



Knowledge about ageing and attitudes towards caring for older people among undergraduate nursing students in the Western Cape

A mini-thesis submitted in partial fulfilment of the requirements for the degree of Master of Nursing in Advanced Psychiatry in the School of Nursing, Faculty of Community and Health Sciences, University of the Western Cape



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Abstract

Studies have indicated that the global population of older people will reach 1.53 billion by 2050. The ageing population is a large consumer of health-care services and this remains a global concern due to the impact on existing health care systems. To have an adequately prepared workforce, nurses must have enough knowledge and skills to care for older people and positive attitudes toward them. This is because nurses' attitudes towards older people might influence the quality of care they provide. Studies have documented nurses' reluctance to care to work with older people, but little is known about the attitudes and knowledge of nursing students towards caring for older people in South Africa. The aim of this study was to examine undergraduate nursing students' knowledge about ageing and their attitudes towards caring for older people.

A quantitative descriptive survey, utilizing a self-administered questionnaire was used. A pre-tested self-report questionnaire was used to collect the data from a stratified sample of 240 nursing students across 5 levels of Bachelor of Nursing programme, from the foundation year to the 4th year.. Data were analyzed using SPSS version 25. The response rate was 100%. The findings showed that the first- and second-year students had minimal clinical exposure to older people while the third and fourth year had extensive contact with patients in clinical and other health settings. The students had an average level of knowledge with a generally positive attitude towards older people, though significant differences were found between the year levels. Just over half of the respondents reported that they intend to work with older people after graduation. The study recommended the improved training of nursing students in caring for older people.

Keywords: Ageing, Attitudes, Caring for older people, Knowledge, Nursing students

Acknowledgement

“Sing to the Lord, all the World! Worship the Lord with joy, come before him with happy song. Acknowledge that the Lord is good” Psalms: 100:1-2

To you, my husband, the love of my life, thank you so much for your support, patience and endless prayers.

To beloved children, my words can never express how grateful I am, you have been a source of joy and encouragement in my everyday struggle, may God richly bless you.

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To the School of Nursing community, my classmates, nursing staff at Lentegeur Hospital and Goodwood clinic, I will always treasure your love and support.

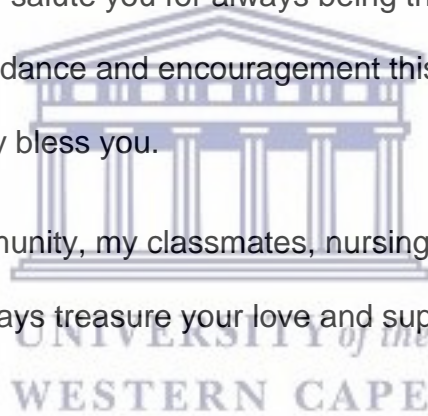


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CHAPTER ONE

1 INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

Older people as a group are a large consumer of healthcare services (Deasey, Kable & Jeong, 2014) and as such has a tremendous impact on existing healthcare systems. Older people often suffer from chronic conditions that require continuous and ongoing care (Feenstra, 2012). They also have complex care needs that require more integrated healthcare services and extended hospital stays than younger people (Deasey *et al.*, 2014). In 2014 Statistics South Africa indicated that about 38% of people aged 60 to 64 years use chronic medication, and many are placed on chronic medication or may rely on assistive devices in order to function properly (Statistics South Africa, 2014).

In some places the burden of caring for older people is often placed on family members (Shen & Dongxia, 2012). However, nurses also play a critical role in the provision of care for older people, and are responsible for providing both physical care and emotional support in various settings such as hospitals and home care (Milutinović, Simin, Kačavendić & Turkulov, 2015).

In addition to the insufficient number of nurses in the healthcare sector (Neville & Dickie, 2014) which can negatively impact the care of older people, researchers have reported that nurses have a negative attitude towards older people (Fan, 2015; Rathnayake, Athukorala & Siop, 2016). Some of the reasons given in the literature

for nurses' negative attitude are that nurses and nursing students dislike working with older people (Gould, MacLennan & Dupuis-Blanchard, 2012; Booker, 2015), poor remuneration compared with their area of specialisation, and nursing students' exposure to impoverished working environment conditions (Shen & Dongxia, 2012).

The perception and attitude of student nurses towards older people may influence their determination not to choose gerontology nursing as a career (Fan, 2015). Researchers have established that the attitude of nurses towards older people are often indicators that show their preference or dislike for gerontology (Chen, Melcher, Witucki, & McKibben, 2002; Cozort, 2008; Hovey, Dyck, Reese & Kim, 2017).

The attitude of nurses and nursing students towards older people remains negative despite much research on the relationship between nurses and older people, specifically on the subject of attitude, over the last two decades (Deltsidou, Voltyraki, Mastrogiannis, Mantzorou & Noura, 2010). Older people's ailing health and decreasing ability to care for themselves means they often rely on nurses for not only medical care, but also emotional and psychological support (Milutinović, Simin, Kačavendić & Turkulov, 2015). To provide high-quality care, nurses and nursing students therefore need to have knowledge and understanding of the practices, cultures and values in the context in which they provide such care (Booker, 2015).

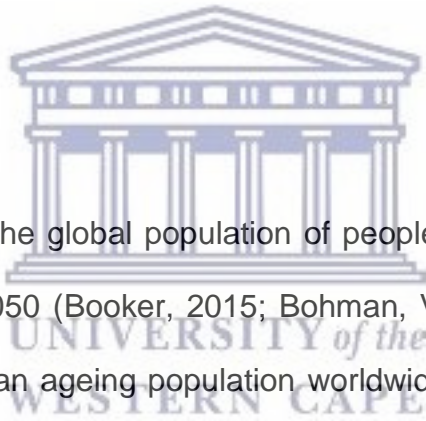
It is paramount to establish attitudes towards older people in nursing and ensure that nurses have adequate appropriate knowledge of caring for older people. Nurse educators should focus on students' views about older people, because attitudes

are often conceptualised as feelings, beliefs and knowledge which are important influences to care and the selection of a nurse's specialty (Deltsidou *et al.*, 2010).

The aim of the research was to examine knowledge about ageing and attitudes towards caring for older people in undergraduate nursing students from a select nursing school in the Western Cape.

A quantitative descriptive survey, using a self-administered questionnaire was used. A pre-tested self-report questionnaire was used to collect the data from a stratified sample of 240 nursing students across all the year levels of Bachelor of Nursing programme. Data were analyzed using SPSS version 25 (See chapter three).

1.2 Background



It has been predicted that the global population of people aged 65 years and older will reach 1.53 billion by 2050 (Booker, 2015; Bohman, Van Wyk & Ekman, 2011). This increasing number of an ageing population worldwide is a serious concern, as the ageing of a population has a significant impact on the demographics and social and economic welfare of a country. In South Africa, in 2009 people aged sixty years and older made up seven percent of the country's population (Booker, 2015).

Geriatric nursing is central to the provision of optimal and inclusive healthcare for the emergent number of older people. The growing population of older people, who oftentimes due to their ailments and declining health depend on care from other people, will require nurses to provide care (Chi, Shyu, Wang, Chuang & Chuang, 2016; Söderhamn, Lindencrona & Gustavsson, 2016). Furthermore, statistics have shown an increasing need for a healthcare workforce for older people (Neville,

2016). Despite this, nurses often view older people as a burden and an impediment to doing more important work (Liu, Norman & While, 2013).

Despite the growing demand for geriatric nurses, many countries in the world, including South Africa, do not have sufficient numbers of geriatric-qualified personnel to address this challenge (Feenstra, 2012). However, geriatric nursing is not a specialty. This shortfall in the number of nursing specialists in this field can be attributed to a number of reasons, one of which is the lack of interest of nursing students in working with older people and as such, fewer specialists in geriatric nursing (Cheng, Cheng, Tian & Fan, 2015; Fan, 2015). Furthermore, recent concerns about geriatric care have highlighted a critical deficiency in the knowledge, skills and attitudes of healthcare professionals and nurses specifically (Deasey *et al.*, 2014). The attitude of nurses towards older people is also of great importance because attitude can impact both negatively and positively on the quality of care that is provided, and also influence the sense of wellbeing of the older people and how they respond to treatment (Flood & Clark, 2009). The negative attitude stems from having insufficient knowledge and practical skills to deal with management and care of older citizens, which results in them avoiding working with older citizens or specialising in gerontology.

Consequently, the South African Government passed the Older Persons Act 13 of 2006 (Republic of South Africa, 2006). The Act was enacted to extend improved healthcare which is sustainable and ensures equal access, quality, efficiency and quality to older South African citizens (Department of Health, 2015).

To achieve the goal set forth by the South African Government there is a need for nurses that are committed, knowledgeable and have the right attitude to specialise as geriatric nurses (Fan, 2015). Also, the current demographic changes have made geriatric care an emerging essential component in the health sector, and almost all nursing students will be required to work with older people at some point after their graduation, regardless of their area of specialisation. Consequently, there is a need to develop positive attitudes towards caring for the older people among nursing students.

It is of great importance that trained nurses are groomed to have a sound knowledge and understanding of the ageing process, have a healthy view of ageing, and understand the complexity of chronic conditions that are associated with ageing. Researchers reported a correlation between knowledge of gerontology and the attitudes of nurses toward older people (Milutinović, Simin, Kačavendić & Turkul, 2015; Neville, 2015). Furthermore, healthcare workers must be trained in gerontology so that they can be competent in caring for the growing population of older people (Feenstra, 2012).

Bohman *et al.* (2011) and Booker (2015) affirm that the welfare of the older citizens of South Africa has not been adequately attended to, and that it is important for the stakeholders in nursing education to determine the attitudes and perceptions of undergraduate nursing students towards older people. This understanding will help to ensure efficient planning and implementation of an inclusive nursing curriculum which is focused on improving the knowledge and interest of nursing students in the practice of gerontology (Kulakci, 2010; Mandville-Anstey & Foley, 2014).

1.3 Problem statement

Existing literature reveals that the average age of a population continues to increase globally (Mandville-Anstey *et al.*, 2014), and nurses are the main health professionals that provide care to these older persons (Lambrinou *et al.*, 2009). Although nursing students are likely to encounter older patients during their clinical placements (Poreddi *et al.*, 2015; Cho *et al.*, 2015), there is a growing body of evidence suggesting that many nurses are reluctant to work with older people (Zisberg, Topas & Band-Wintershtein, 2014). Geriatric nursing does not seem to be a popular career choice, as nurses declare that they do not find it challenging and interesting (Lambrinou *et al.*, 2009). Since the attitudes of nurses seem to affect their preference for working with older people as well as the quality of care offered to them, the attitudes and knowledge of nursing students towards older people requires deeper exploration. Very little research has been done on this topic in South Africa. There is therefore a pressing need to investigate the knowledge and attitudes of nursing students towards caring for older people in order to achieve inclusive healthcare provision to the older South African citizens, as intended by the South African Government.

1.4 Significance of the study

The results of this study could be used to assist in identifying deficits in the nursing curriculum at South African universities. They can also be utilised to develop short courses and improve training for nurses who may go on to work in geriatric care. The curriculum can be developed and formatted in a way that improves knowledge and

nurtures positive attitudes towards older people, and also to cultivate the interest of students in gerontological nursing, for effective inclusion in provision of adequate healthcare for older people.

The findings can also be used as a comparison tool to identify how nursing students' knowledge and attitudes toward caring for older people compare with those of students from other countries, which contributes to the development of particular approaches in older people care, management and treatment.

1.5 Aim of the study

The aim of this study is to examine knowledge about ageing and attitudes towards caring for older people in undergraduate nursing students from a select nursing school in the Western Cape



1.6 Objectives of the study

In a select nursing school in the Western Cape, to:

- describe undergraduate nursing students' knowledge of facts on ageing, central to caring for older people;
- describe undergraduate nursing students' attitudes towards caring for older people; and
- describe undergraduate nursing students' intention to work with older people.

Table 1: Definitions of Terms

| | |
|--------------------------------------|--|
| Nursing student | A registered nurse in training (Nursing Act No 33 of 2005). Someone who is registered at University for the B Cur undergraduate in order to become a registered nurse (Nursing Act 2005). <i>Operational definition:</i> In this study, the term students means all nursing students registered for a 4- or a 5-year degree at the selected university in the Western Cape. |
| Attitude towards older people | Attitude is an acquired predisposition to react to a person, situation, or other set of cues in a way that is consistent (Zisberg, Topas & Band-Wintershtein, 2014). <i>Operational definition:</i> In this study, attitude refers to nursing students' predisposition to respond to people, objects or institutions in a positive or a negative way as measured by the Kogan attitude scale. |
| Knowledge | Knowledge is fact together with a strong belief in its truth (Zisberg <i>et al.</i> , 2015). <i>Operational definition:</i> In this study knowledge refers to the theoretical and practical understanding of the ageing process as measured by the Facts on Aging Quiz. |

1.7 Conclusion

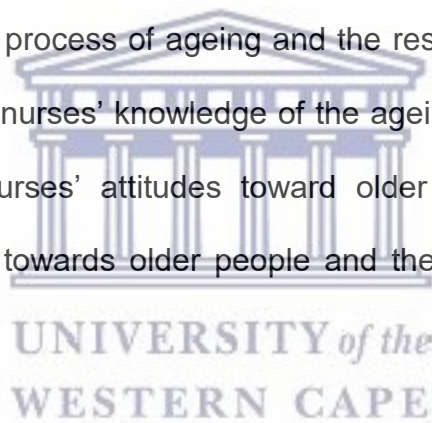
This Chapter set out the background to the study, introduced the study, including aim, objectives and definitions, and discussed the significance of the study.

CHAPTER TWO

2 LITERATURE REVIEW

2.1 Introduction

The aim of this literature review is to summarise research that has been done on the subject in order to gain an understanding of the knowledge of ageing among nurses and nursing students and their attitude towards older people. This literature review will begin by looking at the process of ageing and the resulting health challenges of the aged. It will then cover nurses' knowledge of the ageing process and healthcare needs of older people, nurses' attitudes toward older people, and factors that influence nurses' attitudes towards older people and their preference to work with older people.



2.2 Ageing process and its consequences for older people

One of the visible changes that takes place as age increases is changes in the skin. Ageing signs on the skin can be classified into four: wrinkles, vascular disorders, pigmentation heterogeneities, and lack of firmness of cutaneous tissue (Flament *et al.*, 2013). Older people tend to lose significant body weight as their age increases, due to the loss of lean mass and a central adiposity shift (Santanasto *et al.*, 2017). Also, older people often suffer loss of strength caused by muscle weakness, which often causes falls arising from difficulty to maintain balance or to recover balance

(Kadono & Pavol, 2013). Serious inflammation of the joints may affect mobility and ability to live independently of others (AbdelMagid, Barbe & Safadi, 2015).

Although ageing is not the same as ill health, the ageing process makes people susceptible to illnesses and diseases. Various diseases that had previously been associated with ageing are now linked with lifestyle (Fox, 2010). Almost a quarter of the world's burden of diseases affect older people (aged 60 years and above). There is also a higher rate of morbidity and mortality from chronic diseases in older people (Chatterji, Byles, Cutler, Seeman & Verdes, 2015).

Likewise, Mclaughlin, Connell, Heeringa, Li and Roberts (2010) mention five types of diseases that had been identified as a major cause of death among older people: cancer, diabetes, stroke, heart disease, and chronic lung disease. Furthermore, older people throughout the world are reported to suffer from dementia, which increases functional dependence, hospitalisation, institutionalisation and death (Han, Gill, Jones & Allore, 2016). Moreover, ageing is often associated with a decline in cognitive function and clinical impairment or Alzheimer's disease (AD). Fjell and Walhovd (2010) affirm that ageing is associated with changes in brain structure as the brain volume reduces with age.

There are large variations regarding the magnitude of the effects of ageing on brain volume; brain volume reduces substantially in some people, while it is only slightly reduced in others (Fjell & Walhovd, 2010). There is a prediction that the number of people suffering from dementia will increase by 100% every 20 years because of the increasing older population in the world (Lin *et al.*, 2013).

Another consequence of ageing on health, as acknowledged by geriatricians, is frailty, which is a medically distinct syndrome (Fulop *et al.*, 2010). It was reported that older people can be frail without an underlying life-threatening disease (Fulop *et al.*, 2010). When older people are frail it exposes them to disability, a higher risk of physical and cognitive decline and even death (Fulop *et al.*, 2010). Though frailty is hard to define, Fried *et al.* (2001) describe it as having the five symptoms of exhaustion, reduced grip strength, reduced walking speed, reduced physical activities and unintentional loss of weight. However, some older people that demonstrate these five symptoms can still function relatively well (Fulop *et al.*, 2010).

It is also documented that two-thirds of older people aged 70 years and above in the United States of America (USA) suffer from loss of hearing. Loss of hearing was described as “the most common sensory deficit in the older people which can amount to inability to pass vital information, loneliness and frustration” (Ciorba, Pelucchi & Pastore, 2012). Loss of hearing was associated with decreased quality of life, and lower physical and cognitive function. Age-related changes often affect the structures of the middle ear which means it needs a higher threshold of sound for the sound to be perceived (Bainbridge & Wallhagen, 2014). Contrary to some beliefs, hearing loss was found to be independent of cognitive decline or cognitive impairment (Lin *et al.*, 2013). Moreover, there is a general decline in the recovery rate of older people when they fall ill as compared to younger ones (Mitnitski, Song & Rockwood, 2013). Howlett and Rockwood (2013) affirm that the recovery time is dependent on the age of the patient, which includes recovery rates of subclinical tissues, subcellular and cellular damages.

According to Statistics South Africa (2014) the old age dependency ratio is a measure of the proportion of the older, non-working, pensionable population aged 65 years and older relative to the working population aged 15-64 years of age. The measurement assumes that those aged 15-64 years are economically productive and that all individuals aged 65 and older are no longer economically productive. It is a relevant piece of information in measuring the social and economic conditions of a country (Sanderson & Scherbov, 2010). In 2010 a decree by the Minister of Finance allowed for the inclusion of men between the ages of 60-64 years according to the new eligibility criteria to receive a grant (Statistics South Africa, 2011).

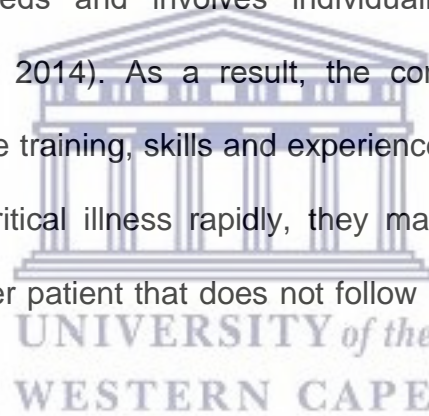
Because of the physical, psychological, emotional and financial challenges that older people can face, they often become increasingly dependent on others for care as there are a lot of things they can no longer do for themselves. Older people often become increasingly dependent on their children and relatives for economic, social and psychological support, especially in situations where they do not have a pension or reliable income from retirement (Dong & Simon, 2010). Lack of adequate support by family members may adversely affect the health of older people, causing morbidity and sometimes mortality of the older people (Dong & Simon, 2010). In some situations the older people may require full-time care, preferring to receive in-home care instead of institutional care.

2.3 Undergraduate nursing students' knowledge about the ageing process and the healthcare needs of old people

Ageing is often associated with loss of mental and physical function, poor health due to frailty, morbidities and disabilities as well as increased reliance on others to meet

self-care needs (Henderson, Xiao, Siegloff & Kelton, 2008). This leads to an inability to carry out certain functions, such as walking, seeing, hearing, remembering or concentrating and sometimes self-care (Statistics South Africa, 2014).

The majority of the health problems in older people are chronic and require long-term management, placing a greater demand on nursing care (Rathnayake et al., 2016). Acute care typically follows a curative model that involves rapid treatment, short stays and rapid discharge (Deasey et al., 2014), which is different from managing chronic and complex conditions that require more specialised care that considers the patient's psychosocial needs and involves individualised attention to disease pathways (Deasey et al., 2014). As a result, the complexity of older people's conditions means that while training, skills and experience in acute care may enable a nurse to recognise a critical illness rapidly, they may not be able to detect a complex issue with an older patient that does not follow a straightforward diagnosis (Deasey et al., 2014).



For many old and frail patients, alleviating pain and distress may be equally important to taking life-saving measures (Deasey et al., 2014). Thus, having skills and training in acute care is not enough. Holistic care for older patients requires specialist knowledge to minimise adverse events and prolonged stays, as well as effective planning and organisational skills (Deasey et al., 2014). However, the literature reveals that nurses often lack knowledge of how older patients differ from younger patients in terms of symptom presentation and potential complications due

to illnesses such as myocardial infarctions, pneumonia, drug interactions and depression (Hirst & Lane, 2016).

Furthermore, cognitive impairment and delirium complicate assessment of pain, causing nurses to be uncertain about their assessment and hesitant to administer pain medication, impeding end-of-life care (Hirst & Lane, 2016). Healthcare challenges related to hospitalisation, such as functional decline in older patients, are often not recognised and addressed by nurses as they lack knowledge in preventing and treating these conditions (Hirst & Lane, 2016).

Websters Dictionary 1828 defines gerontology as the comprehensive study of older people and the ageing process. Gerontology is divided into three major academic areas: the first is the biological ageing, which is concerned with longevity and the reasons why the body changes as ageing occurs, while psychological ageing is concerned with the capabilities to adapt (memory, intelligence and ability to cope with ageing), and social ageing is concerned with social roles and responsibilities expected from older adults in a specific culture or setting (Fox, 2010).

The literature has reported a strong relationship between the attitudes of nurses and the knowledge of gerontology that they possess (Lambrinou *et al.*, 2009; Mandville-Anstey *et al.*, 2014). Therefore, it is expected that nurses should develop a positive attitude towards older people if they have a good foundation on all the aspects of ageing, and will show a preference for working with older people (Lambrinou *et al.*, 2009). Liu, Norman and While (2013) argued that inclusion of the study of gerontology in the curriculum is not a sufficient solution to change the attitudes of nurses towards older people, while Peters, Cant, Payne and O'Connor (2013) added

that inclusion of the subject of death in gerontological courses will be of great value, such that nurses can avoid death anxiety so that they can work with older people (Peters *et al.*, 2013).

A philosophy of education theorised by the experimental learning theory states that the creation of knowledge and the development of attitudes can be achieved through four stages (reflective observation, concrete experience, active experimentation and abstract conceptualisation) and one of the four styles of the transformational learning process (Kolb & Kolb, 2005). The four learning styles are diverging, assimilating, con-verging, and accommodating (Kolb, 2014). Kolb (2014) affirms that attitudes are changed or reinforced when learners reflect on concrete experiences, conceptualise the experience and apply the knowledge gained from the experience in solving the problem. Therefore, nurses must be encouraged to be open to new experiences and to set aside any kind of bias previously held against older people.

Booker (2015) argues that there is still a significant lack of gerontology in the South African nursing curriculum. Booker (2015) further asserts that more attention is paid to larger, more general health problems while minimal focus and emphasis is placed on content specific to ageing and care of older people. In South Africa nursing students receive a general nursing education that prepares them to care for a broader patient population (Booker, 2015). In contrast, nursing students in the USA also receive a general nursing education, but this is delineated according to the patient population group (geriatrics, paediatrics, etc.). The American students are then better prepared to work with or specialise in the care of a specific population group (Booker, 2015).

Another contrast between the South African and American nursing curricula is the integration of local, national or international service-learning in the American nursing curriculum (Booker, 2015). Service-learning is a learning method used to enhance knowledge and practical understanding of the practice of gerontology and geriatrics by allowing students to visit a location and provide voluntary assistance while participating in formal or informal learning activities (Booker, 2015). It gives students an understanding of healthcare practices, social determinants of care and policy issues in different areas (Booker, 2015).

2.4 Undergraduate nursing students' attitudes towards older people

Zisberg *et al.* (2015) described attitude as a basic construct which is hard to define conceptually and which has been found to influence behaviour; therefore the behaviour of nurses and nursing students can be said to be influenced by their attitudes (Zhang, Wan, Cheung & Shen, 2012).

Moreover, research suggests that nursing students often hold ageist attitudes. Ageism is the act of systematically stereotyping and discriminating against people because they are old (Henderson, Cooke, Creedy & Walker, 2012). According to Henderson *et al.* (2012) students associate ageing with frailty and ill health, and physical and mental decline, as well as their own distaste for and discomfort with older bodies. It is believed to be an unconscious defence strategy on the part of younger people due to their fear of ageing, suffering and dying, and entails distancing oneself from older people (Feenstra, 2012). However, many nurses themselves hold ageist attitudes towards old people, and a vast majority of nursing students have negative attitudes towards older adults and a low interest in working

with them (Feenstra, 2012). This can result in older people being seen as different (othering), not being treated as individuals (essentialism), and being seen as belonging to a different time (super-annuating), beliefs that dehumanise older people and devalue their experiences, desires and individuality (Feenstra, 2012). Moreover, because old people can internalise societal feeling towards them, which in turn can influence their longevity, it is vital that nurses do not perpetuate ageist attitudes but rather work actively to combat them (Feenstra, 2012).

2.6 Factors that influence undergraduate nursing students' attitudes toward older people

Attitude is defined by Eagly and Chaiken (1993:1) as the “*psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour*”. The attitude of nurses can be positive or negative, but in both cases the older people requiring geriatric care bear the consequences of any attitude held by nurses toward them.

In Western society older people have been considered as unproductive – hence their dependence on nurses results in a negative attitude toward them (Zisberg et al., 2015). In this regard religious and cultural beliefs influence how nurses view older patients under their care (Deasey et al., 2014; Zisberg et al., 2015). Some cultures preach about value and respect for older people, which results in positive attitudes towards them (Deasey et al., 2014). For example, because the Eastern culture values older people and promotes them as a source of wisdom and guidance, it influences nursing students to have a positive attitude towards older people (Hweidi & Al-Obeisat, 2006; Wang & Wu, 2009).

The relationship between the attitude of nurses and their knowledge of gerontology is one of the most consistent of a number of other causal relationships that exist in the literature (Liu, Norman & While, 2013); it has been found that nurses that possess a higher knowledge of gerontology have a more positive attitude towards older people. Koh (2012) added that educators can transfer their attitudes to students through the instructors that provide the clinical and didactic instruction.

Some studies found that a nurse's seniority does not correlate to effective geriatric nursing and knowledge of best practices (Deasey *et al.*, 2014; Kulakçı, Ayyıldız, Aslan & Veren, 2014); however, other studies do indicate a correlation between positive attitudes and advancement in class level of the students (Hughes, 2008; Bleijenberg, Drubbel & Dam, 2012). Moreover, these findings are related to findings that the age of nurses and nursing students are related to their attitudes, as older nurses and students are expected to have acquired more knowledge, experience and maturity compared to younger nurses and students (Lambrinou *et al.*, 2009; Shen & Dongxia, 2012).

The gender of nurses has also been found to be a valid factor that could influence their attitude towards older people. Many researchers found female students to have a more positive attitude towards older people compared to their male counterparts (Deltisidou *et al.*, 2010; Neville, 2016).

It has also been found that exposure to older people in the student's personal life can motivate a positive attitude towards older people (Deasey *et al.*, 2014). Nursing students who have cared for older relatives at home were found to have better

attitudes towards older people than others (Shen & Dongxia, 2012) . Feenstra *et al.* (2012) argue that negative attitudes among nursing students can also be associated with a few previous negative experiences with older people. Some nurses have anxiety in taking care of older patients, one reason being the frailty of these patients, who may also suffer from cognitive impairment, decreased functional skills and mobility (Deasey *et al.*, 2014).

Clinical placement may improve and maintain nursing students' attitudes (King, Roberts & Bowers, 2013), and the ways in which the nurses are trained in undergraduate courses can shape their perception of geriatric nursing (Deasey *et al.*, 2014). Lack of interest in gerontology may also be caused by the exposure of nurses to dying patients, which awakens the consciousness of mortality and subsequently creates anxiety in the nursing students; this is sometimes responsible for lack of interest in people who are closer to the end of their lives and can negatively affect the nursing student's preference for gerontology (Peters *et al.*, 2013).

Furthermore, nurses may show a lack of interest in gerontology due to lower remuneration and the poor working environment that is associated with working with older people, especially in the rural areas (Tolson, Morley, Rolland & Vellas, 2011).

2.5 Undergraduate nursing students' preferences for working with older people

Studies have found that students' motivation for choosing a career in nursing stemmed from extrinsic rewards such as job security, good income, government employment and personal development, as well as intrinsic factors such as a desire to help others as well as a caring and altruistic nature (Cheng *et al.*, 2015). However,

there is substantial evidence that suggests that gerontological nursing is not a popular career choice among nursing students; in fact, it is described as boring, undemanding and depressing (Cheng *et al.*, 2015). According to Henderson *et al.* (2008) it is viewed by nurses as being devalued by the community, other health professionals and by the nursing profession.

Globally, the services of caring for older people are often challenged by attracting or retaining staff (Doherty, Mitchell & O'Neill, 2011). Henderson *et al.* (2008) further argue that aged care is viewed as lacking status, being poorly funded and understaffed, having heavy workloads, and requiring too much documentation. Research conducted to explore nursing students' career intentions repeatedly show that students prefer not to work with older patients or to work in a nursing home setting (Henderson *et al.*, 2008; King *et al.*, 2013). Lack of knowledge about ageing, misunderstanding of older people, negative emotions as well as ageist attitudes and prejudices against older people have been identified as barriers preventing students from pursuing careers in gerontological nursing (Cheng *et al.*, 2015).

Furthermore, it is alleged that nursing educators have failed to counter negative perceptions that are associated with working with older people, and have instead affirmed this perception by emphasising that working with older people is more demanding in relation to skill and knowledge (Doherty *et al.*, 2011).

Ageing is a stage in the human lifecycle which most health workers and students have no personal experience of, and as a result they struggle to understand older people (Fox, 2010). Stevens (2011) states that the number of nursing students that were interested in working with older people decreased as they progressed in their study; only 3 out of a total of 150 students had preference for working with older

students on graduation, and submitted that ageist bias, socialising with colleagues, and negative experiences during clinical practices are responsible for the disconnect.

2.7 Conclusion

Geriatric care has been recognised as essential, intimate, intensive kind of support which is necessary for the well-being and survival of the ageing generation. (Walsh & Shutes, 2013). Despite the pressing need and increasing demand for gerontological nurses, the majority of nursing students express a dislike of and lack of interest in the field (Cheng *et al.*, 2015). It is possible that their negative attitudes may stem from lack of knowledge about ageing as well as negative, ageist attitudes towards older people.

It is important that nursing students who will one day become professional nurses have a good understanding of ageing and the special needs of older people. These students should also view working with older people in a positive light in order to have an interest in one day specialising in the field of gerontology.

The next chapter outlines the research methodology employed in this study.

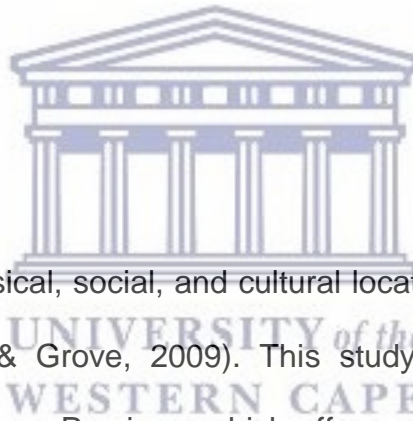
CHAPTER THREE

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used in conducting the study. It explains the research setting, research approach and design, population and sampling procedure, instrument used for data collection, data collection technique and data analysis procedure, concepts of validity and reliability, and finally the ethical issues considered in the research.

3.2 Research setting



A research setting is a physical, social, and cultural location in which the researcher conducts a study (Burns & Grove, 2009). This study took place at a selected university in the Western Cape Province, which offers a 4-year nursing programme. Nursing students from different cultures and areas are enrolled at the School of Nursing employed in this study. This School offers a 4-year nursing programme (4-year stream) and the students obtain a Bachelor of Nursing degree at the completion of this programme. The School of Nursing also offers an extended programme to students who did not meet the criteria for enrollment into the 4-year stream. This programme is known as the foundation programme and its duration extends over five years full time for a Bachelor of Nursing degree. The first year of the foundation programme is referred to as foundation level 1 while the second year is referred to as foundation level 2. The students who pass foundation level 2 are promoted to the

second year level of the 4-year stream and attend classes with the second year nursing students who have been promoted from the first year of the 4-year stream. The School offers a postgraduate nursing programme; however, the postgraduate programme was excluded from this study.

3.3 Research approach and design

Research design is described as “the overall plan for gathering data in a research study” (Brink, Van der Walt & Van Rensburg, 2012:217). A quantitative descriptive survey using a self-administered questionnaire was used.

3.4 Target population and study sample

A research population is the total collection of persons or objects that is the main focus of the scientific finding; the research is often meant for the benefit of the research population (Berg, Lune & Lune, 2004). It is the total number of people or objects that possess the characteristics which the researcher is interested in learning about (Brink *et al.*, 2012). The target population was all undergraduate nursing students at a University in the Western Cape, which comprises 1036 students, of whom 239 are first years, 236 are second years, 257 are third years, 198 are fourth years, and 50 are foundation year 1 and 56 are foundation year 2 students.

3.5 Sampling strategy and sample size

The population sample is the elements which the researcher had chosen from the target population for participation in a study (Struwig & Stead, 2013). A sample is obtained by selecting a subset from the target population in order to obtain information regarding a phenomenon in such a way that it represents the population as a whole (Brink *et al.*, 2012:131). Sampling can be done when it is difficult to

include all of the target population because of time or cost limitations or when it is absolutely impossible to do so (Struwig & Stead, 2013).

A stratified sampling method was used to collect data from respondents. A stratified sampling method involves sampling a subpopulation, otherwise called a stratum, so that varying subpopulations within the research population vary. However, the strata must be collectively exhaustive and mutually exclusive, and a simple or systematic random sampling is applied to select the sample from each stratum (Ritchie, Lewis, Nicholls & Ormston, 2013). The stratum was decided according to the year of study.

At each year level, a random sampling method was used to select the participants using Fishbowl technique (Brink *et al.*, 2012). The researcher obtained from the lecturer a list of the names of nursing students in each year. The researcher wrote the names of the students on slips of paper and put them into a bowl. Names of the students were then randomly selected until the required sample size was obtained for each year from foundation level 1 to fourth year.

The accuracy of data is affected by the margin of error (or confidence intervals), which refers to the positive or negative deviation the researcher allows in the survey results for the sample or deviation between the opinion of the research respondent and the opinion of the entire population; the confidence level refers to the percentage of all possible samples that can be expected to include the true population parameter. For example, suppose all possible samples were selected from the same population, and a confidence interval were computed for each sample. A 95% confidence level implies that 95% of the confidence intervals would include the true population parameter.

3.6 Sample size calculation for survey study

A sample was calculated using the formula: $ss = Z^2 \times p(1-p) / c^2$ with the following parameters: where ss= sample size for infinite population (N=1036); z= Z value (1.96 for 95% Confidence level); p=population proportion (0.5 or 50); c= confidence interval, expressed as decimal (.5), resulting in a sample size of 240. The sample of 240 was calculated and distributed across the years. To evenly select 240 of 1036 = $240/1036 = 0.23$ of each strata. The final sample can be seen in Table 1.

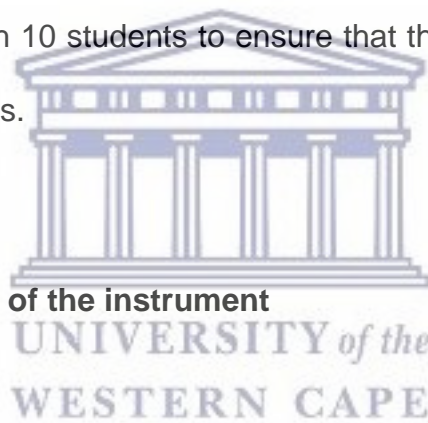
Table 2: Sample size and population

| Year | Population | Sample |
|-----------------------------------|------------|--------|
| Nursing Science foundation Year 1 | 56 | 14 |
| Nursing Science foundation Year 2 | 50 | 12 |
| Bachelor's degree years, year 1 | 239 | 58 |
| Bachelor's degree years, year 2 | 236 | 46 |
| Bachelor's degree years, year 3 | 257 | 62 |
| Bachelor's degree years, year 4 | 198 | 48 |
| Total | 1036 | 240 |

3.7 Instrument

Data were collected by the use of a self-administered questionnaire consisting of three sections with 67 questions. Section A consists of eight closed-ended questions associated with demographic data with regard to gender, race, religion and age. Section B consists of 25 closed-ended questions related to knowledge about the ageing process, while section C includes 34 closed-ended and 5-point Likert scale type questions that are associated with attitude of respondents towards older people. The self-administered questionnaire, shown to be a valid tool for knowledge, was measured by the Facts on Ageing Quiz (FAQ), and the researcher obtained the permission from Breyspraak and Badula (2015) to adapt their instrument for this study purpose. The original tool is made up of 50 True and False questions, but for

the purposes of this study, the researcher will use 25 questions which are more applicable in the South African context and will give the most satisfying answers. The tool includes the basic physical, mental, and social facts about ageing as well as common misconceptions. A higher score indicates greater knowledge. Moreover, the researcher also obtained permission from Kilic and Adibelli (2011) to adapt their instrument 'Kogan's Attitudes towards Old People Scale', for which Cronbach's alpha was 0.81. This instrument was used to measure the attitude of nursing students towards older people in the current study. This instrument consists of 5 points, Likert-scale type, with 34 items; half of the items measure positive attitudes and the other half measure negative attitudes. A higher score represents more positive attitudes. A pre-test was conducted with 10 students to ensure that the questions were readable and clear to the respondents.



3.8 Reliability and validity of the instrument

3.8.1 Validity

Instrument validity ensures that the questionnaire accurately measures what it is intended to measure (Brink *et al.*, 2012:165). The scale was found to be valid and reliable in many international studies (Mandville-Anstey *et al.*, 2014; Kilic & Adibelli, 2011; Chi *et al.*, 2016).

Face validity: The instrument was first proof-checked by an experienced research colleague and reviewed by the supervisor of this study project at the researcher's

request. While pre-testing the instrument the researcher ensured that the questions were readable, clear and unambiguous.

Content validity: This was addressed by using a valid instrument. See Table 2 below.

Table 2: Content validity

| Objective | Question numbers |
|--|------------------|
| To examine undergraduate nursing students' knowledge about ageing | 9-33 |
| To identify undergraduate nursing students' attitudes towards older people | 34-67 |
| To establish undergraduate nursing students' intention to work with older people | 8 |

3.8.2 Reliability

Reliability occurs when an instrument provides similar results when it is used repeatedly over time on the same subject or is used by two researchers (Babbie, 2010; Polit & Beck, 2012). Internal consistency refers to homogeneity or the extent to which all aspects of an instrument measure the same variable (Brink *et al.*, 2012). In this study Cronbach's alpha test was used to measure internal consistency. The tool used had been proven to be reliable in most international studies (Mandville-Anstey *et al.*, 2014).

3.9 Procedure for data collection

The researcher obtained permission from the Registrar and then from the Head of the School of Nursing to use the nursing students as respondents. The researcher obtained the alphabetic list of the students from each year's coordinator across undergraduate nursing programme. The researcher applied a simple random

sampling to have the names of the participants. The participant information sheet and details of the study were emailed to the students included in the sample and who did not participate in the pre-test of instrument. The researcher contacted the course coordinators and leaders of each year and arranged a date, time and place for data collection. Data collection took place between 22 and 31 March 2017.

Moreover, the researcher communicated with selected participants through their e-mails and informed them about the date, time and the venue for data collection. On the agreed date, students were asked to stay behind after class. Prior to distributing the questionnaire, the researcher gave information about the study with an emphasis on the voluntary nature of participation in the study. The researcher assigned a unique number to each questionnaire and this number was linked to each respondent's number on alphabetic list respectively. The researcher handed the questionnaires, consent forms and empty envelopes to respondents. All the students who were included in the sample size signed for consenting and completed the questionnaires. The researcher requested the respondents to place the questionnaires and consent forms in sealed envelopes after the completion.

The completion of the questionnaires took approximately 25 minutes and the researcher kept the questionnaires and consent forms separately in a safe and lockable place to ensure protection of the respondents' identity and information, and hence confidentiality. The storage facility is an access-controlled cupboard in the supervisor's office premises. Only the supervisor has keys, although the researcher can request access. The information will be stored and be destroyed after 5 years.

3.10 Data analysis

All participants responded to the questionnaire. After the data were collected the researcher ensured that the capturing was reliable and the data were stored in a safe place. The researcher was assisted by a statistician during data analysis. The data were recorded and cleaned to detect, correct or remove corrupt or inaccurate records (Babbie, 2010). Ranges such as age were checked, and missing or incomplete data were checked, as well as outliers. The quantitative data related to respondents' demographic information, previous experience with older people and knowledge of caring for older people were analysed by use of the Statistical Package for Social Sciences (SPSS, version 25). Descriptive analysis was used; univariate analysis was used to describe the occurrence of one variable rather than describing the relationships between the variables. Bivariate analysis was also employed to check the relationships between two variables. The Tables, the mean, standard deviation, and percentage were used in this study.

3.11 Ethical considerations

Ethical approval (Ethics Reference Number: HS17/1/39) was obtained from the Human and Social Science Research Ethics Committee. Permission was also obtained from the Registrar and the Head of the School of Nursing at a university in the Western Cape for access to nursing students. The researcher approached the coordinators of year level programme and lecturers to obtain the alphabetic list of the students. Three basic principles of ethics were respected throughout the study.

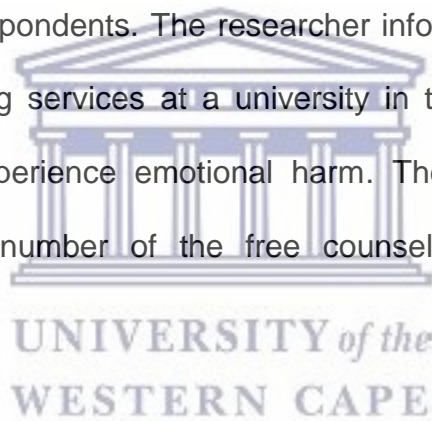
3.11.1 Respect for the person

The researcher explained to the respondents that they have the right to decide whether or not to participate in a study, without the risk of penalty or prejudicial

treatment. Moreover, the respondents were informed about their right to withdraw from the study at any time, to refuse to give information and to ask for clarification about the purpose of the study. The informed consent was freely signed by respondents who were informed that there was no incentive, and no reward or punishment for not participating (Brink *et al.*, 2012:34).

3.11.2 Beneficence

The researcher ensured the wellbeing of respondents and minimised harm and discomfort (whether physical, psychological, emotional, spiritual, economic, social or legal) by monitoring the respondents for any sign of distress. There was no anticipated harm to the respondents. The researcher informed the respondents that there were free counselling services at a university in the Western Cape for any respondent who could experience emotional harm. The researcher gave to the respondents the contact number of the free counsellor based at the above-mentioned university.



3.11.3 Justice

Participants were fairly selected through the use of a simple random sampling and all of the nursing students were given a chance to participate to the study. Given the large numbers (1036) of the nursing students enrolled in the undergraduate programme, all-inclusive sampling could not be employed to allow all the students who were willing to participate to be a part of this study. The researcher respected respondents' right to privacy and anonymity by using codes and ensuring that no information is linked to the participant or the institution. The anonymity was also ensured by the researcher by protecting respondents' identities and information. The respondents' names were omitted from the questionnaires and during the

dissemination of the data. The researcher explained to the respondents that their information would be kept confidential and protected in a safe and in a lockable place. However, the respondents were informed that only the researcher and the supervisor of this study had access to the information. It was explained to the respondents that above information would be destroyed after five years.

3.12 Conclusion

This chapter described the methodology used in this study and the setting, namely a School of Nursing in the Western Cape where the study was conducted. The population consists of undergraduate nursing students from the foundation year level to fourth-year level. A quantitative descriptive survey using a self-administered questionnaire was employed. The researcher adapted a self-report semi-structured questionnaire borrowed from Breyspraak and Badula (2015) to measure the knowledge of the respondents about the ageing process and the healthcare needs of old people. Moreover, the attitudes of the respondents towards the ageing process and the healthcare needs of old people were measured by the 'Kogan's Attitudes toward Old People Scale', borrowed from Kilic and Adibelli (2011).

Permission to conduct the research was obtained from the Human and Social Science Research Ethics Committee, from the Registrar and the Head of the School of Nursing. The researcher made contact with each year level coordinator to make arrangements for the availability of the students, who freely completed questionnaires. The research data were captured and the data were analysed using SPSS version 25.

The next chapter describes the results that emerged from this study.

CHAPTER FOUR

4 RESULTS

4.1 Introduction

The purpose of this study was to examine undergraduate nursing students' in a school of nursing in the Western Cape, South Africa's knowledge about ageing and their attitudes towards caring for older people and their intention to work in aged care. The results chapter include the sample description and the findings of the survey according to the objectives:

1. To describe undergraduate nursing students' knowledge of facts on ageing, central to care for older people.
2. To describe undergraduate nursing students' attitudes towards caring for older people.
3. To describe undergraduate nursing students' intention to work with older people.

The objectives were reached through the sample realization and a description of the demographics of the respondents and prior exposure to working with older people. In this regard, undergraduate nursing students' experience with working with older people and their knowledge of facts on ageing were described and found central to care for older people (Objective 1). In addition, undergraduate nursing students' attitudes towards caring for older people were described (Objective2). Finally, undergraduate nursing students' intention to work with older people was also

described (Objective 3). Some analysis is provided on factors which may influence intention to work with older people.

4.2 Sample realisation

The population of the study were the undergraduate nursing students at a University in the Western Cape, South Africa. At the time of the survey there was a total number of 1036 students in undergraduate studies in the school (Table3). Following a process of randomization in Excel using the class lists, a sample size was calculated per class, and 240 questionnaires were handed out with a 100% response rate.



Table 3: Population and Sample realised

| Year | Population | Sample |
|-----------------------------------|------------|-------------|
| Nursing Science foundation Year 1 | 56 | 14 (25%) |
| Nursing Science foundation Year 2 | 50 | 12 (24%) |
| Bachelor's degree years, year 1 | 239 | 58 (24.3%) |
| Bachelor's degree years, year 2 | 236 | 46 (19.5%) |
| Bachelor's degree years, year 3 | 257 | 62 (24.1%) |
| Bachelor's degree years, year 4 | 198 | 48 (24.2%) |
| Total | 1036 | 240 (23.2%) |

As it was anticipated that each year level would be different, the results are presented separately throughout.

4.3 Demographics of the respondents

Most of the respondents were female (198, 82.5%) with only forty-two were male (42, 17.5%). The predominance of females was similar in all the groups, with 70 (83.3%), 41 (89.1%), 51(82.3%) and 36(75.0%) respondents respectively by year level from Year 1 to Year 4 ($X^2= 3.3$, $p=.343$) (Table 1). The mean age of the respondents was 22.9 years ± 5.4 with the highest mean age in year 4 (25.5 ± 7.0). More than half of the respondents were black (140, 58.3%) and almost all the respondents reported that they were Christians (216, 90.0%). There were no significant differences across the years in terms of demographics (Table 4).

Table 4: Demographic profile of respondents

| Demographics | Total (N=240) | Yr1 (n=58) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | p-value |
|---------------|------------------|----------------|----------------|----------------|----------------|------------|---------|
| Gender n (%) | | | | | | | |
| Male | 42 (17.5) | 14(16.7) | 5(10.9) | 11(17.7) | 12(25.0) | $X^2= 3.3$ | .343 |
| Female | 198 (82.5) | 70 (83.3) | 41(89.1) | 51(82.3) | 36(75.0) | | |
| Race | | | | | | | |
| Black | 140(58.3) | 44(52.4) | 28(60.9) | 36(58.1) | 32(66.7) | $X^2= 7.5$ | .581 |
| White | 20(8.3) | 6(7.1) | 3(6.5) | 5(8.1) | 6(12.5) | | |
| Coloured | 75(31.2) | 32(38.1) | 15(32.6) | 19(30.6) | 9(18.8) | | |
| Others | 5(2.1) | 2(2.4) | 0(0.0) | 2(3.2) | 1(2.1) | | |
| Religion | | | | | | | |
| Christianity | 216(90.0) | 73(33.8) | 42(91.3) | 56(90.3) | 45(93.8) | $X^2= 4.5$ | .606 |
| Islamic | 15(6.2) | 8(9.5) | 1(2.2) | 4(6.5) | 2(4.2) | | |
| Others | 9(3.8) | 3(3.6) | 3(6.5) | 2(3.2) | 1(2.1) | | |
| Age $m (\pm)$ | 22.9 ± 5.4 | 21.2 ± 4.8 | 20.8 ± 1.7 | 24.5 ± 5.2 | 25.5 ± 7.0 | | |

*Chi-square Test (or Fisher Exact Tests where appropriate). *Significant at $P < .05$*

4.4 Experience with working with older people

Previous exposure or experience in working with older people in the community before the enrollment in nursing programme were considered to have an important

influence on students' knowledge of aging, attitudes towards older people and their intention to work in aged care. To ascertain actual exposure to older people and or working with older people, respondents were asked whether they have previous experience working with older people or whether they have older people in their families. Previous experience was influenced by year level as the curriculum on geriatrics differed across the year levels. The findings confirmed that first and second year students had minimal clinical exposure while 3rd year students had extensive contact with patients in clinical and other health settings ($X^2= 9.4$, $p=.024$) (Table 5). All year levels reported a high presence of older people in the family (Table 5).

Table 5: Previous experience with older people

| Previous experience | Total (N=240) | Yr1 (n=58) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | p-value |
|---|---------------|------------|------------|------------|------------|------------|---------|
| Previous experience working with older people | 158(65.8%) | 50(59.5%) | 34(73.9%) | 48(77.4%) | 26(54.2%) | $X^2= 9.4$ | .024* |
| Presence of older people in the family | 209(87.1%) | 74(88.1%) | 42(91.3%) | 55(88.7) | 38(79.2%) | $X^2= 3.6$ | .305 |

4.5 Knowledge about the ageing process

Knowledge was measured using 25 questions from the FAQ questionnaire with a total score of 25 (Table 6). The FAQ total average score was 15.4 (± 2.6) out of a possible of 25 [95% CI 15.07 -15.75]. There was a near significant difference in knowledge score between males and females (Males 14.7 \pm 2.3 vs Females 15.6 \pm 2.7, $F = 3.5$, $p=.063$).

Table 6: Knowledge score by Race

| | Total (n=240) | Black (n=140) | white (n=20) | Coloured (n=75) | Others(n =5) | Test | P- value |
|--|--------------------------|--------------------------|-------------------------|----------------------------|-------------------------|-------------|---------------------|
| Knowledge score m (SD) / 25 | 15.4 (2.7) | 14.8 (2.4) | 16.3 (2.2) | 16.3 (2.9) | 17.4 (3.1) | F=7.7 | <.001* |

Black students scored significantly lower than other race groups (14.8 (2.4) vs 16.3 (± 2.2) W; 16.3 (± 2.9) C, and 17.4 (± 3.1), $F=7.7$, $p<.001$) (Table 6). Based on cultural background, the race might influence nursing students' knowledge about the ageing process. With regard to religion, there were no significant differences in total average score by religion ($F=0.6$, $p=.579$) (Table 7).

Table 7: Knowledge score by religion

| | Total (240) | Christianity (216) | Islam (15) | Hindu (9) | Test | P- value |
|--|------------------------|-------------------------------|-----------------------|------------------|-------------|---------------------|
| Knowledge score m (SD) / 25 | 15.4 (2.7) | 15.4 (2.6) | 16.1 (3.4) | 15.7 (3.1) | F=0.6 | .579 |

There were however significant differences between the Year levels (Table 8) with Year 3 having the highest score (16.8 \pm 2.3) and Year 2 the lowest (14.9 \pm 2.6) ($F=8.7$, $p<.001$) (Figure 1).

Table 8: Knowledge score per Year Level

| | Total (n=240) | Yr1 (n=58) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | P- value |
|--|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------|---------------------|
| Knowledge score m (SD) / 25 | 15.4 (2.6) | 15.1 (2.7) | 14.9 (2.6) | 16.8 (2.3) | 14.7 (2.4) | F=8.7 | <.001* |

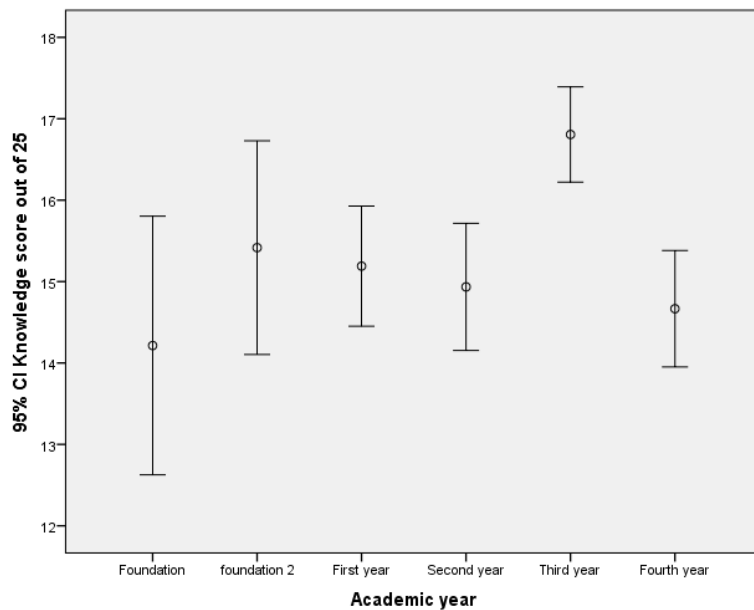


Figure 1: Knowledge score distribution per year level

Further descriptive analysis of FAQ for the groups revealed that the students showed the highest level of knowledge in the most physiological changes that come with old age followed by the social position of older people while the lowest level of knowledge was related to common misconceptions about ageing (Table 5). These changes were driven by eight of the items in the FAQ scale (Table 5) which were: *Older people have more trouble sleeping than younger adults do* ($X^2=16.74$, $p=.005$), *retirement is often detrimental to health* ($X^2 =16.67$, $p= .005$), *Most of old people are living in nursing homes* ($X^2 =15.44$, $p= .009$), *As people grow older their intelligence decline* ($X^2 = 8.35$, $p= .138$), *the majority of old people are bored* ($X^2 =10.17$, $p= .070$), *the majority of old people (past 65 years) have Alzheimer's disease* ($X^2 =28.22$, $p<.001$), *the majority of old people have no interest in or capacity for sexual relations* ($X^2 =14.60$, $p=.012$), and *It is very difficult for older adult to learn new things* ($X^2 = 10.98$, $p= .052$).

Table 5: Correct answers (%) per knowledge ageing test items

| Item | Found 1 (n=14) | Found 2 (n=12) | Yr1 (n=58) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Total (n=240) | Test χ^2 | p- value |
|---|-------------------|-------------------|---------------|---------------|---------------|---------------|------------------|------------------|-------------|
| The five senses all tend to weaken in old age.(TRUE) | 14(100.8) | 11(91.7) | 56(96.6) | 45(97.8) | 59(95.2) | 46(95.8) | 231(96.3) | 1.80 | .876 |
| Physical strength tends to decline in old age. (TRUE) | 13(92.9) | 11(91.7) | 52(89.7) | 40(87.0) | 57(91.9) | 44(91.7) | 217(90.4) | 1.04 | .959 |
| Older people take longer to recover from physical and psychological stress. (TRUE) | 14(100.0) | 12(100.0) | 52(86.4) | 41(89.1) | 54(87.1) | 41(85.4) | 214(89.2) | 5.80 | .124 |
| The bladder capacity decrease with age, which lead to frequent urination(TRUE) | 12(85.7) | 9(75.0) | 53(91.4) | 39(84.8) | 55(88.7) | 46(95.8) | 214(89.2) | 6.09 | .297 |
| Memory loss is a normal part of ageing. (TRUE) | 13(92.9) | 11(91.7) | 46(79.3) | 43(93.5) | 57(91.9) | 41(85.4) | 211(87.9) | 7.08 | .214 |
| Older adults are less anxious about death than are younger and middle-aged adults.(TRUE) | 9(64.3) | 10(83.3) | 48(82.8) | 35(76.1) | 46(74.2) | 42(87.5) | 190(79.2) | 5.67 | .339 |
| As people live longer they face fewer acute conditions and more chronic health conditions. (TRUE) | 12(85.7) | 11(91.7) | 44(75.9) | 36(78.3) | 49(79.0) | 35(72.9) | 187(77.9) | 2.70 | .746 |
| Old people tend to become more spiritual as they age. (TRUE) | 8(57.1) | 10(83.3) | 41(70.7) | 40(87.0) | 45(72.6) | 39(81.2) | 183(76.2) | 8.18 | .147 |
| Older workers cannot work as effective as younger workers. (FALSE) | 10(71.4) | 8(66.7) | 46(79.3) | 34(73.9) | 41(66.1) | 40(83.3) | 179(74.6) | 5.44 | .364 |
| A person's height tend to decline in old age (TRUE) | 8(57.1) | 7(58.3) | 42(72.4) | 34(73.9) | 45(72.6) | 34(70.8) | 170(70.8) | 2.55 | .769 |

| | | | | | | | | | |
|--|---------|---------|----------|----------|----------|----------|-----------|-------|-------|
| Older females exhibit better health care practices than older males(TRUE) | 8(57.1) | 5(41.7) | 30(51.7) | 34(73.9) | 43(69.4) | 34(70.8) | 154(64.2) | 26.41 | .003 |
| Older people have more trouble sleeping than younger adults do (TRUE) | 5(35.7) | 7(58.3) | 31(53.4) | 37(80.4) | 44(71.0) | 25(52.1) | 149(62.1) | 16.74 | .005 |
| Retirement is often detrimental to health(FALSE) | 9(64.3) | 6(50.0) | 41(70.7) | 27(58.7) | 44(71.0) | 18(37.5) | 145(60.4) | 16.67 | .005 |
| Older driver are quite capable of safely operating a motor. (TRUE) | 8(57.1) | 7(58.3) | 37(63.8) | 23(50.0) | 41(66.1) | 28(58.3) | 144(60.0) | 3.35 | .646 |
| Most of old people are living in nursing homes. (FALSE) | 8(57.1) | 7(58.3) | 28(48.3) | 24(52.2) | 49(79.0) | 24(50.0) | 140(58.3) | 15.44 | .009 |
| Grandparents today take less responsibility bringing up grandchildren than ever before.(FALSE) | 7(50.0) | 9(75.0) | 33(56.9) | 24(52.2) | 37(59.7) | 29(60.4) | 139(57.9) | 2.64 | .754 |
| Participation in volunteering through organization tend to decline among older adults (FALSE) | 7(50.0) | 7(58.3) | 37(44.0) | 23(50.0) | 41(66.1) | 23(47.9) | 138(57.5) | 7.5 | .058 |
| As people grow older their intelligence decline (FALSE) | 7(50.0) | 7(58.3) | 32(55.2) | 18(39.1) | 38(61.3) | 19(39.6) | 121(50.4) | 8.35 | .138 |
| The majority of old people are bored. (FALSE) | 5(35.7) | 6(50.0) | 28(48.3) | 17(37.0) | 40(64.5) | 21(43.8) | 117(48.8) | 10.17 | .070 |
| The modern family no longer takes care of its older people.(FALSE) | 8(57.1) | 8(66.7) | 32(55.2) | 16(34.8) | 28(45.2) | 21(43.8) | 113(47.1) | 7.03 | .218 |
| The majority of old people (past 65 years) have Alzheimer's disease (FALSE) | 1(7.1) | 7(58.3) | 22(37.9) | 19(41.3) | 42(67.7) | 14(29.2) | 105(43.8) | 28.22 | <.001 |
| Personality | 3(21.4) | 5(41.7) | 22(37.9) | 13(28.3) | 28(45.2) | 15(31.2) | 86 (35.5) | 5.48 | .360 |

| | | | | | | | | | |
|---|---------|---------|----------|----------|----------|----------|-----------|-------|------|
| change with age (FALSE) | | | | | | | | | |
| The majority of old people have no interest in, nor capacity for sexual relations. (FALSE) | 1(7.1) | 5(41.7) | 15(25.9) | 16(34.8) | 28(45.2) | 9 (18.8) | 74 (30.8) | 14.60 | .012 |
| It is very difficult for older adult to learn new things (FALSE) | 1(7.1) | 1(8.3) | 14(24.1) | 6 (13.0) | 20(32.3) | 7 (14.6) | 49 (20.4) | 10.98 | .052 |
| Older people do not adapt as well as younger age group when they relocate to a new environment. (FALSE) | 4(28.6) | 1(8.3) | 10(17.2) | 3 (6.5) | 11(17.7) | 8 (16.7) | 37 (15.4) | 5.57 | .350 |

4.6 Attitudes towards older people

Attitudes towards older people were measured with a tool which included both positive attitudes (Table 5) and negative attitudes (Table 6). These are presented separately



4.5.1 Positive attitudes towards older people

Positive attitudes were measured through statements about beliefs people might have towards older people (Table 9). The items for which appreciation of older people by students were the strongest were: *“Most old people need no more love and reassurance than anyone else”* (3.2 \pm 3.0), *“One seldom hears old people complaining about the behavior of the younger generation.”*(3.16 \pm 1.45) and *“Believing that most old people are capable of new adjustments when the situation demands it.”* (3.13 \pm 1.3).

Table 9: Positive attitudes towards older people (APPRECIATION) (n=240)

| Appreciation Items | Mean(\pm) |
|--|--------------------|
| One seldom hears old people complaining about the behaviour of the younger generation. | 3.2(1.5) |
| Most old people need no more love and reassurance than anyone else | 3.2(3.0) |
| It would probably be better if most people lived in residential units with younger people. | 3.1 (1.4) |
| Most old people are capable of new adjustments when the situation demands it. | 3.1(1.3) |
| Most old people are easy to understand. | 3.0(1.3) |
| The older people prefer to work as long as they can | 2.8(1.4) |
| Most old people should have more power in society (n=239) | 2.7(1.3) |
| Most old people respect others privacy | 2.7(1.3) |
| You can count on finding a nice residential neighbourhood when there is a sizeable number of old people living in it. | 2.6(1.3) |
| It is evident that most old people are very different from one another | 2.6(1.3) |
| Most old people seem quite clean and neat in their personal appearance | 2.6(1.3) |
| People grown wiser with coming of old age | 2.6(1.4) |
| Most old people can generally be counted on to maintain a clean, attractive home. | 2.5(1.4) |
| Most old people are cheerful, agreeable, and good humoured. | 2.5(1.3) |
| Old people make mistakes like anyone else | 2.4(1.5) |
| Most older people are very relaxing to be with | 2.4(1.4) |
| One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences. | 2.1(1.5) |
| Positive appreciation attitudes/75 | 46.0 (10.1) |

The total score of appreciation among respondents was 46.0(\pm 10.1) out of a possible 75 [95% CI 44.6-47.2]. In comparing the overall attitude appreciation score for older people by students, there were no significant differences between the race groups or years (Table 10, 11&12). However, there were significant differences between males

and females with males have higher appreciation scores compared to females (49.0 \pm 13.1 [95%CI 44.9-53.1] vs 45.3 \pm 9.2 [95%CI 44.0-46.6], $T=2.2$, $p=.030$).

Table 10: Appreciation score by Race

| | Total (n=240) | Black (n=140) | White (n=20) | Coloured (n=75) | Others(n =5) | Test | P- value |
|--|------------------|------------------|-----------------|--------------------|-----------------|-------|-------------|
| Knowledge score m (SD) / 25 | 46.0 (10.1) | 45.2(9.8) | 47.0(8.2) | 47.2(11.3) | 43.0(6.1) | F=0.8 | .465 |

Table 11: Appreciation score by Year

| APPRECIATION | Total (n=240) | Yr1 (n=84) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | p- valu e |
|--|------------------|---------------|---------------|---------------|---------------|-------|-----------------|
| Positive attitudes mean score /85 | 46.0 (10.1) | 45.8(9.1) | 46.3(10.8) | 44.5(8.6) | 47.8(12.7) | F=2.1 | .108 |

Table 12: Appreciation score by religion

| APPRECIATION | Total (n=240) | Christianity (n=216) | Islam (n=15) | Hindu (n=9) | Test | p-value |
|--|------------------|-------------------------|-----------------|-------------|-------|---------|
| Positive attitudes mean score /85 | 46.0 (10.1) | 46.1(9.9) | 47.7(13.1) | 40.2(8.3) | F=1.7 | .184 |

4.5.2. Negative attitudes towards older people

Negative attitudes were measured through the statements about beliefs people might have towards older people (Table 13). The item *Most old people are constantly complaining about the behaviour of the younger generation* was rated the lowest ($M=2.43\pm1.476$), indicating the lowest level of prejudices related to this item. The next two lowest rated items are *most old people make excessive demands for love and reassurance* than anyone else ($M=2.73\pm1.253$), and *most old people get set in their ways and are unable to change* ($M=2.77\pm2.863$). The strongest prejudice related to older people people was “*In order to maintain a nice residential*

neighbourhood, it would be best if too many old people did not live in it, (M=3.50±1.472), most old people should have less power in society. (M=3.48±1.423), most old people should be more concerned with their personal appearance; they're too untidy (M=3.39±1.413) and most old people tend to let their homes become shabby and unattractive (M=3.33±1.473).

Table 13: Results of negative attitudes towards older people (PREJUDICE)

| Items | Mean (SD) |
|--|--------------------|
| In order to maintain a nice residential neighbourhood, it would be best if too many old people did not live in it. | 3.5(1.5) |
| Most old people should have less power in society. | 3.5(1.4) |
| Most old people should be more concerned with their personal appearance; they're too untidy. | 3.4(1.4) |
| Most old people tend to let their homes become shabby and unattractive. | 3.3(1.5) |
| It would probably be better if most old people lived in residential units with people their own age. | 3.2(1.4) |
| Most old people bore others by their insistence on talking "about the good old days" | 3.2(1.5) |
| Most old people are irritable, grouchy, and unpleasant. | 3.2(1.4) |
| It is foolish to claim that wisdom comes with age. | 3.0(1.6) |
| Most old people Irritate others | 3.0(1.3) |
| Most older people makes one feel ill at ease | 3.0(1.4) |
| The older people prefer to quit work as soon as possible. | 2.9(1.4) |
| There are a few exceptions, but in general most old people are pretty much alike. | 2.9(1.3) |
| Most old people get set in their ways and are unable to change. | 2.8(2.9) |
| Most old people are hard to understand. | 2.8(1.3) |
| Most old people like interfering into the affairs of others (n=239) | 2.8(1.4) |
| Most old people make excessive demands for love and reassurance than anyone else | 2.7(1.3) |
| Most old people are constantly complaining about the behavior of the younger generation | 2.4(1.5) |
| Overall prejudice score | 51.7 (10.2) |

The average score for prejudice among respondents was 51.7(10.2) out of a possible 85 [95% CI 50.4-53.0].

In comparing the overall attitude prejudice score for older people by students, there were no significant differences between the religious group and Year level (Table 14 & 15).

Table 14: Prejudice score by religion

| APPRECIATION | Total (n=240) | Christianity (n=216) | Islam (n=15) | Hindu (n=9) | Test | p-value |
|-----------------------------------|---------------|----------------------|--------------|-------------|-------|---------|
| Positive attitudes mean score /85 | 46.0 (10.1) | 51.5(10.3) | 53.9(8.7) | 51.6(9.3) | F=0.4 | .675 |

Table 15: Prejudice score by Year

| | Year | | | | | | |
|----------------------------------|---------------|------------|------------|------------|------------|-------|---------|
| PREJUDICE | Total (n=240) | Yr1 (n=84) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | p-value |
| Negative attitude mean score /85 | 51.7(10.2) | 52.6(9.1) | 49.2(13.0) | 51.6(9.8) | 52.4(9.4) | F=2.3 | .078 |

However, there were significant differences between males and females with males have lower prejudice scores compared to females (51.0 \pm 10.2 [95%CI 51.8-57.8] vs 54.8 \pm 9.5 [95%CI 49.6-52.5], $T=4.9$, $p=.029$). Similarly, Black students had lower prejudice attitudes scores (Table 16).

Table 16: Prejudice score by Race

| | Total (n=240) | Black (n=140) | White (n=20) | Coloured (n=75) | Others(n=5) | Test | P-value |
|-----------------------------|---------------|---------------|--------------|-----------------|-------------|-------|---------|
| Knowledge score m (SD) / 25 | 46.0 (10.1) | 50.1(10.8) | 53.9(8.1) | 53.9(9.3) | 54.8(3.8) | F=2.8 | .039* |

4.6 Intention to work with older people on graduation

In measuring the intentions of working with older people upon graduation, about half of the respondents (124, 51.7%) reported that they intend to work with older people, with year 1 having the highest agreement (50, 59.5%). Significant differences were found between the Year levels ($X^2=11.2$, $p=.011$) (Table 17) with a significantly low proportion of third years indicating an intention to work with older persons. Similarly,

Black and Coloured respondents had significantly higher intentions than White respondents (73, 52.1% and 45, 60% vs 5, 25%, $X^2=9.6$, $p=.018$).

Table 17: Intention of working with older people upon graduation

| Intention of working with older people upon graduation n (%) | Total (n=240) | Yr1 (n=84) | Yr2 (n=46) | Yr3 (n=62) | Yr4 (n=48) | Test | p-value |
|--|---------------|------------|------------|------------|------------|-------------|---------|
| Yes | 124 (51.7) | 50 (59.5) | 29 (63.0) | 22 (35.5) | 23(47.9) | $X^2= 11.2$ | .011* |

Though a lower proportion of males 17 (40.5%) vs females 99 (50.0%) indicated an intent to work with older people on graduation, this was not significant ($X^2=1.3$, $p=.262$). Similarly, previous experience working with older people had no influence on intent ($X^2=0.8$, $p=.359$), nor having a family member that was old ($X^2=1.4$, $p=.245$).

4.6 Conclusion



Most of the respondents had exposure to older people in their families prior to enter nursing programme. The students across their year levels showed the highest level of knowledge about ageing process. Most of the students revealed positive attitudes towards older people.

CHAPTER FIVE

5 DISCUSSION

5.1 Introduction

This chapter discusses the results of this study in the context of the published literature. The discussion focuses on gender of the respondents, their age, religion and race. However, the aim of this study was not to investigate the relationships between the demographical variables and nursing students' previous experience with older people, knowledge about the ageing process and attitudes towards older people. Hence the discussion focuses more on nursing students' knowledge about the ageing process, and their negative and positive attitudes towards older people. Nursing students' intention to work with older people is also discussed.

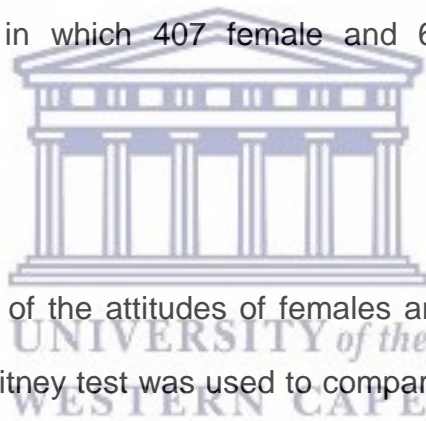


5.2 Demographic characteristics

5.2.1 Gender

In this study the majority of the 240 respondents were female (198, 82.5%) while a minority (42, 17.5%) were male. This is not surprising given that nursing is a female-dominated profession (Shakwane, 2014). Supporting this argument, a study conducted in the USA by Mattos, Jiang, Seaman, Nilsen, Chasens and Novosel (2015) indicated that in their case the majority of the 129 nursing students were female (117, 90.7%), while 12 (9.3%) were male. This study illustrates the huge gap between the numbers of females and males who join the nursing profession.

Similarly, there were 126 (90%) females and 14 (10%) males among 140 nursing students who participated in a study conducted in Portugal by Abreu and Caldevilla (2015). Moreover, in a study conducted in the Western Cape Province of South Africa by Rispel, Blaauw, Chirwa and De Wet (2014), the majority (921, 96.1%) of the 958 respondents were female while 37 were male (3.9%). However, there was a slight difference in numbers of female and male nurses who participated in a study conducted in Iran by Arani, Aazami, Azami and Borji (2017), where females still made up the majority half (121, 52.6%), but only at just over 50%, with the males numbering 109 (47.4%) of the 240 nurse respondents. The dominance of females over males was also documented in a study conducted in Turkey by Darling, Sendir and Buyukyilmaz (2018), in which 407 female and 61 male nursing students participated.



With regard to comparison of the attitudes of females and those of males towards older people, the Mann-Whitney test was used to compare the mean attitude scores between males ($n=14$) and females ($n=126$) in Portugal (Abreu & Caldevilla, 2015). The test showed that the difference across gender was not significant for expectations regarding activity of older people ($p=0.423$), feelings about ageing ($p=0.668$), expectations regarding satisfaction of older people ($p=0.377$) and anxiety about death ($p=0.067$). In the current study however, there was significant difference between male and female respondents; male respondents had higher appreciation scores than females (49.0 ± 13.1 [95%CI 44.9-53.1] vs 45.3 ± 9.2 [95%CI 44.0-46.6], $T=2.2$, $p=.030$).

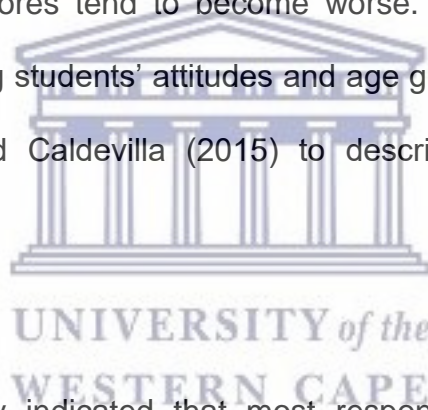
5.2.2 Age

The findings of this study indicated that the mean age of the respondents was 22.9 ± 5.4 years, with the highest mean age in year 4 (25.5 ± 7.0 years). These results indicate that nursing student candidates complete secondary education to enter tertiary education at the age of 19 years. At this age the respondents are perceived to be adult learners, who are expected to be self-directed and responsible for their learning (Jarvis & Watts, 2012). In the current study the mean shows that the age of around 22 years should be the normal age of the final-year nursing students. However, the highest mean age indicates that the oldest students are aged 25 years, probably due to late entry into tertiary education or repeater status. Therefore, the findings of this study showed that 25 years old is the normal age of students when they complete the nursing programme. Supporting this statement, Musafiri (2015) conducted a study in the Western Cape Province of South Africa using 125 fourth-year nursing students, and one of the findings was that the mean respondent age was 25.86 ± 5.13 years. Moreover, another study conducted in Finland and Turkey by Okuyan, Alkaya and Sairanen (2018) using 345 nursing students indicated that the students' mean age was 21.3 ± 4.2 years.

The current study did not investigate the relationships between the age of the respondent and their knowledge about ageing, and between the age of the respondent and their attitudes towards older people. However, there may or may not be a significant correlation between the above variables. For instance, a study conducted in Turkey by Kavlak, Yildiz and Tug (2015) using 244 nurses indicated that the increased age of the respondent contributed to the development of their

positive attitudes. Moreover, another study conducted in Turkey by Darling *et al.* (2018) using 468 nursing students indicated that the age of the respondent was 17 to 30 years ($M = 20.6$, $SD = 1.9$).

In this study the relationship between age and Kogan's Attitudes toward Old People Scale scores was assessed with Pearson's correlation coefficient. Total attitude scores ($r = -0.14$, $p = 0.003$) as well as the total negative item scores ($r = -0.11$, $p = 0.024$) were negatively and significantly correlated with age. Although the strength of the correlation coefficients was low, they were significant – meaning that as students get older, their attitude scores tend to become worse. In contrast, there was no correlation between nursing students' attitudes and age groups in a study conducted in Portugal by Abreu and Caldevilla (2015) to describe 140 nursing students' attitudes towards ageing.



5.2.4 Religion

The findings of this study indicated that most respondents (216, 90.0%) were Christian while a total of 15 (6.2%) were Muslim and 9 (3.8%) belonged to unspecified religion. However, the researcher did not intend to establish the relationship between the religion of the respondents and their knowledge about ageing and attitudes towards caring for older people.

5.2.3 Race

The current study investigated the prevalence of racial groups in South African context in connection with cultural diversities that might influence nursing students in caring for older people. In this regard, the findings of this study indicated that the

majority of the 240 respondents across all the year levels were Black (140, 58.3%), followed by Coloured (75, 31.2%) and White (20, 8.3%) students, while 5 (2.1%) were of other races. These findings are not surprising in the School of Nursing used in this study; the findings of a study conducted by Musafiri (2015) using 125 nursing students recruited from above School indicated that there were more Black nursing students (87, 69.6%) than Coloured (29, 23.2%) and White (9, 7.2%) students. Moreover, the findings of another study conducted by Emebigwine (2016) in the same School of Nursing included in this study, using 82 first-year nursing students, indicated that Black (58, 71.0%) students numbered more than Coloured (17, 21.0%) and White (6, 7.0%) students and those of other races (1, 1%). However, the researcher's intention was not to investigate the influence of race on knowledge about ageing and attitudes towards caring for older people among undergraduate nursing students. A study conducted in Israel by Zisberg *et al.* (2014) using 224 nursing students indicated that race and knowledge were the strongest correlates ($p < 0.0001$) of attitudes, and attitudes and race ($p < 0.0001$) correlated with preferences of working with older people.

Although the findings of the current study indicated that Black students are in the majority in the School of Nursing, there is no evidence to say that Black students are in the majority in the Western Cape.

5.3 Previous experience with older people

Previous exposure to or experience in working with older people were considered to have an important influence on students' knowledge of ageing, attitudes towards older people and their intention to work in aged care. This was assessed using two questions: previous experience in working with older people, and having older people in the family. The findings of this study indicated that two-thirds of the

respondents (158, 65.8%) had previous experience of working with older people. Nearly 80% of the year 3 respondents (48, 77.4%) indicated that they had previous experience working with older people, compared to only just over 50% for those in year 1 and year 4 ($X^2=9.4$, $p=0.024$). Nearly all respondents (209, 87.1%) indicated the presence of older people in their families, and there were no significant differences across the year levels (see Table 5). In this respect the findings of the current study are consistent with and similar to the findings of other studies. For instance, a study conducted in Turkey by Darling *et al.* (2018) indicated that 276 (59%) of the 468 nursing students who participated had experience in caring for an older people, while 93 (20%) lived with older people at home.

In contrast, a study conducted in the USA by Eltantawy (2013) using 596 nursing students showed that a total of 261 (43.8%) had experience living with older people and 150 (25.2%) had experience of caring for older people at home. Similarly, one of the findings of a study conducted in India by Kaur *et al.* (2014) indicated that only 78 (29.2%) of 267 nursing students who participated were staying with their grandparents. In Portugal Abreu and Caldevilla (2015) found that the majority of the students (106, 76.4%) did not live with older people. In addition, the findings of a study conducted in Finland and Turkey by Okuyan *et al.* (2018) showed that a total of 64 (31.5%) of the 345 nursing students lived with older people at home and 132 (38.3%) had experience of caring for older family members. Another study conducted in Israel by Zisberg *et al.* (2015) showed that a total of 197 (88.7%) of the 222 respondents did not have work experience with older people.

With regard to comparison of the attitudes of nursing students who had exposure to older people and those who did not, the literature has shown a significant difference. For instance, Rathnayake *et al.* (2016) conducted a study in Sri Lanka with 98

nursing students, and the findings showed a significant difference in attitudes between students who lived with older people and those who did not ($t=2.565$, $p=0.012$). Moreover, Potter, Clarke, Hackett and Little (2013) conducted a study in Canada with nursing students and the findings indicated that exposure of nursing students to older people in the wards influenced their attitudes. The majority of respondents (222, 83.5%) of the 266 nursing students who participated in a study conducted in USA by Koehler *et al.* (2016) had previous experience with older people. The perception scores at pre-test for the respondents with previous experience were higher ($p \leq 0.0005$) than the scores of those without experience.

In a study conducted in Australia by Neville (2016), the nursing students who participated had experience with older people before starting their nursing programme; a total of 584 (66%) visited their grandparents, 329 (37%) cared for older family members, and 151 (17%) did voluntary work caring for older people. In the same study a total of 255 (29%) indicated that they had worked with older people before starting their nursing programme, while 61 (7%) had no experience with older people. The findings of Neville (2016) revealed that respondent who had worked with older people before starting their nursing programme had more positive perceptions of working with older people than those who had not (total students' perceptions of working with older people mean score for yes = 55, SD = 7.86 vs. total students' perceptions of working with older people mean score for no = 51.99, SD = 7.16).

5.4 Knowledge about the ageing process

The findings of this study indicated that a total of 232 (96.3%) of the 240 respondents perceived that the five senses (sight, hearing, touch, smell and taste) all

tend to weaken in old age. This sensory impairment is supported by the findings of a study conducted in the USA by Correia *et al.* (2016) using 1301 adults aged 57 to 85 years, where 74% had impairment in taste and 70% in touch. With regard to a decline in physical strength in old age, the majority of the respondents (217, 90.4%) agreed with this statement. Supporting these respondents' knowledge, the findings of a study conducted in Serbia by Milanović *et al.* (2013) using 1288 young older people (60–69 years) and old older people (70–80 years) indicated that the reduction in physical activity level and functional fitness occurred among the respondents due to the ageing process.

Caring for older people might be a challenge with regard to the maintenance or improvement of their hygiene pattern, compromised by urinary incontinence. Wehrberger, Madersbacher, Jungwirth, Fischer and Tragl (2012) conducted a study in Austria using 262 participants aged of 85 (96 men and 166 women), and the findings indicated that a total of 23 (24%) of men and 58 (35%) of women ($p = 0.04$) had urinary incontinence. Moreover, the same study stressed the high prevalence of lower urinary tract dysfunction in older people.

Knowledge about the ageing process was measured and the FAQ total average score was 15.4 (SD = 2.6) out of a possible 25. Supporting these findings, the mean knowledge score regarding ageing has been reported in other studies. For instance, the mean score of students' knowledge of ageing was low (13.19 ± 2.73) in a study conducted in the USA by Eltantwy (2013) with 596 nursing students from the four year levels of the undergraduate programme. In a study conducted in India by Kaur *et al.* (2014) with 267 nursing students, the mean score of students' knowledge of ageing was 22.10 ± 2.91 with a range of 9-27. However, the total mean knowledge of

aging score ($n = 129$) was very low (9.71 ± 2.10) in a study conducted in the USA by Mattos *et al.* (2015).

The total mean knowledge score per year level was a borderline score (15.4 ± 2.6) for the 240 respondents across the entire 4-year nursing programme. There were significant differences in knowledge across the years, with the third-year students having a significantly higher average knowledge score (Figure 4.1) (16.8 ; $SD\ 2.3$; $F=8.7$, $p<0.001$), followed by the first years (15.1 ; $SD\ 2.7$). The fourth-year students had the lowest average score (14.7 ; $SD\ 2.4$) (Table 9). Similarly, the findings of a study conducted in Israel by Zisberg *et al.* (2015) indicated that senior Arab students who participated had significantly higher levels of knowledge, from the first year ($M = 10.02$; $SD = 2.57$) to the second year ($M = 11.65$; $SD = 2.67$) and the combined third and fourth year ($M = 12.28$; $SD = 2.80$) cohorts ($F = 3.48$, $df = 2$, $p = 0.03$).

There might be a correlation between knowledge and attitude regarding working with older people. Supporting this statement, a study conducted in India by Kaur *et al.* (2014) with 267 nursing students indicated that there was a significant correlation between knowledge and attitude ($r=0.1$) in this regard, meaning that the attitude became more positive as knowledge increased. Therefore the training of nursing students in caring for older people is fundamental across the year levels of the nursing programme. Supporting this statement, over 80% agreed that effective care of older people requires special training. Within South Africa, a study conducted by Booker (2015) recommended the integration of more gerontological education in nursing curriculum. Moreover, another study conducted in South Africa by Benadé, du Plessis & Koen, (2017) indicated that nurses need to use their basic knowledge and experience associated with caring for older people and up-to-date their skills to improve the care for older people.

5.4 Positive attitudes towards older people

The findings of this study indicated that the average score of appreciation among respondents was 46.0 (10.1). This positive attitude towards older people was also found in a study conducted in Italy by Matarese, Lommi, Pedone, Alvaro and De Marinis (2012) with 1637 nursing students; here the Kogan's Attitudes towards Older People Scale mean score was 144.3 (SD 17.9). Similarly, a positive attitude regarding older people was documented among 145 nursing students who had mean average score on the Ageism Attitude Scale 84.01 ± 7.61 in a study conducted in Turkey by Usta, Demir, Yo"nder and Yildiz (2012). In a study conducted in Sweden by Carlson and Idvall (2015), out of 183 students a total of 106 (58%) were willing to work with older people, while 77 (42%) were not willing to care for them. The findings of the study conducted in Sri Lanka by Rathnayake *et al.* (2016) indicated that 49 (50%) of the 98 nursing students who participated held slightly positive attitudes towards working with older people. Koehler *et al.* (2016) conducted a study in the USA with 266 nursing students, and the findings showed that respondents' perceptions of working with older people were significantly positive ($p = \leq 0.0005$). Strugala, Talarska and Wysocki (2016) conducted a study in Poland with 360 nursing students, where a total of 133 (36.9%) presented a positive attitude towards older people. A study was conducted in Turkey by Demir, Bicer, Bulucu-B"y"ksoy and "zen (2016) with 293 nursing students from the first year to the fourth year of an undergraduate nursing programme to determine their attitudes about ageism. The study showed that the ageism attitude scale total score was 79.49 ± 9.04 (23-115), and confirmed the students' positive attitudes towards ageism. Another study conducted in Nigeria by Faronbi Adebawale, Faronbi, Musa and Ayamolowo (2017)

showed that 201 (71.8%) of 280 nursing students had a positive attitude towards older people.

Positive attitudes towards older people were documented among 468 nursing students in a study conducted in Turkey by Darling *et al.* (2018), in which the Kogan's Attitudes toward Old People Scale total score was positive ($M=122.99$, $SD = 11.5$). Neville (2016) conducted a study in Australia among 866 nursing students and the findings indicated that the respondents had a total mean student's perceptions of working with older people score of 52.93 ($SD = 7.50$, range = 26-73), that showed a positive attitude towards working with older people. Frost, Ranse and Grealish (2015) conducted a study in Australia with 185 nursing students, and the findings indicated that up to 162 (87.5%) of the respondents would work with older people in the future. The findings of the study conducted in Finland and Turkey by Okuyan *et al.* (2018) indicated that a total of 133 (80%) had willingness to care of older people after graduation.

Taking into account gender, the findings of this study indicated that female students ($n=198$) had a less positive attitude towards older people [45.3 (9.2) 95% CI 44.0-46.6] than the 42 male students [(49.0 (13.2) 95% CI 44.9-53.1]. Similarly, a total of 115 (93.5 %) of 123 female nursing students had less positive attitudes towards older people than the 25 (89.3%) of 28 male nursing students who expressed positive attitudes towards older people in a study conducted in Malawi by Zverev (2013). Another study conducted in Korea by Lee (2014) indicated that male nursing students had higher scores (122.79 ± 13.37) in terms of positive attitudes towards older people than female students (121.38 ± 12.56).

It is not surprising to find that female nursing students show negative attitudes towards older people. Supporting this statement, in a study conducted in Poland by Strugala et al. Talarska and Wysocki (2016) a total of 131 (38.4 %) of the 341 female nursing student respondents showed a positive attitude towards older people, while 210 (61.6%) had a negative attitude. Contrary to this report, a total of 117 female students of the 129 respondents, including 12 male students, had significantly more positive attitudes ($M = 3.69$, $SD = 0.45$) than the male students ($M = 3.39$, $SD = 0.56$, $t(127) = -2.14$, $p = 0.03$, 95% CI $[-0.58, -0.02]$) in a study conducted in the USA by Mattos *et al.* (2015).

With regard to the year level of the nursing programme, the positive attitudes of nursing students towards older people should gradually increase due to the exposure to older people in the clinical placement. For instance, a study conducted by Parsons, MacDonald, Hajek and Moody (2015) in Canada indicated that a total of 27 (81.8%) of the 33 nursing students had a willingness to work with older people after completion of their undergraduate nursing programme. However, it was surprising to find that the first-year nursing students who participated in the current study have more positive attitudes ($M = 45.8$, $SD = 9.1$) towards older people than the third-year nursing students ($M = 44.5$, $SD = 8.6$). The positive attitudes of the first-year nursing students towards older people might result from their exposure to caring for older people in their families and communities. In this regard, the ageism attitude scale total score (81.23 ± 7.61) of the first-year nursing students was higher than those of the second- and third-year nursing students in a study conducted in Turkey by Demir *et al.* (2016). Moreover, in the same study the ageism attitude scale total scores of the second-year (77.73 ± 9.36) and the third-year (78.09 ± 1.05) nursing students were lower than that of the first-year students (Demir *et al.*, 2016). This

study did not investigate the reasons behind the attitudes of the first-year students being more positive than those of the senior students.

In normal circumstances nursing students' attitudes towards older people gradually become positive from the first year to the fourth-year level of the nursing programme. This statement is supported by the findings of a study conducted in the USA by King, Roberts and Bowers (2013). Also, the ageism attitude scale total score (81.00 ± 7.78) of the fourth-year nursing students was higher than those of the second- and third-year nursing students in a study conducted in Turkey by Demir *et al.* (2016). Similarly, the fourth-year nursing students had more positive attitudes towards older people than first-year students in another study conducted in Turkey by Özer and Terkeş (2014).

Nursing students' exposure to caring for older people in clinical placements across the undergraduate programme should enhance their positive attitudes towards caring for older people. Supporting this argument is a study conducted in Iran by Gholamzadeh, Khastavaneh, Khademian and Ghadakpour (2018) with 63 nursing students, to investigate the effects of empathy skills training on their empathy and attitudes toward older people. The findings of this study indicated that the training programme significantly impacted on the students' mean scores of empathy and attitudes towards older people ($p < 0.001$). Despite the skills training of nursing students in caring for older people, those practising nursing should also receive this type of training. For instance, a study conducted in Turkey by Kavlak, Yildiz and Tug (2015) with 244 nurses to determine their attitudes towards older people and the factors that influence these indicated that the average Ageism Attitude Scale total and sub-dimension scores of those who had received training on

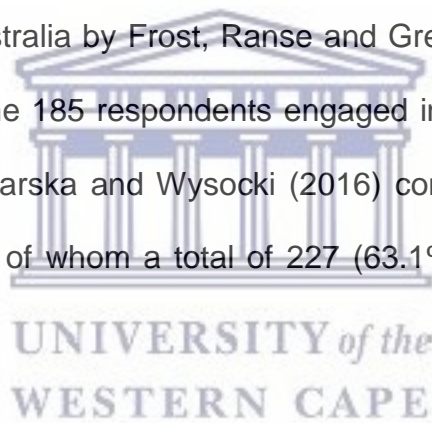
caring for older people were significantly higher ($p < 0.05$) than those who did not receive it.

Positive attitudes of nursing students towards older people might predict their positive attitudes towards people after registration as professional nurses. Positive attitudes of different categories of nurses towards older people have been documented by the literature. For instance, Liu, Norman and While (2015) conducted a study in the United Kingdom with 579 professional nurses to establish an explanatory model of their attitudes towards older people and working with older patients. The findings indicated that the majority of the respondents reported positive attitudes towards older people and 519 (89.7%) expressed positive attitudes towards working with older patients. Similarly, positive attitudes towards older people were documented among nurses in a study conducted in Scotland, Sweden and the USA by Kydd, Touhy, Newman, Fagerberg and Engstrom (2014). Moreover, Deasy, Kable and Jeong (2016) conducted a study in Australia with 371 nurses working in an emergency unit to report their attitudes towards older people, and the results indicated that they had positive attitudes towards them. Within South Africa, the findings of the study conducted by Benadé *et al.* (2017) nurses caring for older people should have caring love, patience, compassion, respect, empathy and sympathy towards older people.

5.6 Negative attitudes towards older people

Although there is an increase in the numbers of older people, nursing students hold negative attitudes towards older people and do not even plan to care for them after graduation (Lamet, Sonshine, Walsh, Olnar & Rafalko, 2011). The findings of a study conducted in Israel by Haron, Levy, Albagli, Rotstein and Riba (2013) with nursing

students indicated that 61% of the 486 respondents were not willing to work with older people. Supporting these findings, a study conducted in Portugal by Abreu and Caldevilla (2015) indicated that nursing students' attitudes toward older people were negative. Similarly, a study conducted in Sri Lanka by Rathnayake *et al.* (2016) indicated that a total of 44 (45%) of the 98 nursing students held negative attitudes towards working with older people. In the same study, only a total of 5 (5.1%) of the 98 nursing students considered working with older people as their first choice after graduation. A cumulative total of 381 (44%) of the 866 nursing students employed in a study conducted in Australia by Neville (2016) strongly agreed and agreed that working with older people does not appeal to them at all. The tone of the findings of the study conducted in Australia by Frost, Ranse and Grealish (2015) indicated that a total of 117 (63.2%) of the 185 respondents engaged in negative behaviours with older people. Strugala, Talarska and Wysocki (2016) conducted a study in Poland with 360 nursing students, of whom a total of 227 (63.1%) had a negative attitude towards older people.



5.7 Conclusion

The findings of the current study are consistent with and similar to the findings of other studies. It is believed that nursing students' previous exposure to or experience of working with older people have an important impact on their knowledge of ageing, attitudes towards older people, and their intention to work in aged care.

The current study and other studies have shown that nursing students generally have positive attitudes regarding older people. Conversely, a minority of nursing students might show a negative attitude towards caring for older people.

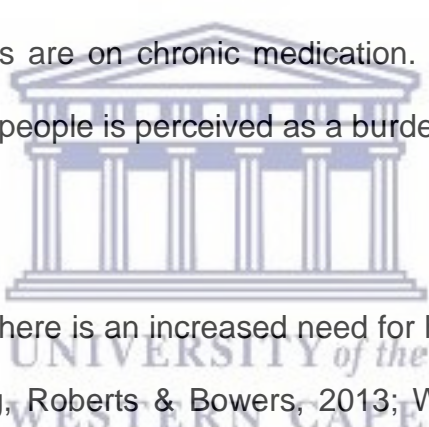


CHAPTER SIX

6 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

Studies have shown that there is an increase in the average age of the population at global level (Bohman, Van Wyk & Ekman, 2011; Mandville-Anstey *et al.*, 2014; Booker, 2015). According to Statistics South Africa (2014) approximately 38% of people aged 60 to 64 years are on chronic medication. Shen and Dongxia (2012) argued that caring for older people is perceived as a burden by family members.



Within healthcare services there is an increased need for healthcare professionals to care for older people (King, Roberts & Bowers, 2013; World Health Organization, 2015; Neville, 2016). Nurses are the main health professionals who should care for older people (Lambrinou *et al.*, 2009) and play a significant role in ensuring dignified care for older people (Tauber-Gilmore, Addis, Zahran, Black, Baillie, Procter & Norton, 2018). However, reluctance to work with older people has been reported among nurses (Zisberg, Topas & Band-Winterhstein, 2014). Nurses' attitudes towards older people might impact either negatively or positively on older people's quality of care (Flood & Clark, 2009).

Given that gerontology is lacking in the South African nursing curriculum (Booker, 2015), nursing programmes should enhance the willingness of nursing students to care for older people in the future. At global level studies have investigated nursing students' knowledge about the ageing process, and it was found to be either low or average (Eltantwy, 2013; Kaur *et al.*, 2014; Mattos *et al.*, 2015; Zisberg *et al.*, 2015). Positive attitudes towards older people have been reported among nursing students at global level (Matarese *et al.*, 2012; Usta *et al.*, 2012; Carlson & Idvall, 2015; Rathnayake *et al.*, 2016). Conversely, negative attitudes towards older people were also reported among nursing students (Lamet *et al.*, 2011; Haron *et al.*, 2013; Abreu & Caldevilla, 2015; Rathnayake *et al.*, 2016). The key findings of the current study are outlined below.

6.2 Key findings



The study examined undergraduate nursing students' knowledge about ageing and their attitudes towards caring for older people. This was done to firstly describe undergraduate nursing students' knowledge of facts on ageing, which is central to caring for older people. Their knowledge about the ageing process was measured and the FAQ total average score was 15, out of a possible score of 25, just over 50%. There were significant differences in knowledge across the years, with the third-year students having a significantly higher average knowledge score.

The second key finding was that overall the students had positive attitudes towards older people though the prejudice scores were higher than the appreciations scores. The item for which appreciation of students was the strongest was *Most old people need no more love and reassurance than anyone else*.

The third key finding was that more than 50% indicated an intent to work with older people after graduation.

6.3 Limitations

This study has some limitations, as indicated below.

- Sample bias: The sample employed in this study was drawn from only one of the Schools of Nursing in the Western Cape Province. In this regard, the sample from one school of Nursing limits the generalisation of the findings given that all Schools of Nursing in the Western Cape have similar educational contexts. The researcher of this study should have drawn a sample for each School of Nursing in the Western Cape Province.
- Instrument: This study used a self-report questionnaire that might allow biases in the answers from the respondents, who were given options to tick.

6.4 Recommendations

6.4.1 Recommendations for nursing institutions

- The current study recommended the improved training of nursing students in caring for older people to improve the students' knowledge on ageing.

6.4.2 Recommendations for healthcare institutions

- The current study recommends that health institutions' management enhances the clinical learning opportunities of nursing students in caring for older people to ensure that positive attitudes towards older people are displayed.

6.4.3 Recommendations for future research

- To extend the generalizability of the findings from the current study, future research should be undertaken with different Schools of Nursing in the Western Cape Province to investigate the undergraduate nursing students' knowledge about ageing and their attitudes towards caring for older people.
- The current study recommends that researchers do further studies to investigate the undergraduate nursing students' knowledge about ageing and their attitudes towards caring for older people through a mixed-methods research approach.

- For future research using an observational check list to investigate the competence of undergraduate nursing students in caring for older people is recommended.

6.5 Conclusion

The findings of this study indicated that a minority of the respondents (65.8%, 158) had previous experience working with older people and 209 (87.1%) reported the presence of older people in their families. Surprisingly, it seems that exposure to older people in the family did not contribute significantly to overall nursing students' experience in caring for older people during their nursing programme. Therefore, nursing programmes should increase the clinical opportunities of students regarding caring for older people, regardless of their prior exposure to older people in their families.

The findings of this study indicated that nursing students had positive attitudes towards older people and 124 (51.7%) reported their willingness to work with older people after graduation. Nursing students' willingness to care for older people after their registration as professional nurses should be enhanced by the School of Nursing, in order to respond to the huge need for healthcare professionals in geriatric units.

REFERENCES

- Abdelmagid, S., Barbe, M. & Safadi, F., 2015, 'Role of inflammation in the aging bones', *Life Sciences*, 123, 25-34.
- Abreu, M. & Nilza Caldevilla, N., 2015, 'Attitudes toward aging in Portuguese nursing students', *Procedia - Social and Behavioral Sciences*, 171, 961–967.
- Arani, M., Aazami, S., Azami, M. & Borji, M., 2017, 'Assessing attitudes toward older people among nurses working in the city of Ilam', *International Journal of Nursing Sciences*, 4, 311-313, viewed 10 July 2018, from <https://doi.org/10.1016/j.ijnss.2017.06.009>
- Babbie, E., 2010, *The Practice of Social Research*, Cengage Learning, Wadsworth
- Bainbridge, K.E. & Wallhagen, M.I., 2014, 'Hearing loss in an aging American population: extent, impact, and management', *Annual Review of Public Health*, 35, 139–152. Available from <http://doi.org/10.1146/annurev-publhealth-032013-182510>
- Benadé, P., du Plessis, E. & Koen, M.P., 2017, Exploring resilience in nurses caring for older persons, *Health SA Gesondheid*, 22(2017), 138-149, viewed March 11, 2019, from <https://doi.org/10.1016/j.hsag.2017.01.003>
- Berg, B., Lune, H. & Lune, H., 2004, *Qualitative research methods for the social sciences*. viewed 10 July 2018, from [http://www.msu.ac.zw/elearning/material/1344156815Reading 4 qualitative research methods for social sciences.pdf](http://www.msu.ac.zw/elearning/material/1344156815Reading%204%20qualitative%20research%20methods%20for%20social%20sciences.pdf)
- Bleijenbergh, N., Drubbel, I. & Dam, V., 2012, 'Proactive and integrated primary care for frail older people: design and methodological challenges of the Utrecht primary care PROactive frailty intervention', *BMC*, viewed 11 December 2016, from <https://bmcgeriatr.biomedcentral.com/articles/10.1186/1471-2318-12-16>
- Bohman, D.M., Van Wyk, N.C. & Ekman, S.-L., 2011, 'South Africans' experiences of being old and of care and caring in a transitional period', *International Journal of Older People Nursing*, 6(3), 187–195. <http://doi.org/10.1111/j.1748-3743.2010.00225.x>
- Booker, S.Q., 2015, 'Lessons learned about ageing and gerontological nursing in South Africa', *Curationis*, 38(1), 1–6. <http://doi.org/10.4102/curationis.v38i1.1216>
- Breytspraak, L. & Badura, L., 2015, *Facts on Aging Quiz*. University of Missouri-KansasCity, Kansas City.
- Brink, H., Van der Walt, C. & Van Rensburg, G., 2012, *Foundation of research methodology for health care professionals*, viewed 4 October 2017, from <http://www.sciencedirect.com/science/article/pii/S1557308707000704>
- Burns, N. & Grove, S., 2009, *The practice of nursing research: Appraisal, synthesis and generation of evidence*, 6th edn., Saunders Elsevier, St Louis.
- Carlson, E. & Idvall, E., 2015, 'Who wants to work with older people? Swedish student nurses' willingness to work in older people care—A questionnaire study', *Nurse Education Today*, 35, 849–853, viewed 16 July 2018, from <http://dx.doi.org/10.1016/j.nedt.2015.03.002>
- Chatterji, S., Byles, J., Cutler, D., Seeman, T. & Verdes, E., 2015, 'Health, functioning, and disability in older adults—present status and future implications', *The Lancet*, 385(9967), 563-575.

- Chen, S., Melcher, P., Witucki, J. & McKibben, M.A., 2002, 'Nursing home use for clinical rotations: Taking a second look', *Nursing and Health Sciences*, 4(3), 131–137. <http://doi.org/10.1046/j.1442-2018.2002.00113.x>
- Cheng, M., Cheng, C., Tian, Y. & Fan, X., 2015, 'Student nurses' motivation to choose gerontological nursing as a career in China: A survey study', *Nurse Education Today*, 35(7), 843-848.
- Chi, M., Shyu, M., Wang, S., Chuang, H. & Chuang, Y., 2016, 'Nursing Students' Willingness to Care for Older Adults in Taiwan', *Journal of Nursing Scholarship*, 172–178. <http://doi.org/10.1111/jnu.12197>
- Cho, H., Jeon, S., Kim, C., Ye, B.S., Kim, G.H., Noh, Y., Kim, H.J., Yoon, C.W., Kim, Y.J., Kim, J.H., Park, S.E., Kim, S.T., Lee, J.M., Kang, S.J., Suh, M.K., Chin, J., Na, D.L., Kang, D.R. & Seo, S.W., 2015, 'Higher education affects accelerated cortical thinning in Alzheimer's disease: a 5-year preliminary longitudinal study', *International Psychogeriatrics*, 27(1), 111-120.
- Ciorba, A., Pelucchi, S. & Pastore, A., 2012, 'The impact of hearing loss on the quality of life in adults', *Srpski Arhiv Za Celokupno Lekarstvo*, 139(5–6), 286–290. <http://doi.org/10.2147/cia.s26059>
- Correia, C., Lopez, K.J., Wroblewski, K.E., Huisingh-Scheetz, M., Kern, D.W., Chen, R.C., Schumm, L.P., Dale, M., McClintock, M.K. & Pinto, J.M., 2016, 'Global Sensory Impairment in Older Adults in the United States', *The American Geriatrics Society (AGS)*, 64(2), 306-313. Retrieved 26 July 2018, from <<https://doi.org/10.1111/jgs.13955>>.
- Cozort, R., 2008, 'Student nurses' attitudes regarding older adults: Strategies for fostering improvement through academia', *Teaching and Learning in Nursing*, 3, 21–25.
- Darling, R., Sendir, M., Atav, S. & Buyukyilmaz, F., 2018, 'Undergraduate nursing students and the older people: An assessment of attitudes in a Turkish university', *Gerontology & Geriatrics Education*, 39(3), 283–294, viewed 28 August 2018, from <<https://doi.org/10.1080/02701960.2017.1311883>>.
- Deasey, D., Kable, A. & Jeong, S., 2014, 'Influence of nurses' knowledge of ageing and attitudes towards older people on therapeutic interactions in emergency care: a literature review', *Australasian Journal on Ageing*, viewed 9 July 2017, from <http://europepmc.org/abstract/med/25471745>
- Deasey, D., Kable, A. & Jeong, S., 2016, 'Emergency nurses' attitude towards old people in the emergency department: a cross section study', *Contemporary Nurse* 52(2-3)
- Deltsidou, A., Voltyraki, E. G., Mastrogianis, D., Mantzorou, M. & Noulas, M., 2010, 'Nurse teachers' and student nurses' attitudes towards caring the older people in a province of Greece', *Health Science Journal*, 4(4), 245–257.
- Demir, G., Bicer, S., Bulucu-Böyüksoy, G.D. & Özen, B., 2016, 'Attitudes of Nursing Students about Ageism and the Related Factors', *International Journal of Caring Sciences*, 9(3), 900–908.
- Department of Health, 2015, *Department of Health Strategic plan 2015/16 - 2019/20*, Government Printer, Pretoria
- Doherty, M., Mitchell, E. & O'Neill, S., 2011, 'Attitudes of healthcare workers towards older people in a rural population: A survey using the Kogan Scale', *Nursing Research and Practice*, viewed 21 April 2016, from <https://www.hindawi.com/journals/nrp/2011/352627/abs/>
- Dong, X. & Simon, M.A., 2010, *Health and aging in a Chinese population: Urban and rural*, 85–93, viewed 22 October 2017, from <http://doi.org/10.1111/j.1447->

0594.2009.00563.x

- Eagly, A. & Chaiken, S., 1993, *The psychology of attitudes*, viewed 1 July 2017, from <http://psycnet.apa.org/psycinfo/1992-98849-000>
- Eltantawy, S.H.A., 2013, 'Relation between Nursing Students' Knowledge of Aging and Attitude towards Older people People and Their Will and Intent to Work with the Older people', *Journal of Education and Practice*, 4(27).
- Emebigwine, D.L.A., 2016, 'Perceived stress of first year nursing students associated with the first objective structured clinical examination at a university in the Western Cape', Master's dissertation, University of the Western Cape.
- Fan, X., 2015, *Student nurses' motivation to choose gerontological nursing as a career in China : A survey study in China*, viewed 21 April 2017, from <http://doi.org/10.1016/j.nedt.2015.03.001>
- Faronbi, J.O., Adebawale, O., Faronbi, G.O, Musa, O. & Ayamolowo, S.J., 2017, 'Perception knowledge and attitude of nursing students towards the care of older patients', *International Journal of Africa Nursing Sciences*, 7, 37–42.
- Feenstra, A., 2012, 'Student Attitudes Toward Older Adults', ScholarWorks at WMU, viewed 9 July 2016, from http://scholarworks.wmich.edu/honors_theses
- Fjell, A.M. & Walhovd, K.B., 2010, 'Structural Brain Changes in Aging: Courses , Causes and Cognitive Consequences', *Reviews in the Neurosciences*, 221, 187–221.
- Flament, F., Bazin, R., Laquieze, S., Rubert, V., Simonpietri, E. & Piot, B., 2013, 'Effect of the sun on visible clinical signs of aging in Caucasian skin', *Clinical, Cosmetic and Investigational Dermatology*, 221-232.
- Flood, M.T. & Clark, R.B., 2009, 'Exploring Knowledge and Attitudes Toward Aging Among Nursing and Nonnursing Students', *Educational Gerontology*, 35(7), 587–595. <http://doi.org/10.1080/03601270802605333>
- Forum, P., 2010, Remeasuring Aging, (November), 2–5.
- Fox, M.A., 2010, 'Physical Change', *Interactive Architecture*, 23–51.
- Fried, L.P., Tangen, C.M., Walston, J., Newman, A.B., Hirsch, C., Gottdiener, J., Seeman, T., Tracy, R., Kop, W.J., Burke, G., McBurnie, M.A. & Cardiovascular Health Study Collaborative Research Group, 2001, 'Frailty in older adults: evidence for a phenotype', *Journal of Gerontology Series A*, 56(3), 146-156.
- Frost, J., Ranse, K. & Grealish, L., 2015, 'Assessing ageist behaviours in undergraduate nursing students using the Relating to Older People Evaluation (ROPE) survey', *Australasian Journal on Ageing*, 35(1), 58–61, viewed 19 July 2018, from <https://onlinelibrary.wiley.com/doi/epdf/10.1111/ajag.12260>.
- Fulop, T., Larbi, A., Witkowski, J.M., Mcelhaney, J., Loeb, M., Mitnitski, A. & Pawelec, G., 2010, Aging, frailty and age-related diseases, *Biogerontology*, 11, 547–563. <http://doi.org/10.1007/s10522-010-9287-2>
- Gholamzadeh, S., Khastavaneh, M., Khademian, Z. & Ghadakpour, S., 2018, 'The effects of empathy skills training on nursing students' empathy and attitudes toward older people people', *BMC Medical Education*, 18(198), 1–7, viewed 15 September 2018, from <https://doi.org/10.1186/s12909-018-1297-9>.
- Gould, O.N., MacLennon, A. & Dupuis-Blanchard, S., 2012, 'Career preferences of nursing students', *Canadian Journal on Aging/ La Revue canadienne du vieillissement*, 31(4), 471-482.
- Han, L., Gill, T.M., Jones, B.L., & Allore, H.G., 2016, 'Cognitive Aging Trajectories and Burdens of Disability , Hospitalization and Nursing Home Admission Among

- Community-living Older Persons', *Journal of Gerontology*, 71(6), 766–771.
<http://doi.org/10.1093/gerona/glv159>
- Haron, Y., Levy, S., Albagli, M., Rotstein R. & Riba, S., 2013, 'Why do nursing students not want to work in geriatric care? A national questionnaire survey', *International Journal of Nursing Studies*, 50, 1558–1565, viewed 16 July 2018, from <http://dx.doi.org/10.1016/j.ijnurstu.2013.03.012>.
- Henderson, J., Xiao, L., Siegloff, L. & Kelton, M., 2008, '"Older people have lived their lives": First year nursing students' attitudes towards older people', *Nurse*, viewed 9 May 2017, from <http://www.tandfonline.com/doi/abs/10.5172/conu.673.30.1.32>
- Henderson, A., Cooke, M., Creedy, D. & Walker, R., 2012, 'Nursing students' perceptions of learning in practice environments: a review', *Nurse Education Today*, viewed 9 May 2017, from <http://www.sciencedirect.com/science/article/pii/S0260691711000700>
- Hirst, S. & Lane, A., 2016, 'How do nursing students perceive the needs of older clients? Addressing a knowledge gap', *Journal of Geriatrics*, viewed 9 May 2017, from <http://downloads.hindawi.com/journals/jger/2016/7546753.pdf>
- Hovey, S., Dyck, M.J., Reese, C. & Kim, M., 2017, 'Nursing students' attitudes toward persons who are aged : An integrative review', *Nurse Education Today*, 49, 145–152. <http://doi.org/10.1016/j.nedt.2016.11.018>
- Howlett, S.E. & Rockwood, K., 2013, 'New horizons in frailty: ageing and the deficit-scaling problem', *Age Ageing*, 42(4), 416–423.
- Hughes, R.G., 2008, *Patient Safety and Quality*, Agency for Healthcare Research and Quality, Rockville, MD.
- Hweidi, I.M. & Al-obeisat, S.M., 2006, 'Jordanian nursing students ' attitudes toward the older people', *Nursing Education Today*, 26(1), 23–30.
<http://doi.org/10.1016/j.nedt.2005.06.003>
- Jarvis, P. & Watts, M.H., 2012, *The Routledge International Handbook of Learning*, Routledge, New York.
- Kadono, N. & Pavol, M.J., 2013, 'Effects of aging-related losses in strength on the ability to recover from a backward balance loss', *Journal of Biomechanics*, 46(1), 13–18.
- Kaur, S., Kumar, A., Kaur, B., Rani, B., Ghai, S. & Singla, M., 2014, 'Knowledge and Attitude Regarding Care of Older people Among Nursing Students: An Indian Perspective', *Journal of Nursing & Care*, 3(3), 1–6, viewed 20 July 2018, doi:10.4172/2167-1168.1000161.
- Kavlak, Y., Yildiz, S. & Tug, O.A., 2015, 'Nurses' Attitudes towards Older People: Report from a Single Institution Study', *International Journal of Physical Medicine and Rehabilitation*, 3(5), 1–6.
- Kiliç, D. & Adibelli, D., 2011, 'The validity and reliability of Kogan's attitude towards old people scale in the Turkish society', *Health*, 3(9), 602–608.
- King, B., Roberts, T. & Bowers, B., 2013, 'Nursing student attitudes toward and preferences for working with older adults', *Gerontology & Geriatrics*, viewed 18 July 2017, from <http://www.tandfonline.com/doi/abs/10.1080/02701960.2012.718012>
- Koehler, A.R., Davies, S., Smith, L.R., Hooks, T., Schanke, H., Loeffler, A., Carr, C. & Ratzlaff, N., 2016, 'Impact of a stand-alone course in gerontological nursing on undergraduate nursing students' perceptions of working with older adults: A Quasi-experimental study', *Nurse Education Today*, 46, 17–23.
- Koh, L., 2012, 'Student attitudes and educational support in caring for older people –

- a review of literature', *Nurse Education in Practice*, viewed 9 May 2017, from <http://www.sciencedirect.com/science/article/pii/S147159531100093X>
- Kolb, A. & Kolb, D., 2005, 'Learning styles and learning spaces: Enhancing experiential learning in higher education', *Academy of Management Learning & Education*, 4(2), 193-212, viewed 9 May 2017, from <http://amle.aom.org/content/4/2/193.short>
- Kolb, D., 2014, *Experiential learning: Experience as the source of learning and development*, viewed 9 May 2017, from https://books.google.com/books?hl=en&lr=&id=jpbeBQAAQBAJ&oi=fnd&pg=PR7&dq=kolb+1984+experiential+learning&ots=VmbOpV__Ka&sig=fkQ-EUn44m5upUW_xwToTkbY6r8
- Kulakçı, H., Ayyıldız, T.K., Aslan, G.K. & Veren, F., 2014, 'Attitudes of Turkish Nursing and Medical Students Toward Older People'. <http://doi.org/10.1177/1043659613515527>
- Kulakci, H., 2010, *Evaluation of nursing students' ideas and views about old age and ageing in the first and fourth year of baccalaureate program in nursing*, Dokuz Eylul University University School of Nursing, viewed 9 May 2017, from https://scholar.google.co.za/scholar?hl=en&q=Kulakci%2C+H.+%282010%29.+Evaluation+of+nursing+students'+ideas+and+views+about+old+age+and+agein+g+in+the+first+and+fourth+year+of+bacca-laureate+program+in+nursing.&btnG=&as_sdt=1%2C5&as_sdt
- Kydd, A., Touhy, T., Newman, D., Fagerberg, I. & Engstrom, G., 2014, 'Attitudes towards caring for older people in Scotland, Sweden and the United States', *Nursing Older People*, 26(2), 33–40, viewed 11 September 11 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/24576249>
- Lambrinou, E., Sourtzi, P., Kalokerinou, A. & Lemonidou, C., 2009, 'Nurse Education Today: Attitudes and knowledge of the Greek nursing students towards older people', *Nurse Education Today*, 29(6), 617–622. <http://doi.org/10.1016/j.nedt.2009.01.011>
- Lamet, A.R., Sonshine, R., Walsh, S.M., Molnar, M. & Rafalko, S., 2011. 'A pilot study of a creative bonding intervention to promote nursing students' attitudes towards taking care of older people', *Nursing Research and Practice*, 11, 1-6, viewed 28 August 2018, from <https://doi.org/10.1155/2011/537634>.
- Lee, S., 2014, 'Attitudes of nursing students toward older people', *The Journal of Korean Gerontological Nursing*, 16(1), 18–26, viewed 14 September 2018, from <http://dx.doi.org/10.17079/jkgn.2014.16.1.18>.
- Lin, F.R., Yaffe, K., Xia, J., Xue, Q.L., Harris, T.B., Purchase-Helzner, E., Satterfield, S., Ayonayon, H.N., Ferrucci, L., Simonsick, E.M. & Health ABC Study Group, 2013, 'Hearing loss and cognitive decline in older adults', *JAMA Internal Medicine*, 174(4), 293-299.
- Liu, Y., Norman, I. & While, A., 2013, 'Nurses' attitudes towards older people: A systematic review', *International Journal of Nursing Studies*, viewed 11 November 2017, from <http://www.sciencedirect.com/science/article/pii/S0020748912004233>
- Liu, Y., Norman, J. & While, A.E., 2015, 'Nurses' attitudes towards older people and working with older patients: an explanatory model', *Journal of Nursing Management*, 23, 965–973, viewed 11 Septmeber 2018, from <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jonm.12242>.
- Mandville-Anstey, S.A. & Foley V., 2014, 'Feature article: Nursing students'

- knowledge and attitudes toward caring for older adult', *Perspectives*, 37(2).
- Matarese, M., Lommi, M., Pedone, C., Alvaro, R. & De Marinis, M.G., 2013,. Nursing student attitudes towards older people: validity and reliability of the Italian version of the Kogan Attitudes towards Older People scale. *Journal of Advanced Nursing*, 69(1), 175-184, viewed 4 August 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/22681638>.
- Mattos, M., Jiang, Y., Seaman, J.B., Nilsen, M., Chasens, E. R. & Novosel, L.M., 2015, 'Baccalaureate nursing students' knowledge of and attitudes toward older adults', *Journal of Gerontological Nursing*, 41(7), 46–56. <http://doi.org/10.3928/00989134-20150429-01>
- McLaughlin, S.J., Connell, C.M., Heeringa, S.G., Li, L.W. & Roberts, J.S., 2010, 'Successful Aging in the United States: Prevalence Estimates From a National Sample of Older Adults', *The Journals of Gerontology Series B Psychological Sciences and Social Sciences*, 65B(2), 216–226. <http://doi.org/10.1093/geronb/gbp101>.
- Milanović, Z., Pantelić, S., Trajković, N., Sporiš, G., Kostić, R. & James, N., 2013, 'Age-related decrease in physical activity and functional fitness among older men and women', *Clinical Interventions in Aging*, 8, 549–556.
- Milutinović, D., Simin, D. & Kačavendić, J., & Turkul, V., 2015, 'Knowledge and attitudes of health care science students toward older people', *Medicinski*, viewed 11 November 2016, from <http://scindeks.ceon.rs/article.aspx?artid=0025-81051512382M>
- Mitnitski, A., Song, X. & Rockwood, K., 2013, 'Assessing biological aging: The origin of deficit accumulation', *Biogerontology*, 14(6), 709–717. <http://doi.org/10.1007/s10522-013-9446-3>
- Musafiri, J.J., 2015, 'Perceptions of Bachelor of Nursing students at a university in the Western Cape about clinical learning opportunities and competence regarding the administration of oral medication', Master's dissertation, University of the Western Cape.
- Neville, C., 2015, 'Undergraduate nurse attitudes toward older adults and perceptions of working with older adults: An analysis of measurement instruments', *Nurse Education Today*, 35(1), 183–188. <http://doi.org/10.1016/j.nedt.2014.09.001>
- Neville, C., 2016 'A cross-sectional view of Australian undergraduate nurses' perceptions of working with older people', *Collegian*, 23(3), 285–292. <http://doi.org/10.1016/j.colegn.2015.05.003>
- Neville, C. & Dickie, R., 2014, 'The evaluation of undergraduate nurses' attitudes, perspectives and perceptions toward older people', *Nurse Education Today*, 34(7), 1074–1079. <http://doi.org/10.1016/j.nedt.2014.04.018>
- Okuyan, C.B., Alkaya, S.A. & Sairanen, R., 2018. 'Finnish and Turkish Nursing students' attitudes toward the older people', *Journal of Gerontology and Geriatric Research*, 7(3), 476–479, viewed 14 July 2018, from <https://doi:10.4172/2167-7182.1000476>.
- Özer, Z.C. & Terkeş, N., 2014, 'Evaluation of nursing students' attitudes towards ageism in Turkey', *Procedia - Social and Behavioral Sciences*, 116, 2512–2515.
- Parsons, K., MacDonald, S., Hajek, A. & Moody, J., 2015, 'Increasing attitudes and interest in caring for older adults in first year nursing students using innovative teaching and learning strategies', *Journal of Nursing Education and Practice*, 5(9), 63-71. viewed 25 August 2018, from <http://www.sciedu.ca/journal/index.php/jnep/article/viewFile/6735/4354>.

- Peters, L., Cant, R., Payne, S. & O'Connor, M., 2013, 'How death anxiety impacts nurses' caring for patients at the end of life: a review of literature', *The Open Nursing Journal*, viewed 9 May 2017, from <https://benthamopen.com/FULLTEXT/TONURSJ-7-14>
- Polit, D.F. & Beck, C.T., 2012, *Nursing Research: Generating and Assessing Evidence for Nursing Practice*, 9th edn., Lippincott, Williams & Wilkins, Philadelphia.
- Poreddi, V., Carpenter, B.D., Gandhi, S., Chandra, R. Gandhi, S., Badamath, S., 2015, 'Knowledge and attitudes of undergraduate nursing students toward dementia: An Indian perspective', *Investigación y Educación en Enfermería*, 33(3), 519-528.
- Potter, G., Clarke, T, Hackelt, S., Little, M (2013), 'Nursing students and geriatric care: The influence of specific knowledge on evolving value, attitudes and actions', *Nurse Education in Practice*, 13(5), 449-453.
- Rathnayake, S., Athukorala, Y. & Siop, S., 2016, 'Attitudes toward and willingness to work with older people among undergraduate nursing students in a public university in Sri Lanka: A cross sectional study', *Nurse Education Today*, 36, 439–444, viewed 16 July 2018, from <http://dx.doi.org/10.1016/j.nedt.2015.10.007>
- Republic of South Africa, 2006, *No. 13 of 2006: Older Persons Act, 2006*. Government Gazette, No. 29346, Vol. 497 Cape Town.
- Rispel, L.C., Blaauw, D., Chirwa, T. & De Wet, K., 2014, 'Factors influencing agency nursing and moonlighting among nurses in South Africa', *Global Health Action*, 7, viewed 25 April 2015, from <http://www.globalhealthaction.net/index.php/gha/article/view/23585>.
- Ritchie, J., Lewis, J., Nicholls, C. & Ormston, R., 2013, *Qualitative research practice: A guide for social science students and researchers*, viewed 11 July 2017, from <https://books.google.co.za/books?hl=en&lr=&id=EQSIAwAAQBAJ&oi=fnd&pg=P1&dq=Ritchie,+J.,+Lewis,+J.,+Nicholls,+C.M.+and+Ormston,+R.+eds.,+2013.+Qualitative+research+practice&ots=IZXOewVy3S&sig=Ch8bjppGcOAomrpViN JUw0YMEGM>
- Sanderson, W.C. & Scherbov, S., 2010, 'Demography. Remeasuring aging', *Science*, 329(5997), 1287-1288.
- Santanasto, A.J., Goodpaster, B.H., Kritchevsky, S.B., Miljkovic, I., Satterfield, S., Schwartz, A.V, ... Hall, A.C., 2017, 'Body composition remodeling and mortality : the health aging and body composition study', *Journals of Gerontology: Series A*, 72(4), 513–19. <http://doi.org/10.1093/gerona/glw163>
- Shakwane, S., 2014, 'Socio-cultural perceptions of nursing and its influence on the recruitment and retention of males student nurses in Nursing Education Institutions (NEIs), KwaZulu Natal Province', University of South Africa, Pretoria, <<http://hdl.handle.net/10500/19170>>
- Shen, J. & Dongxia, L., 2012, 'Factors affecting nursing students' intention to work with older people in China', *Nurse Education Today*, 32(3), 219–223. <http://doi.org/10.1016/j.nedt.2011.03.016>
- Söderhamn, O., Lindencrona, C. & Gustavsson, S.M., 2016, 'Attitudes toward older people among nursing students and registered nurses in Sweden', *Nurse Education Today*, 21, 225–229. <http://doi.org/10.1054/nedt.2000.0546>
- Statistics South Africa, 2011, 'South Africa', *Africa Research Bulletin: Political, Social and Cultural Series*, 48(3), 18766B-18766B.
- Statistics South Africa, 2014, *Census 2011: Profile of older persons in South Africa*,

- viewed 11 July 2017, from <http://www.statssa.gov.za/publications/Report-03-01-60/Report-03-01-602011.pdf>
- Stevens, J., 2011, 'Student nurses' career preferences for working with older people: A replicated longitudinal survey', *International Journal of Nursing Studies*, viewed 11 July 2017, from <http://www.sciencedirect.com/science/article/pii/S002074891100023X>
- Strugala, M., Talarska, D. & Wysocki, J., 2016, 'Attitudes towards the older people among nursing students in Poland: Initial findings', *Journal of Gerontology & Geriatric Research*, 5(1), 1–8, viewed 25 August 2018, from <http://dx.doi.org/10.4172/2167-7182.1000279>.
- Struwig, F.W. & Stead, G.B., 2013, *Planning, designing and reporting research*, viewed 17 December 2016 from https://scholar.google.co.za/scholar?q=Struwig%252C+F.W.%252C+and+Stead%252C+G.B.%252C+2013.+Planning%252C+designing+and+reporting+research.&btnG=&hl=en&as_sdt=0%252C5
- Tauber-Gilmore, M., Addis, G., Zahran, Z., Black, S., Baillie, L., Procter, S. & Norton, C., 2018, 'The views of older people and health professionals about dignity in acute hospital care', *Journal of Clinical Nursing*, 27(2), 223–234, viewed 3 November 2018, from <https://onlinelibrary.wiley.com/doi/full/10.1111/jocn.13877>.
- Tolson, D., Morley, J., Rolland, Y. & Vellas, B., 2011, 'Advancing nursing home practice: the International Association of Geriatrics and Gerontology Recommendations', *Geriatric Nursing*, viewed 29 September 2016, from <http://www.sciencedirect.com/science/article/pii/S0197457211001364>
- Usta, Y.Y., Demir, Y., Yo'nder, M. & Yildiz, A., 2012, 'Nursing students' attitudes toward ageism in Turkey', *Archives of Gerontology and Geriatrics*, 54, 90–93.
- Walsh, K. & Shutes, I., 2013, 'Care relationships, quality of care and migrant workers caring for older people', *Ageing and Society*, viewed 11 July 2017, from http://journals.cambridge.org/abstract_S0144686X11001309
- Wang, Y.H. & Wu, I.C., 2009, 'Achieving high and consistent rendering performance of java AWT/Swing on multiple platforms', *Software - Practice and Experience*, 39(7), 701–736. <http://doi.org/10.1002/spe>
- Wehrberger, C., Madersbacher, S., Jungwirth, S., Fischer, P. & Tragl, K.H., 2012, 'Lower urinary tract symptoms and urinary incontinence in a geriatric cohort - a population-based analysis', *BJU International*, 110(15), 1516–1521, viewed 26 July 2018, from <https://www.ncbi.nlm.nih.gov/pubmed/22409717>.
- World Health Organization, 2015, *The growing need for home health care for the older people: Home health care for the older people as an integral part of primary health care services*, World Health Organization, Geneva.
- Zhang, X., Wan, C., Cheung, R. & Shen, G.Q., 2012, 'Recycling attitude and behaviour in university campus: a case study in Hong Kong. *Facilities*, 30(13/14), 630–646, viewed date, from <http://www.emeraldinsight.com/doi/pdf/10.1108/02632771211270595>
- Zisberg, A., Topaz, M. & Band-Wintershtein, T., 2014, 'Cultural- and educational-level differences in students' knowledge, attitudes, and preferences for working with older adults', *Journal of Transcultural Nursing*, 26(2), 193–201.
- Zisberg, A., Topaz, M. & Band-Wintershtein, T., 2015, 'Cultural- and Educational-Level Differences in Students Knowledge, Attitudes, and Preferences for Working With Older Adults: An Israeli Perspective', *Journal of Transcultural*

Nursing, 26(2), 193–201, viewed 20 July 2018, from
<http://journals.sagepub.com/doi/pdf/10.1177/1043659614526252>.
Zverev, Y., 2013, 'Attitude towards older people among Malawian medical
and nursing students', *Educational Gerontology*, 39(1), 57–66, viewed 13
September 2018, from <<https://doi.org/10.1080/03601277.2012.660869>>



APPENDIX

Appendix I: Self-administered questionnaire

KNOWLEDGE ABOUT AGEING AND ATTITUDES TOWARDS CARING FOR OLDER PEOPLE AMONG
UNDERGRADUATE NURSING STUDENTS IN THE WESTERN CAPE

SECTION A: Demographic data

Please tick appropriate box

1. Gender

- Male: ()
- Female: ()

2. How old are you?

3. Race

- Black: ()
- White: ()
- Coloured: ()
- Other: ()

4. Academic year

- Foundation year 1: ()
- Foundation year 2: ()
- First year: ()



- Second year: ()
- Third year: ()
- Fourth year: ()

5. Previous experience with working with older people

- Yes: ()
- No: ()

6. Do you have older people in the family?

- Yes: ()
- No: ()

7. What is your religion?



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8. Do you have any intention of working with older people upon graduation?

- Yes: ()
- No: ()

SECTION B: Knowledge about the ageing process as measured by Facts on Aging Quiz

Please tick appropriate letter (T = true, F = false)

| | Item of the scale | True | False |
|--|-------------------|------|-------|
|--|-------------------|------|-------|

| | | | |
|-----|--|--|--|
| 9. | The majority of old people (past 65 years) have Alzheimer's disease. | | |
| 10. | The five senses (sight, hearing, touch, smell and taste) all tend to weaken in old age. | | |
| 11. | The majority of old people have no interest in, nor capacity for sexual relations. | | |
| 12. | Retirement is often detrimental to health, e.g. people frequently seem to become ill or die soon after retirement. | | |
| 13. | The majority of old people are bored. | | |
| 14. | Physical strength tends to decline in old age. | | |
| 15. | Most of old people are living in nursing homes. | | |
| 16. | Older drivers are quite capable of safely operating a motor. | | |
| 17. | Older workers cannot work as effectively as younger workers. | | |
| 18. | Memory loss is a normal part of ageing. | | |
| 19. | Older people do not adapt as well as younger age group when they relocate to a new environment. | | |
| 20. | It is very difficult for older adults to learn new things. | | |
| 21. | Older females exhibit better healthcare practices than older males. | | |
| 22. | The bladder capacity decreases with age, which leads to frequent urination. | | |
| 23. | Older adults are less anxious about death than are | | |



| | | | |
|-----|--|--|--|
| | younger and middle-aged adults. | | |
| 24. | The modern family no longer takes care of its older people. | | |
| 25. | A person's height tends to decline in old ages | | |
| 26. | Grandparents today take less responsibility bringing up grandchildren than ever before. | | |
| 27. | Personality changes with ages | | |
| 28. | As people live longer they face fewer acute conditions and more chronic health conditions. | | |
| 29. | Participation in volunteering through an organisation (e.g. churches and clubs) tends to decline among older adults. | | |
| 30. | Old people tend to become more spiritual as they age. | | |
| 31. | Older people have more trouble sleeping than younger adults do. | | |
| 32. | Older people take longer to recover from physical and psychological stress. | | |
| 33. | As people grow older their intelligence declines. | | |

SECTION C: Attitudes towards older people measured by Kogan's Older people Scale.

Rating: 1= strongly agree to 5 = strongly disagree (Tick appropriate box)

| | ITEM OF THE SCALE | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 34. | It would probably be better if most old people lived in residential units with people their own age. | | | | | |
| 35. | It would probably be better if most people lived in residential units with younger people. | | | | | |
| 36. | Most old people are hard to understand. | | | | | |
| 37. | Most old people are easy to understand. | | | | | |
| 38. | Most old people get set in their ways and are unable to change. | | | | | |
| 39. | Most old people are capable of new adjustments when the situation demands it. | | | | | |
| 40. | The older people prefer to quit work as soon as possible. | | | | | |
| 41. | The older people prefer to work as long as they can. | | | | | |
| 42. | Most old people tend to let their homes become shabby and unattractive. | | | | | |
| 43. | Most old people can generally be counted on to maintain a clean, attractive home. | | | | | |

| | | | | | | |
|-----|---|--|--|--|--|--|
| 44. | It is foolish to claim that wisdom comes with age. | | | | | |
| 45. | People grown wiser with coming of old age. | | | | | |
| 46. | Most old people should have less power in society. | | | | | |
| 47. | Most old people should have more power in society | | | | | |
| 48. | Most old people like interfering into the affairs of others | | | | | |
| 49. | Most old people respect others' privacy | | | | | |
| 50. | Most old people Irritate others | | | | | |
| 51. | Old people make mistakes like anyone else | | | | | |
| 52. | In order to maintain a nice residential neighbourhood, it would be best if too many old people did not live in it. | | | | | |
| 53. | You can count on finding a nice residential neighbourhood when there is a sizeable number of old people living in it. | | | | | |
| 54. | There are a few exceptions, but in general most old people are pretty much alike. | | | | | |
| 55. | It is evident that most old people are very different from one another. | | | | | |
| 56. | Most old people should be more concerned with their personal appearance; they're too untidy. | | | | | |
| 57. | Most old people seem quite clean and neat in their personal appearance | | | | | |

| | | | | | | |
|---|--|--|--|---------------------------|---|--|
|  | 58. Most old people are irritable, grouchy, and unpleasant. | | | STUDENT ADMINISTRATION |  | |
| 59. | Most old people are cheerful, agreeable, and good humoured. | | | | | |
| 60. | Most old people are constantly complaining about the behaviour of the younger generation. | | | | | |
| 61. | One seldom hears old people complaining about the behaviour of the younger generation. | | | | | |
| 62. | Most old people make excessive demands for love and reassurance than anyone else | | | | | |
| 63. | Most old people need no more love and reassurance than anyone else. | | | | | |
| 64. | Most older people make one feel ill at ease. | | | | | |
| 65. | Most older people are very relaxing to be with. | | | | | |
| 66. | Most old people bore others by their insistence on talking about "the good old days". | | | | | |
| 67. | One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences. | | | | | |



Appendix II: University permission

Administration Building, 1st Floor

ashaikjee@uwc.ac.za, nschoeman@uwc.ac.za
021 959 2110

9 March 2017

Dear Beata Twagiramariya

RE: PERMISSION TO CONDUCT RESEARCH AT THE UNIVERSITY OF THE WESTERN CAPE

As per your request, we acknowledge that you are in the process of obtaining the necessary permissions and ethics clearances and are welcome to conduct your research as outlined in your proposal and communication with us. Please note that this permission is subject to you obtaining permission from the Ethics Committee of the University.

Please note that while we give permission to conduct such research (i.e. interviews and surveys) staff and students at this University are not compelled to participate and may decline to participate should they wish to.

Should you wish to make use of or reference to the University's name, spaces, identity, etc. in any publication/s, you must first furnish the University with a copy of the proposed publication/s so that the University can verify and grant permission for such publication/s to be made publicly available.

Should you require any assistance in conducting your research in regards to access to student contact information please do let us know so that we can facilitate where possible.

Yours sincerely

DR AHMED SHAIKJEE
MANAGER: STUDENT ADMINISTRATION
OFFICE OF THE REGISTRAR

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06 March 2017

Ms B Twagiramariya
School of Nursing
Faculty of Community and Health Sciences

Ethics Reference Number: HS17/1/39

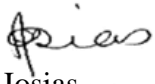
Project Title: Knowledge about ageing and attitudes towards caring for older people among undergraduate nursing students in the Western Cape.

Approval Period: 2 March 2017 – 2 March 2018

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval. Please remember to submit a progress report in good time for annual renewal.

The Committee must be informed of any serious adverse event and/or termination of the study.



Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Appendix IV Informed Consent



UNIVERSITY OF THE WESTERN CAPE

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INFORMATION SHEET

I hereby invite you to participate in a study, there will be a fair selection of the participants and your rights associated with research participation will be protected. The study will be explained to you and you will have opportunities to ask questions.

Project Title: Knowledge about ageing and attitudes towards caring for older people among undergraduate nursing students in the Western Cape

What is this study about?

This is a research project being conducted by Beata Twagiramariya at the University of the Western Cape. We are inviting you to participate in this research project because you are a registered as a BCur nursing student and you fall under the population of interest of my study. The purpose of this research project is to examine the undergraduate nursing students' knowledge of the ageing process and their attitudes towards caring for older people.

What will I be asked to do if I agree to participate?

You will be asked to give the information related to your gender, race, religion and age, nationality, academic year, previous experience of working with older people, your intention to work with older

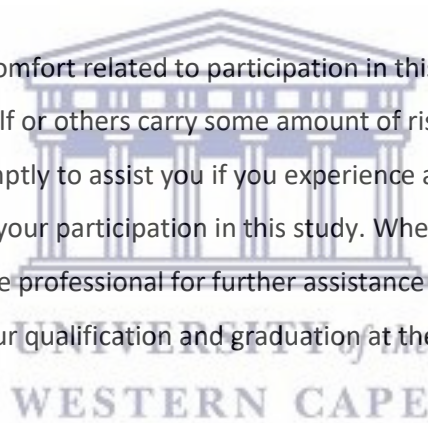
people, you also be asked about general knowledge about ageing as well as your attitude towards caring for older people. The survey will take plus/minus 25 minutes.

Would my participation in this study be kept confidential?

Your information will be kept confidential. To help protect your confidentiality, the completed form will be kept in a safe and lockable cupboard. The anonymity will be guaranteed as your name will be omitted on the questionnaire and will be protected in data analysis using the codes. The access to your identification key will be reserved only to the researcher. You have the right to determine the extent to which your private information can be shared or protected from others. The collected data will be published without mentioning your name and the name of your institution. If we write a report or article about this research project, your identity will be protected.

What are the risks of this research?

There are no known risks or discomfort related to participation in this study. However all human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention. The results of this project will not influence your qualification and graduation at the end of the fourth year.



What are the benefits of this research?

There will be no money to pay you for your participation, however the findings be used to assist in identifying deficits in the nursing curriculum and be utilised to develop short courses and improve training for nurses who may go on to work in the gerontological field. The curriculum can be developed and formatted in a way that nurtures positive attitude towards caring for old people. The findings can also be used as a comparison tool to identify how nursing students' knowledge and attitudes towards caring for old people compares with students from other countries

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not

to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by This research is being conducted by Mrs Beata Twagiramariya at the University of the Western Cape. If you have any questions about the research study itself, please contact

Researcher: Beata Twagiramariya

School of Nursing

University of the Western Cape

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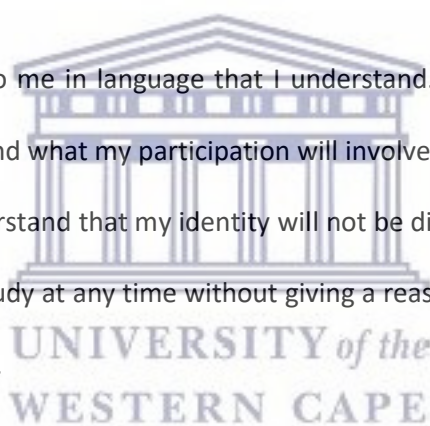
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CONSENT FORM

Title of Research Project: Knowledge about ageing and attitudes towards caring for older people among undergraduate nursing students in the Western Cape

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.



Participant's name.....

Participant's signature.....

Date.....

Appendix V Editor

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11 November 2018

Declaration of language editing of mini-thesis:

Undergraduate nursing students at a university of the Western Cape's knowledge of ageing and attitudes towards caring for older people

submitted in partial fulfilment of the requirements for the degree of Magister Curationis in the
School of Nursing, Faculty of Community and Health Sciences, University of the Western Cape

By Beata Twagiramariya

I hereby declare that I carried out language editing of the above thesis on behalf of the author.

I am a professional writer and editor with many years of experience (e.g. 5 years on *SA Medical Journal*, 10 years heading the corporate communication division at the South African Medical Research Council), who specialises in Science and Technology editing - but am adept at editing in many different subject areas.

I am a full member of the South African Freelancers' Association as well as of the Professional Editors' Association.

Yours sincerely

LEVERNE GETHING

leverne@eject.co.za

Appendix VI Permission SoN



School of Nursing
Faculty of Community and Health
THE UNIVERSITY OF THE WESTERN CAPE

13 March 2017

Dear Beata Twagiramariya (3105359)

RE: PERMISSION TO CONDUCT RESEARCH AT THE UNIVERSITY OF THE WESTERN CAPE

As per your request, we acknowledge that you have obtained all the necessary permissions and ethics clearances (HS17/1/39) and are welcome to conduct your research as outlined in your proposal and communication with the School of Nursing.

Please note that while we give permission to conduct such research (i.e. interviews and surveys) staff and students at this School are not compelled to participate and may decline to participate should they wish to.

Should you wish to make use of or reference to the School's name, spaces, identity, etc. in any publication/s, you must first furnish the School with a copy of the proposed publication/s so that the School can verify and grant permission for such publication/s to be made publicly available.

Should you require any assistance in conducting your research in regards to access to student contact information please do let us know so that we can facilitate where possible.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jennifer Chipps'.

A/Prof Jennifer Chipps
A/Director School of Nursing
Faculty of Community and Health
THE UNIVERSITY OF THE WESTERN CAPE

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Facts on Aging Quiz

Revised by Linda Breyspraak¹, Ph.D., and Lynn Badura, B.A., Grad. Gerontology Certificate
Gerontology Program
University of Missouri-Kansas City
2015

There have been a number of versions of quizzes on aging, patterned after Erdman Palmore's landmark "Facts on Aging Quiz" that appeared in two issues of *The Gerontologist* (1977; 1981). The initial version developed at UMKC was authored by Linda Breyspraak, Ph.D., Burton Halpert, Ph.D., and Liz Kendall, M.A. The current revision of that initial version was authored by Lindsay Breyspraak, PhD, and Lynn Badura, B.A., Graduate Certificate in Gerontology.

About half the items in the current quiz are similar or identical to Palmore's. The other half represent issues that have received more attention since his quiz was developed or were judged by the authors to be of significant interest now. This 2015 revision has all the same questions as the original version with a few small wording changes in several items. The authors have drawn on current research and gerontological and geriatric texts to answer the questions. We provide a reference list, divided into (1) general sources and (2) sources used to document data or specific trends discussed in answers to particular questions.

The authors of the 2015 version grant permission for anyone to use the Facts on Aging Quiz for educational purposes as long as credit is given using the following citation:

Breyspraak, L. & Badura, L. (2015). *Facts on Aging Quiz* (revised; based on Palmore (1977; 1981)). Retrieved from <http://info.umkc.edu/aging/quiz/>.