be valuable to learning experience. This is consistent with the CPD preference that South African allied health professionals have reported, in the sense of being practical and aimed at skill acquisition (Van Vuuren and Nel, 2013). Included therapists expressed this in a comparative study that was done by Van Vuuren and Nel (2013) in the Free State and Northern Cape with the aim of establishing CPD needs of allied health professionals. Therapists reported that they preferred CPD in the form of “small work groups rather than large formal lectures” where they can really engage in active learning and skill acquisition. The findings are also in keeping with the theories of adult learning described in literature that hold that adults learn through practical engagement, peer sharing and expert feedback (Clark et al., 2018, Grace et al., 2017, Teal Center, 2011), Therefore when designing short courses the models of an adult learners should be considered in order to carter for the needs of learners.

5.7.2 Conducive learning environment

Learning environment is another independent factor that affects learning, apart from the teaching and learning methods (Gooding et al., 2017, Grace et al., 2017). In this study, participants felt that the learning environment was safe and rich. Safe, in the sense that they felt comfortable, unthreatened with expressing their own ideas and making mistakes as they learned. Rich, in the sense that they received constant feedback, with lots of sharing amongst peers and guidance from the facilitators whom they perceived as experts. This is also consistent with the adult learning theories which stipulate that adults prefer a learning environment that is safe, robust and accommodative (Grace et al., 2017). Therefore, as much as facilitators need to employ good and multiple teaching methods, they also need to ensure that the learning environment is conducive for learning.

5.7.3 Holistic approach

The participants had expected and were satisfied that the course was holistic. Holistic was expressed in the sense that the course tackled all relevant aspects of the management of CP. In this particular course the holistic approach was largely achieved because the course was itself interprofessional with the unique feature of involving the caregiver as part of the team throughout the course. There was also interprofessional interaction and practical input from all members of the rehabilitation team participating in the course. This highlights the important place of interprofessional learning in fostering practical understanding of holistic healthcare. Interprofessional learning has been identified as a means of teaching undergraduate students to start learning how to collaborate and value shared decision making and contribution in holistic patient care (Walkenhorst et al., 2015, Maharajan et al., 2017). This study has demonstrated how useful interprofessional learning can be even for qualified health professionals.

The special feature of involving the caregiver resonates well with the FCA, which is the gold standard of child rehabilitation (Chiarello et al., 2016). The approach describes the mother (or child's family) as having a crucial role in decision making and implementation of rehabilitation plans (Chiarello et al., 2016, Mcdowell et al., 2015). The relationship between therapists and the child's family (caregiver) has been best described as a partnership, where there should be close collaboration throughout all processes and stages (Novak, 2014), hence an important member. This has been indicated in this study, with participants recognising the caregiver as a source of ideas and insight into the child's needs. Therefore, an interprofessional approach is a vital component to consider for managing and understanding of such complex conditions as CP.

5.7.4 Organised and relevant course content

The course content was perceived to be relevant, useful and comprehensive. Participants cited specific areas of content that they found more useful in bridging their knowledge and skill gap. These included classification of CP, CVI, preparation of the body of a child with CP, communication and feeding, the concept of looking at CP as a way of life, physical handling and postural management. It is not surprising that participants appreciated these areas of the content as literature suggests that these areas are both crucial and difficult in rehabilitation. For instance, classification has been identified as a key aspect of CP management as it guides objective choice of interventions (Novak, 2014, Rosenbaum et al., 2008). Moreover evidence shows that therapists struggle with classification of CP (Mayston Am, 2011). CVI is a very common associated impairment diagnosed in about 47.7 % African children with CP, that negatively affects mobility and social interaction (Philip and Dutton, 2014). In addition to this, CVI is subtle and difficult to detect especially if the therapist does not deliberately look for it (Philip and Dutton, 2014). Communication in the context of engaging the child is one other area that is vital for therapy that therapists tend to struggle with (Clark et al., 2018). Preparation of the child, feeding , physical handling and postural management are also very crucial areas of CP management that require precise practical knowledge and skill (Novak, 2014). Thus, the course indeed captured areas that are both general and specific areas of knowledge and skills gaps to the satisfaction of participants of the course.

The fact that participants perceived relevance and organisation of the content to be vital is not surprising. There is evidence that therapists highly value practical courses that are focussed on content that is relevant to needs in their work context and also content that is packaged in an organised manner. In a study done by Brangan et al., (2015), occupational therapists who attended a short practical course on evidence-based practice reported satisfaction with the course because the content delivered was relevant. They felt that the goal setting exercise that was included in the course had ensured that the content was responsive to their individual needs regarding evidence-based practice. Similar perceptions were reported in a study done by Tunpattu et al., (2018) where physiotherapists who attended a short practical course on critical care felt that the relevance of the content that was delivered made the course very valuable and useful. In addition to that, they felt that the structure of the content made it easy for them to learn the critical components of the material. Both studies report findings consistent with the principles of adult learning whereby relevance (applicability) and structure enhance successful learning (Teal Center, 2011).

Participants of the Malamulele Onward course also perceived the course material that was provided to be more valuable to them beyond the six days of the course. They felt that videos and handouts were well prepared and useful as a resource for further learning and more especially as a resource that they could also use to teach others in their respective work. Participants in the course reported the desire to use the material for future in service training within their respective work places. This perception is similar to what therapists in a course on paediatric rehabilitation done in Rwanda reported (Clark et al., 2018). In the Rwandan course, provision of rich course material for future reference was found to be beneficial not only for the participants of the course, but also others outside the course as some participants intended to use these to train others (including using them to lecture at a local university) (Clark et al., 2018). This shows that participants deem successful a course that not only equips them for practice but also equips them to train others. This demonstrates the ripple effect that such a style of course delivery can provide, whereby few people attending the course can further contribute to the professional development of others who may not get the chance to attend the course.

CHAPTER 6

6 CONCLUSION

6.1 INTRODUCTION

This chapter summarises the main findings and highlights of the study, provides recommendations and outlines the limitations of the study.

CP is a complex disabling condition in children (Bax et al., 2005). It is fairly prevalent and a bigger issue in low-middle income countries like South Africa (Kakooza-Mwesige et al., 2017). Its management requires great expertise employed within an efficient multidisciplinary approach (Novak, 2014). This requirement poses a challenge for newly qualified therapists in most low-middle income countries who most often find themselves working with children with CP in the capacity of an independent practitioner (Singh et al., 2015). Literature shows that newly qualified therapists are not ready to work at this level without any other support (Mostert-Wentzel et al., 2013a, Singh et al., 2015, Van Stormbroek and Buchanan, 2016).

The aim of this secondary data analysis was to determine whether participation in a six-day practical training workshop would add value to the experience of newly qualified therapists working with children with CP in public service hospitals in South Africa.

6.2 MAIN FINDINGS

The Malamulele Onward short practical course attracted newly qualified therapists especially during their first two years of practice; majority of which were occupational therapists. The course met expectations of the majority of the participants who valued the fact that that the course was practical, comprehensive and holistic. Only a few of the participants felt that the course had not met their expectations; citing one area (communication) that they felt had not be adequately tackled. Participants' level of self-perceived knowledge on CP significantly increased after the course ($p < .001$) with the greatest increase observed in the aspects to do with Communication and Play. Participants also expressed their readiness to adopt more positive attitudes, perceptions and clinical practice following the course. Additionally, participants identified elements of the course which they deemed as essential components of a short practical training course including the teaching and learning style, conducive learning environment, the holistic approach and the relevant and organised course content.

Therefore, the six-day practical training course increased the level of knowledge, skills and confidence of newly qualified therapists on CP. It also facilitated positive change in attitudes and clinical behavioural intentions of newly qualified therapists towards working with children with CP. This study has also described essential components of a short practical training course.

6.3 IMPLICATION OF THE FINDINGS

The findings of lack of readiness shown in this study may be true for most newly qualified therapists in South Africa. Therefore, postgraduate support in terms of short training courses on specific complex conditions like CP, may be a vital tool to be employed for all newly qualified therapists for the specific purpose of bridging the readiness gap during the transition from student to therapist.

The findings also have implications on the extent to which undergraduate training prepares therapists for practice. As much as it may not be possible for undergraduate training to fully prepare graduates for practice, there is still room for improving learning experiences of students as much as possible.

6.4 LIMITATIONS OF THE CURRENT STUDY

Owing to the way data were primarily collected, the researcher could not draw comparisons between the three professions. This especially applies to the qualitative data which was not matched to respective demographic information. Isolating profession specific information would have been valuable in terms of also providing profession specific feedback. It is possible that some skill or knowledge areas were more representative for participants from a specific profession. Moreover, the nature of the study did not allow for verification of data to ascertain the credibility of the qualitative data which also potentially limited the interpretation of the data.

Secondly, the study only involved a before and after training assessment; which provided no information as to what extent the course helped to change practice. Thus, it is important for future studies to focus on this aspect (as indicated in the recommendations). In addition to this, all outcomes measured in this study were self-perceived and not actual test measures. This is therefore a limit the level of insight that can be obtained regarding the actual effect of the course on the participant’s knowledge and competence.

Thirdly, current researcher had no prior familiarity with the primary data, this was advantageous in that potential bias in the interpretation of the data was reduced. However, this was also a limitation since the researcher may have lacked insight into important details needed for correct interpretation of especially the qualitative data, a concept (Heaton, 2008) referred to as ‘the problem of not having been there’. This limitation was minimised through formal consultations with the persons who were involved in the primary collection of the data where necessary.

Finally, test-test reliability of the data collection tools was not objectively determined, which could also consist a potential limitation to the validity of the information gathered by the tools.

6.5 RECOMMENDATIONS

6.5.1 Future Research

This study serves as a stepping stone for further studies into the value of short courses in CP. Future research should be done to determine if this value translates to actual change in clinical practice of the participants and most importantly improvements in actual patient/client outcomes. Future research could involve for example, sending a six month follow up questionnaire, doing hospital visits to determine the extent to which participants retain and implement course gains.

Additionally, collection of primary course evaluation data from short practical training courses should be improved to enhance refinement of future similar studies. Data collection tools should contain characters that enable the researcher to match respective data sets and make necessary comparisons. For example, all data pertaining to one participant could bear a similar person number that identifies them to their specific profession. With regards to the data collection tools, reliability of the data collection tools should be done to ascertain validity of the information that the tools gather.

6.5.2 Clinical Practice

Multidisciplinary collaboration should be encouraged in the rehabilitation of complex conditions as CP. This study has also shown that the caregiver is an important member of the team. Active involvement of the caregiver should therefore be a vital component of rehabilitation.

There is an individual role of each therapist to advance their own continued professional development through pursuit of such opportunities as short practical courses. This will ensure that their knowledge and skills are adequate to meet the needs of the child and his/her caregiver.

6.5.3 Undergraduate Training

The study has shown that therapists lacked knowledge and skills transferable to settings with low resources such as use of active therapy modalities, making equipment and creativity (which includes play and communication). Undergraduate training therefore needs to continue improving its capacity to provide service learning experiences that increase familiarity with working in low resource settings.

6.5.4 Public Health Policies

Malamulele Onward has shown how effective short practical courses are as a means of capacity building in a field where there is a need. Public health policies should also target building capacity of therapists in public service towards dealing with public health issues of concern. This could be in the form of provincial rehabilitation managers facilitating future sponsoring of therapists to attending such courses hence improving affordability and accessibility of such opportunities to newly qualified therapists.

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APPENDIX I

- **PERMISSION LETTER**

Malamulele Onward

Possibilities for Africa's Children with Cerebral Palsy

P.O. Box 52641
Saxonwold
2132
South Africa

Malamulele Onward Building
Children's Memorial Institute
Gate 10
13 Joubert Street Extension
Braamfontein
Johannesburg

Tel. (011) 484.9456
www.CPchildren.org

Malamulele Onward NPC
Reg. No. 2006/033287/08
Registered with the Department of Social Development as a Non-Profit Organisation 056-807-NPO
Public Benefit Organisation 930025084

29 July 2017

Prof. H. Myezwa
Head of Department: Physiotherapy
Medical School
University of the Witwatersrand
PARKTOWN

Dear Hellen

PERMISSION TO CONDUCT SECONDARY ANALYSIS OF DATA

I hereby confirm that I have granted permission for Takondwa Bakuwa (Student number 1688563) to do a secondary analysis of data that I have collected as part of the ongoing evaluation of our Practical Training courses on Cerebral Palsy for therapists.

I understand that Takondwa will extract data from our pre- and post training evaluation forms for her research report entitled "The value of a short practical training course in addressing the self-perceived lack of readiness of newly-qualified therapists working with children with Cerebral Palsy in South Africa."

The following data will be extracted:

- From the pre-training general information form: reasons for coming on the course; expectations; length of time working with children with Cerebral Palsy (CP); challenges encountered when working with children with CP; what is CP and what is the overall goal in working with children with CP
- Pre- and post-training questionnaire on self-perceived knowledge: all questions
- Post-training reflection and evaluation form: all questions

The data will remain the property of Malamulele Onward. Any publications arising from this study will acknowledge Malamulele Onward.

Yours sincerely

Gillian Saloojee

Dr Gillian Saloojee
Executive Director

DIRECTORS: A. Fourie, S.A. Broughton, T. Ralinja, Prof. A.D. Rothberg, Dr. G.M. Saloojee, J.A. Snyman, J.C. Whitter

APPENDIX II

- **ETHICS APPROVAL CERTIFICATE**

R14/49 Miss Takondwa Bakuwa

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M170833

NAME: (Principal Investigator)	Miss Takondwa Bakuwa
DEPARTMENT:	Physiotherapy/School of Therapeutic Sciences Malamulele Onward Organisation in Braamfontein, Johannesburg
PROJECT TITLE:	The Value of a Short Practical Training Course in Addressing the Self-Perceived Lack of Readiness of Newly Qualified Therapists Working with Children with Cerebral Palsy in South Africa
DATE CONSIDERED:	25/08/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Mrs S. Pilusa and Dr G. Saloojee
APPROVED BY:	1/9/2017. Professor C. Penny, Co-Chairperson, HREC (Medical)
DATE OF APPROVAL:	31/08/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 301, Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in August and will therefore be due in the month of August each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature

Date 12 September 2017

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX III

GENERAL INFORMATION FORM

MALAMULELE ONWARDPRACTICAL CP TRAINING COURSE

Profession: Hospital:

I am coming on this course because:

By the end of the course I hope I will be able to:

How long have you been working with children with CP?

What is your biggest challenge / frustration when working with children with CP?

Tell me about the CP Clinic at your hospital – how often do you have a CP Clinic; how often do the children come; who runs the clinic; which staff treat the children; how many children come?

What is your role at CP Clinic – what do you do?

On average, how long do you spend treating a child?

Can you describe a typical treatment session with a child with CP? What do you do?

In your own words, can you describe what CP is? How do you explain CP to a parent? What do you tell her?

Why do we treat children with CP? What is our overall goal?

APPENDIX IV

KNOWLEDGE QUESTIONNAIRE

MY KNOWLEDGE (before the training course)

How would you rate your knowledge in the following areas?

Name:

TOPIC	BEFORE THE TRAINING COURSE
Understanding what CP is	1 2 3 4 5 6 7 8 9 10
How to assess a child with CP	1 2 3 4 5 6 7 8 9 10
How to set goals in treatment	1 2 3 4 5 6 7 8 9 10
How to classify a child with CP	1 2 3 4 5 6 7 8 9 10
How to treat a child who is stiff	1 2 3 4 5 6 7 8 9 10
How to treat a child who moves too much (dyskinetic)	1 2 3 4 5 6 7 8 9 10
How to make equipment for child with CP	1 2 3 4 5 6 7 8 9 10
How to play with a child with CP	1 2 3 4 5 6 7 8 9 10
Knowing what kind of toys are best for a child with CP	1 2 3 4 5 6 7 8 9 10
Understanding parents' feelings	1 2 3 4 5 6 7 8 9 10
How to design a home programme	1 2 3 4 5 6 7 8 9 10
What to do on a home visit	1 2 3 4 5 6 7 8 9 10
Knowing how to recognize that a child has CVI	1 2 3 4 5 6 7 8 9 10
Ideas for how I can help a child with CVI	1 2 3 4 5 6 7 8 9 10
Understanding what is communication	1 2 3 4 5 6 7 8 9 10
Understanding the different ways children with CP may communicate	1 2 3 4 5 6 7 8 9 10
Ideas to help children with to understand and talk better	1 2 3 4 5 6 7 8 9 10

APPENDIX V

- **POST-TRAINING QUESTIONNAIRE ON KNOWLEDGE**

MY KNOWLEDGE (after the training course)

How would you rate your knowledge in the following areas?

Name:

TOPIC	AFTER THE TRAINING COURSE									
Understanding what CP is	1	2	3	4	5	6	7	8	9	10
How to assess a child with CP	1	2	3	4	5	6	7	8	9	10
How to set goals in treatment	1	2	3	4	5	6	7	8	9	10
How to classify a child with CP	1	2	3	4	5	6	7	8	9	10
How to treat a child who is stiff	1	2	3	4	5	6	7	8	9	10
How to treat a child who moves too much (dyskinetic)	1	2	3	4	5	6	7	8	9	10
How to make equipment for child with CP	1	2	3	4	5	6	7	8	9	10
How to play with a child with CP	1	2	3	4	5	6	7	8	9	10
Knowing what kind of toys are best for a child with CP	1	2	3	4	5	6	7	8	9	10
Understanding parents' feelings	1	2	3	4	5	6	7	8	9	10
How to design a home programme	1	2	3	4	5	6	7	8	9	10
What to do on a home visit	1	2	3	4	5	6	7	8	9	10
Knowing how to recognize that a child has CVI	1	2	3	4	5	6	7	8	9	10
Ideas for how I can help a child with CVI	1	2	3	4	5	6	7	8	9	10
Understanding what is communication	1	2	3	4	5	6	7	8	9	10
Understanding the different ways children with CP may communicate	1	2	3	4	5	6	7	8	9	10
Ideas to help children with to understand and talk better	1	2	3	4	5	6	7	8	9	10

APPENDIX VI

- **POST- TRAINING AND REFLECTION FORM**

<u>EVALUATION FORM</u>

"WORKING WITH CHILDREN WITH CEREBRAL PALSY: GETTING THE BASICS RIGHT"

Date:

1. Has the course met your expectations?	**Yes / No**
Please comment:	

2. What did you find most useful on this course?
Please comment:

3. Please comment on the duration of the course:		
Adequate ☐	Too short ☐	Too long ☐

4. Please comment on the course content:
Subjects that could have been included or omitted:
How do you think you will be able to use what you have learned from this course in your therapy?
Please comment:

5. Are there any additional comments you wish to make about the course to help meet the needs of future participants? Is there anything you would like to change?

BEFORE THE COURSE, I USED TO ……	**NOW AFTER THE COURSE, I WILL …………**

APPENDIX VII

- **MALAMULELE ONWARD PRACTICAL COURSE OUTLINE**

MALAMULELE ONWARD PRACTICAL COURSE					
MONDAY	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**
8.00 – 8.45 Welcome and Introduction **8.45 – 10.00** Introduction to CP **10.15 - 12.15** Introduction to classification of the main types of cerebral palsy 12.15 LUNCH	**8.00 – 10.00** Communication **10.15 – 11.30** Clinical prac 2 **11.30 – 12.15** Principles of postural management	**8.00 – 10.00** Play and hand function **10.15 – 11.00** Clinical prac 4 **11.30** Treatment demo	**8.00 – 8.30** Show and tell: toys **8.30 – 10.00** Vision **10.15 – 11.00** Clinical prac 5 **11.30** **T**reatment demo: vision	**8.00 – 10.00** Eating and drinking **10.00 – 11.00** Clinical prac 7 **11.15 – 12.00** Videos: eating and drinking 12.30 LUNCH	**8 – 8.30** Prepare for home visits **8.30 – 11.30** Clinical prac 9 Home visits **12 – 1pm** Feedback from home visits 1 – 1.30 LUNCH
1pm – 2.30pm Clinical prac 1 **2.30 – 4.30** Classification and principles of handling contd	**1pm – 2pm** Clinical prac 3 **2.30 – 4.30pm** Postural management (prac)	**1pm – 1.45pm** Demo: dystonic child **1.45 – 2.30pm** Facilitation and handling prac **2.30 – 3.45:** Workshop: Designing and making toys **3.45:** Reflection	**1pm – 2.30pm** Clinical prac 6 **2.30 – 3.30pm** Facilitation and handling prac **3.30 – 4.30pm** Workshop: Incorporating Vision and Communication in ADL	**1 – 2pm** Working in groups **2 – 2.45pm** Preparation for group **2.45 – 3.45** Clinical prac 8 Groups **3.45 – 4.30** Feedback	**1.30pm** Evaluation and closure **2.30pm** **Finish**

APPENDIX VIII

- **TURN-IT-IN REPORT**

RESEARCH REPORT VERSION FINAL

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