

**SHORT TERM OUTCOMES OF AN HIV AND AIDS  
MEDICAL EDUCATION PARTNERSHIP INITIATIVE  
(MEPI) CLINICAL PROGRAMME FOR NURSING  
STUDENTS IN A SELECTED SITE: A DESCRIPTIVE  
EVALUATION STUDY**

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**(MN-CH)**

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**2015**

## DECLARATION

This dissertation represents the original work of the author and it has never been submitted before for any degree or examination in any other university. All references used have been acknowledged by means of referencing.

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Date

This dissertation has been read and approved for submission.

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## **DEDICATION**

This work is dedicated with love to my family and my late mother, Mrs Tholiwe Berlina Dunywa, My wonderful and loving husband, Solomuzi Ngcobo. As well as my three dearest girls: Owethu, Khethelo & Zibusiso.

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## **ABSTRACT**

### **Background**

HIV/AIDS education and training in nursing generally has been inadequate and has not been formalised. As a result, it places nurses in a challenging situation when they have to nurse HIV/AIDS infected individuals in their care, because they often have knowledge deficit. Medical Partnership Education Initiative (MEPI) has innovated strategies to combat such lack and deficit in HIV knowledge for undergraduate nursing students.

### **Objectives**

The objective of the study was to describe the demographic profile of the MEPI HIV and AIDS clinical programme recipients, as well as to describe the short term outcomes of the programme and participants' perception of the HIV and AIDS clinical programme as presented through MEPI programme.

### **Methods**

A quantitative approach was employed for this evaluation study using an adapted research instrument from the University of Wisconsin-Extension called G3658-11Collecting Evaluation data: End-of-Session Questionnaires. SPSS version 23 was used to analyze data, using descriptive statistics and open ended questions were subjected to content analyses and themes were formulated.

### **Results**

The population size was N=133, and the majority of the programme recipients' were African (n=109; 81.9 per cent), females (n=110; 82.7 per cent), from South Africa (n=127, 95.5 per cent). The age of participants ranged between a minimum of 17 years (n=1, 0.8 per cent) to a

maximum of 45 years (n=1, 0.8 per cent) and an average age was 22 years (n=37, 27.8 per cent). Participants were either in the 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> year of study, with 1 to 3 years of exposure to the programme.

The majority (n=116; 87.5 per cent) of nursing students across all study levels gained theoretical HIV and AIDS knowledge, in topics such as HIV transmission, HIV diagnosis (n=109; 82.5 per cent), HIV prevention strategies (n=118; 88.4 per cent), stages of HIV and Stage monitoring (n=106; 80 per cent), (n=118; 88.7 per cent) are knowledgeable on pre and post HIV counselling. (n=125, 93.7 per cent) of students gained HIV related skills competency including conducting a rapid HIV test, and (n=111, 83.1 per cent) could interpret and issue such results accurately. Furthermore (n=99; 74.2 per cent) of the students reported changes in attitudes and beliefs as a results of attending the programme, yet (n=34; 25.8 per cent) reported no changes. Students possessed conflicting attitudes towards HIV and AIDS. They reported positive attitudes towards people living with HIV and AIDS (n=126; 95 per cent) yet grossly negative attitudes were also reported especially when in reference to HIV/AIDS was removed from the health care setting.

### **Recommendations**

HIV and AIDS content to be increased in all levels within the undergraduate curriculum so that nursing students may graduate with core HIV and AIDS clinical. Nurse educators also need to receive HIV and AIDS education in order to allow transfer of knowledge from them to students.

### **Conclusion**

Nursing students from have benefited momentarily from the MEPI HIV and AIDS clinical programme activities and has contributed to the nursing students' academic, professional and

personal development. The need to include and expand the HIV and AIDS content within the nursing curriculum is vital as this evaluation study findings suggests.

Key words: *MEPI; HIV/AIDS; nursing students; MEPI HIV and AIDS Clinical programme; short-term evaluation*

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## **ACRONYMS AND ABBREVIATIONS**

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
BN	Bachelor of Nursing
CINAHL	Cumulative Index to Nursing and Allied Health Literature
CIPP	Context, Input, Process and Product Evaluation model
DoH	Department of Health
ERIC	Educational Resource Information Centre
HCT	HIV counselling and testing
HIV	Human Immunodeficiency Virus
MEPI	Medical Education Partnership Initiative
NEPI	Nursing Education Partnership Initiative
NiMART	Nurse initiated Management of Anti-retroviral therapy
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
SADC	Southern African Development Community.
SANC	South African Nursing Council
UKZN	University of KwaZulu Natal
UNAIDS	Joint United Nations Programme on HIV/ Acquired Immune Deficiency Syndrome
UNICEF	United Nations International Children's Emergency Fund
USA	United States of America
WHO	World Health Organization

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background to the evaluation problem**

Globally, there are approximately 35 million people currently living with Human Immunodeficiency Virus (HIV) and tens of millions of people have died of Acquired Immune Deficiency Syndrome (AIDS)-related causes since the beginning of the epidemic, in 1981 (UNAIDS, 2013). As of 2009 the HIV and AIDS prevalence was estimated to be at 33.3 million in the global population (*Worldwide AIDS & HIV Statistics*, 2009) which demonstrated an increase in the numbers involved in the epidemic. HIV infection and AIDS have emerged as one of the most serious public health problems in the world (Akansel, Aydin, Özdemir;& Töre , 2012) since HIV not only affects the health of individuals, but also impacts negatively on households, communities, and on the development and economic growth of nations. Many of the countries hardest hit by HIV also suffer from other infectious diseases, food insecurity, and other serious problems (WHO, 2014).

While the World Health Organisation's statistics showed that the global HIV prevalence rate in 2013 was 0.8 per cent, which had leveled off since 2001 (WHO, 2014), denoting that the epidemic was stabilising, many people continue to be affected. There is evidence that the population age group that is primarily affected by HIV and AIDS is those who are in their most productive years (UNAIDS, 2014), while women represent half (50 per cent) of all adults living with HIV worldwide. Younger women especially, are biologically more

susceptible to HIV (UNAIDS, 2014). Globally, there were 3.2 million children living with HIV in 2013 (UNAIDS, 2014).

Even though global HIV mortality rate has shown a decline, by 35 per cent from 2005 (UNAIDS, 2013), HIV and AIDS is still a leading cause of death worldwide and the number one cause of death in Africa (WHO, 2014). The decline in global HIV mortality rate is largely due to an increased scaling-up of anti-retroviral treatment (ART) programmes (WHO, 2014), in response to the World Health Organization's (WHO) call, to the global community to provide ART as part of the maintenance of social justice and basic human rights (Relf, Mekwa, Chasokela, Nhlengethwa, Letsie, Mtengezo, Ramantele, Diesel, Booth, Deng & Mallinson, 2011). This initiative was achieved by establishing the goal of targeting 3 million persons from resource-limited settings to be on ART by the end of 2005 (known as the '3 by 5' initiative). Similarly, the 'all by 2010' pledge aimed to ensure universal access to ART for all who need it by 2010 (WHO, UNAIDS, & UNICEF 2008).

According to UNAIDS (2008), HIV has reduced life expectancy by more than 20 years and it is the leading cause of death among women of reproductive age (UNAIDS, 2014). While the global HIV incidence rate has declined by 38 per cent since 2001 (UNAIDS, 2014) the total global AIDS deaths amongst children in 2013 was still high at 190,000 (UNAIDS, 2014).

In addition, approximately 40 per cent of new infections are among those under the age of 25. Young people, between the ages of 15-24, account for approximately 33 per cent of new HIV infections.

While new cases of HIV have been reported in all regions of the world, approximately 68 per cent are in the sub-Saharan Africa region (UNAIDS, 2014). This confirms UNAIDS' (2008) findings which revealed that The South Africa Development Community (SADC) countries

are the most severely affected by the epidemic since it comprises of two thirds of the global HIV population. South Africa is the leading country with the highest number of people living with HIV and AIDS in the sub-Saharan Africa region, followed by Nigeria. There is an estimated 24.7 million people living with HIV and AIDS in sub-Saharan Africa alone, nearly 71 per cent of the global total (UNAIDS, 2013). Ten countries— Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe—account for per cent of all people living with HIV in the region and half of those are in only two countries—Nigeria and South Africa. There are also more women living with HIV in sub-Saharan Africa than HIV-positive men: women account for 58 per cent of the total number of people living with HIV (UNAIDS, 2013), young women are twice more likely to become infected with HIV than their male counterparts.

Nurses have been the backbone of the ART programme; this has been attested to by a study conducted by Coovardia, Jewkes, Barron, Sanders, & McIntyre (2009), which concluded that nurses have always being the backbone of the health care system especially in the developing world. This places the nursing category of health care system workforce at the forefront in the in the fight against the HIV and AIDS epidemic. According to Williams, Wang, Burgess, Wu, Gong, & Li (2006), nurses have been providing care to those infected with the virus ever since the first cases of HIV and AIDS were diagnosed. It is therefore imperative that the nurses (both practicing and those who are still in training) possess a high level of competency and the capacity to render appropriate contextual HIV and AIDS care aimed at prevention, and treatment services (Relf et al., 2011). Additionally, the World Health Organisation has made a call for nurses to be trained in HIV and AIDS care, in response to the epidemic, since the South African health care system suffers from shortages of staff whereby the physician population ratio is at 8 per 10,000 (WHO, 2009). Nurses are obliged to facilitate HIV and



AIDS care and such appropriate care includes not only theoretical bases but also clinical competency skills which are of equal importance in HIV and AIDS-based nurse training at undergraduate and post graduate levels. A shift of focus towards nursing curriculum is critical in order to ascertain whether a graduate nurse is fully prepared to respond to current HIV and AIDS care demands or not.

Several studies have been conducted around the world focusing on the nursing curriculum with regards to HIV and AIDS, and major gaps have been identified regarding content contained in the nursing programme curriculum. Literature reveals that HIV and AIDS care have always had grey areas whereby care providers (nurses) had inconsistencies in their knowledge. The findings of a study by Babu, Mali, & Shinde (2014) concluded that care providers had inadequate knowledge regarding non-curative care of terminally ill patients, but the planned educational programme for non-curative terminally ill patients was highly effective in improving the knowledge of care givers regarding caring for the terminally ill patients. Additionally, a study by Relf, Laverriere, Devlin, & Salerno (2009) indicated that a number of student nurses possess attitudes and beliefs that are not reflective of the codes of ethics provided to guide nursing care within the United States and South Africa, which might be an indication that there is a lack of confidence in handling the patients' care. Such lack of confidence, others have argued, might be brought about through fear, which could be induced by inadequate knowledge of the disease itself in terms of its pathology and its progression (Relf et al., 2009). A study conducted among nurses of knowledge about HIV and AIDS, by Agrawal, Saoji & Kasturwar (2013), concluded that some of the nurses had no idea about mode of transmission of HIV and AIDS, and almost 34 per cent of study subjects did not know the term Post exposure prophylaxis. Seventeen per cent incorrectly believed that HIV/AIDS can be completely cured. Two per cent still wrongly believed that HIV and AIDS

can be prevented by vaccination, surprisingly, 9.5 per cent of the respondents believed that HIV could be spread through mosquitoes. Such findings demonstrate that nurses' knowledge on HIV and AIDS was inaccurate and insufficient for future work in the health care sector. There is therefore, a need for emphasis on HIV and AIDS course content, as well as clinical skills acquisition. Such education should be for all nurses, and it should be incorporated into the nursing curriculum by nurse educational and training institutions in order to strengthen and deliver appropriate and effective HIV and AIDS care.

The current nursing curriculum in many institutions have not been revised for some time so that an out-dated curriculum is being followed which does not include a sufficient amount of HIV and AIDS content to efficiently and fully equip nurses with adequate knowledge and clinical competency for HIV and AIDS care (Mill, Caine, Arneson, Maina, De Padua, & Dykeman, 2014). In the world there are only two countries that have included HIV and AIDS as part of the core in the nursing curriculum, namely Canada and America (*Association of Nurses in AIDS Care*, 2010; the *Canadian Association for Nurses in AIDS Care*, 2013). There is no documentation of professional credentialing of any HIV and AIDS-based course in South Africa by the South African Nursing Council, yet according to Relf, Berger, Crespo-Fierro, Mallinson, & Miller-Hardwick (2004), validation of relevant knowledge, skills, and initial competence in HIV and AIDS nursing sphere, is of key importance.

The human resources insufficiencies within the health care sphere resulted in the expansion of the nurses' role in the context of HIV and AIDS care (Relf et al., 2011). Nurses have been very involved in response to the World Health Organisation's concept of task- shifting, which was introduced in 2004 (World Health Organisation: 2004). Basically, tasks that were

traditionally performed by doctors have been shifted to nurses to perform in provision of HIV and AIDS care.

Nurse' training and education in HIV and AIDS care provision is therefore essential in order to ensure that competent nurse graduates are produced, who will be effective in response to the country's needs with regards to HIV and AIDS care provision. It is hoped that such a cadre of nurses will be able to cope independently with how to control, manage, and prevent complications arising from the HIV/AIDS epidemic.

HIV and AIDS care training of students in the undergraduate nursing programme at the University of KwaZulu-Natal has taken place, through the Medical Education Partnership Initiative (MEPI) project as a supplement to the existing HIV/AIDS content-based curriculum required in the Bachelor of Nursing (BN) programme in the discipline of Nursing. MEPI strives to enhance HIV and AIDS education within the University of KwaZulu Natal. There is therefore a need to evaluate the Medical Education Partnership Initiative (MEPI) clinical programme, in order to determine whether it is producing the outcomes it is meant to produce in the short term, or not.

## **1.2 Background of a MEPI project**

The Medical Education Partnership Initiative (MEPI) and Nursing Education Partnership Initiative (NEPI) are innovative approaches to strengthening the academic and clinical training of physicians and nurses in Sub-Saharan African countries, which are heavily burdened by HIV/AIDS. Initiated in the year 2010 through the U.S. President's Emergency Plan for AIDS Relief with the National Institutes of Health, the project aims are (a) investment in suitable curricula, (b) provision of innovative learning technologies, (c) clinical mentoring, and (d) research opportunities thereby providing a strong base to advanced high-

quality education for growing numbers of urgently needed new physicians and nurses. The MEPI and NEPI focus on strengthening learning institutions is central to the vision for expanding the pool of health professionals to meet the full range of a country's health needs. A robust network of exchange between education institutions and training facilities, both within and across countries, is transforming the quality of medical education and augmenting a platform for research opportunities for faculty and clinicians, which also serves as an incentive to retain professionals in the country. Excellence in patient care and a spirit of professionalism, core to MEPI and NEPI, provide a strong foundation for the planning and delivery of health services in participating countries (Goosby & von Zinkernagel, 2014).

The University of KwaZulu-Natal is amongst a few universities in Africa that were awarded the MEPI grant. The grant was shared between seven schools within the University, one of which was the school of Nursing and Public Health where the discipline of nursing is located. Within the nursing discipline the MEPI project was instituted and various projects focusing on HIV and AIDS education were implemented, especially in the undergraduate programme. The MEPI HIV and AIDS clinical programme is elaborated on below:

### **1.3 HIV and AIDS MEPI CLINICAL PROGRAMME AT THE SELECTED SITE**

#### **1.3.1 Programme Description**

##### **1.3.1.1. Context**

The HIV and AIDS MEPI clinical programme is an innovative programme which, as indicated above, was part of the bigger MEPI project instituted within seven schools at the University of KwaZulu-Natal. The main goal of the HIV and AIDS MEPI clinical programme is to develop and implement appropriate HIV and AIDS activities for the undergraduate nursing curriculum in the discipline of Nursing. The broader objective of the programme is to improve and strengthen the HIV and AIDS content in the existing

curriculum, thereby improving the quality and quantity of nursing students trained in the clinical management of HIV and AIDS.

The HIV and AIDS MEPI clinical programme was first introduced and implemented in the discipline of Nursing to the 2<sup>nd</sup> year nursing students where the programme focuses on preventative and health promotion which is an aspect of the community nursing science course. The students get to interact with various communities, with HIV and AIDS being one of the commonest health problems encountered in these communities. Currently the province of KwaZulu Natal has the highest HIV prevalence in the country (Sishana, Rehle, Simbayi, Zuma, Jooste, Zungu, Labadarios, Onoya, & Wabiri, 2014).

The MEPI HIV/AIDS clinical programme is formally introduced to the nursing students during their 2<sup>nd</sup> year of study and is further continued until in their final year. It means that 1<sup>st</sup> years nursing students are excluded from the programme, what have influenced their exclusion are generally high global student attrition rates in higher educational institutions. Attrition is highest amongst the first year of study; meanwhile all countries need an educated workforce (Angelino, Williams & Natvig, 2007; Letseka & Maile, 2008). Nursing is no exception, with studies reported from the United Kingdom (Moseley & Mead 2008; Waters, 2008; O'Holloran, 2009; Scott, 2009:10; Shepherd, 2009; Waters, 2010; Clover, 2011), Scotland and Northern Ireland (O'Donnell, 2009), United States of America (Cook, 2010; Peterson 2009), Jamaica (Wilson, 2010), Australia (Stott, 2007) and South Africa (Wright & Maree, 2007; Jeptha, 2008; Mc Lachlan, 2010). Therefore the number of years that students were exposed to the MEPI programme ranged from one to three years.

After a year of programme implementation of the HIV and AIDS MEPI clinical programme, this was extended to all nursing students with active University registration in the school of Nursing and Public Health. The programme was delivered mainly during students' free

period when there were no lectures so that it did not interfere with the students' timetable. The programme was structured in such a way that each session or activity did not last longer than 60 minutes. On average the duration was 45-60 minutes per session. Attendance was voluntary and good record keeping was maintained to keep track of students' attendance at various activities of the programme.

### **1.3.1.2 The inputs**

The inputs that needed to be in place before the HIV and AIDS clinical programme could be implemented were as follows:

- (a) the existing HIV and AIDS curriculum content found in the bachelor of nursing programme from the discipline of nursing;
- (b) infrastructure;
- (c) stakeholders;
- (d) MEPI project goals;
- (e) a budget which is managed by the principal investigators at the medical school; and
- (f) Tutor training guidelines.

The main person involved in delivering the MEPI clinical programme is the professional nurse educator who has an additional qualification in clinical management of HIV and AIDS and she is fully employed by MEPI for the MEPI activities within in the Nursing discipline.

The programme activities are conducted at the nursing skills laboratory which forms the basis of the resources available for effective implementation of the programme. The clinical skills laboratory has an HIV dedicated room with all electronic, hard copy materials and equipment necessary for HIV and AIDS education and training. There is a classroom where lectures are conducted within the clinical skills laboratory. After lectures, students are invited to a dedicated area within the laboratory, where clinical skills practice takes place. In this area

the available equipment and various skills are demonstrated to students and then students are given an opportunity to practice skills until mastery is achieved.

The students, together with the clinical skills laboratory administrators from the school of nursing form part the stakeholders of the HIV and AIDS MEPI clinical programme but nursing students are the main stakeholders, since the programme is all about enhancing their curriculum by including significant HIV and AIDS content and skills.

The administrators ensure that the venue is booked for the sessions, whatever equipment that will be used on the day is made readily available and the MEPI employee liaises with the administrators before each session.

Various MEPI personnel from the medical school come upon invitation on an ad hoc basis to give special lectures, especially if a topic is within their area of expertise. Health care practitioners who are working in specialised HIV and AIDS clinics get invited bi-annually to become guest lectures and to share their experience and to interact with the students.

### **1.3.1.3 The process**

As part of the MEPI Clinical programme's processes, the six (6) innovations are explained in detail below which are uniquely found in the discipline of nursing:

#### *a) HIV/AIDS Case studies*

First to fourth year level case studies were developed by a team of nursing experts in 2011, following the nursing curriculum's review conducted by UKZN MEPI team jointly with the discipline of nursing. The curriculum review identified that there was gap in HIV and AIDS content contained in the nursing curriculum in place at that time. This was consistent with what appears to be experienced in many countries of the world, whereby there is a concern over HIV and AIDS content insufficiency in

most undergraduate nursing programme competencies, including medical schools' programmes. Canada and the United States of America are the two countries that have formal structures towards HIV and AIDS nurse's education. Their Nursing regulatory bodies have identified HIV and AIDS nurses' education as essential and as a component of nursing which requires attention, recognition and accreditation, and they went so far as to propose an HIV and AIDS series of modules to be taken by nurses (Mill et al., 2014). However, HIV/AIDS in nurses' education is more pronounced after graduation, in the above- mentioned countries, as a result, the *Canadian Association for Nurses in AIDS Care (CANAC)* has highlighted the necessity to incorporate principles of HIV care into the undergraduate nursing curriculum (Mill, Caine, Arneson, Maina, De Padua & Dykeman, 2014), also the *Association of Nurses in AIDS Care (ANAC)* from its inception in 1987, has embraced the issue of the need for nurses' education through their mission statement which states:

*“...[To] promote the individual and collective professional development of nurses who are involved in the delivery of health care to persons infected with or affected by HIV and to promote the health and welfare of infected persons...”*(ANAC: 2013; page 1).

Placing a significant amount of information about HIV and Care in the nursing curriculum is essential because research reveals that the provision of HIV and AIDS education for nurses' results in improved care for people who are infected and who are suffering from HIV and AIDS (Paquin & Lambert, 2000) .

The HIV and AIDS case studies in the discipline of nursing at UKZN were developed in 2011 targeting each year of study, from first to fourth year levels. The case studies are reviewed annually. AIDS care in any country is influenced by the national



government policies and the Minister, for health (Relf et al., 2014). One of the many problems is that the policy guidelines change all the time. It is vital to stay abreast and to keep up with the current recommendations and guidelines. All the academic personnel who are responsible for teaching at the undergraduate level have implemented the MEPI case studies at their respective levels and the MEPI personnel are also present during the class sessions.

*b) The NiMART training*

NIMART is a *National Department of Health* accredited training programme that is aimed at capacitating nurses with skills to initiate HIV infected patients on antiretroviral therapy (ART). Led by MEPI, NIMART trainings run over 5 days each, and target both the 4<sup>th</sup> year undergraduate nursing students as well as registered nurses, who are already practicing, and are doing post-basic programmes. The training focuses on a number of topics related to the management of ART, and each topic is taught by an expert in the area of HIV and AIDS from MEPI medical school division

*c) HIV/AIDS Clinical competencies*

The clinical competences have been developed specifically focusing on HIV/AIDS. A total of twenty (20) HIV and AIDS orientated clinical competencies have been developed. The main objective of these competencies is to equip nursing students with specialised skills needed in HIV and AIDS care; such skills include how to perform various HIV tests on both adults and children that are recommended and available in the country. HIV counselling skills are essentially included in the competencies which incorporate all kinds of HIV counselling required in dealing with groups, individuals, care givers, and couple counselling. Nursing students are also equipped with skills on how to offer HIV results to the health care users, irrespective of their outcome.

d) *Clinical mentorship*

Mentorship has been used for several decades as an educational approach in nursing for both undergraduate and post-graduate teaching (Andrews & Wallis, 1999). The role of mentors in clinical learning has been described as the one that reinforces correlation of theory to practice.

The clinical nurse mentor employed under the MEPI grant ensures that integration of theory and practice takes place in the training of nurses at the identified institution. This is done through the training of nurses on MEPI developed HIV and AIDS activities in a clinical skills laboratory environment. The service of the clinical nurse mentor is rotated within various accredited clinical sites, where University nursing students are placed for clinical practice within the EThekweni District. *The South African Nursing Council (SANC)* has accredited the clinical placement sites that are mainly in government hospitals, community health centres and primary health care clinics, including private hospitals.

Reinforcement and application of what has been learnt during the MEPI HIV and AIDS clinical sessions takes place during these mentorship visits, even though literature reveals that, the concept of mentorship in HIV and AIDS education has not been well documented (Grindel & Patsdaughter, 2000). MEPI ensures that this less-documented mentorship in HIV and AIDS care education is visible. It's only in Canada where the mentorship model in HIV education is apparent (Mill, et al., 2014).

e) *The MEPI HIV morning sessions*

MEPI clinical skills laboratory activities are structured, innovative, continuous skills development on HIV and AIDS care, directed at the professional and academic development of undergraduate nursing students. It was developed and implemented in the undergraduate nursing curriculum. The main objective of the programme is to

improve the quality and quantity of nursing students trained in HIV and AIDS care. These activities include lectures, group discussions, clinical skills demonstration, HIV Workshop (1 week), use of electronic and visual media, as well as clinical support through mentoring. Students are also given an opportunity to practice any skill that they want to after each session, and such skills can be practiced many times, until full mastering of the skill has been achieved by the students. These sessions take place twice a week.

These sessions are deemed important because literature demonstrates that HIV education has the potential to contribute to HIV prevention by increasing knowledge and shifting attitudes, thereby reducing HIV risk and vulnerability (Aggleton, 2011).

*f) The HIV resource room*

The HIV resource room was developed within the nursing clinical skills laboratory. This room contains all relevant HIV and AIDS educational and training materials, in electronic form, or in hard copy, as well as equipment and models. The room is accessible to students at all times but under strict control of the clinical skills laboratory residential staff members. Examples of materials that are found in the HIV resource room include, various HIV and AIDS DVD's which are available on different topics and these DVDs can be watched within the HIV resource room because electronic playback equipment is available for such purposes. Hard copy material is also available such as copies of National and WHO guidelines related to prevention, assessment, diagnosis, treatment and care of HIV/AIDS and these are updated regularly. Posters, testing and laboratory equipment/tools as well condoms are amongst the resources available to students at all times.

All of the above MEPI HIV and AIDS clinical component activities contribute towards the academic development and training of nursing students in the undergraduate programme with respect to HIV and AIDS care. The activities contribute towards nurses' theoretical and clinical competency development at the end of their nursing professional training which when they are in key nursing positions will enable them to cope in providing HIV and AIDS care, treatment and prevention. It is imperative to prepare nurses at both the undergraduate and graduate level, as well as those in practice, for their role in providing HIV and AIDS care.



**Fig 1.1 MEPI HIV and AIDS clinical programme' logic model (Kellogg Foundation, 2004)**

#### **1.4 Problem statement**

At the discipline of Nursing within the University of KwaZulu Natal, a gap in HIV and AIDS content within in the curriculum was identified, that prompted the partnership between the MEPI project and the school of Nursing since MEPI objectives are rooted in HIV education through innovative methods. The HIV and AIDS innovative education programmes such as MEPI funded by the US, have strived towards ensuring that the identified curriculum gaps have been filled through activities such as HIV and AIDS MEPI clinical programme within the discipline of Nursing at the University of KwaZulu-Natal. However, since the implementation of the programme, there has not been any evaluation conducted in order to measure the outcomes based on the curriculum boosting offered through the clinical programme. Outcomes are results, or consequences, of education and knowledge of or of lack thereof (Maloney, 2014). Outcomes assessment is imperative in evaluation of educational programmes, to determine how it affected the programme recipients. Only short term outcomes will be the focus of this evaluation study. According to (Levin-Rozalis, 2003; Fitzpatrick, Sanders, & Worthen, 2011) the importance of evaluation is all about attaching value to and judging how the programme is progressing. Furthermore Fitzpatrick et al. (2011), highlights that the one important goal of evaluation is use; the use of evaluation findings informs decisions especially of the funders. This evaluation will provide useful feedback on the success or otherwise of the programme and this information will inform important decisions for the future.

South Africa being the global epicentre of the disease(UNGASS, 2010) , it is imperative that its nursing curriculum should be rooted to a firm and solid foundation based on current HIV and AIDS innovations, in order to be able to produce graduates who are efficient in containing the disease. The determination of this evaluation is therefore to provide feedback

to stakeholders by judging and evaluating the clinical programme, which was initiated for student nurses as part of the MEPI project.

### **1.5 Aim of the study**

The aim of the study was to conduct a short-term outcomes evaluation of the clinical component of an HIV and AIDS MEPI clinical programme for nursing students as implemented at the selected site.

### **1.6 Research objectives**

- To describe the profile of nursing students who have participated in the HIV and AIDS MEPI clinical programme;
- To describe the short-term outcomes of the HIV and AIDS MEPI clinical programme; and
- To describe participants' perception of the HIV and AIDS clinical programme as presented through the MEPI programme.

### **1.7 Research questions**

- What is the demographic profile of nursing students who participated in the HIV and AIDS MEPI Clinical programme?
- What are the short term outcomes demonstrated by the participants in the HIV and AIDS clinical programme?
- How do participants perceive the HIV and AIDS clinical programme as presented through MEPI programme?

## **1.8 Significance of the study**

The evaluation findings will have significance for nursing domains such as research, education and practice as well as for the programme funders and the School of Nursing.

### *1.8.1 Significance to Nursing Research*

Similar to other professions, a specialised body of knowledge helps define nursing as a profession (Grove, Gray, & Burns, 2013). This study will contribute to the knowledge base of nursing generally and specifically on externally-funded HIV and AIDS nurse training that is still not widely available in many developing countries. The evaluation study findings obtained will form part of the baseline evidence since a study of this nature has never been conducted before. Therefore future research may emanate from this study's findings and recommendations.

### *1.8.2 Significance to programme Funders*

The evaluation study outcomes will be empirical evidence that will provide feedback to the funding agency and that will affect the funder's decision for future funding of the project. It will also enlighten them regarding the project's progress in line with its aims and objectives, informing them whether these are being achieved or not.

### *1.8.3 Significance to KwaZulu-Natal School of Nursing curriculum*

Evidence and findings from this evaluation study might influence the future nursing curriculum in terms of the amount of HIV/AIDS curriculum content to be entailed at various levels (study years) of nursing students. The feedback from the students' experiences about the MEPI clinical laboratory skills, it is envisaged, might inform decisions within the school.



## **1.9 Operational definitions**

**MEPI programme:** US-funded project that focuses on medical and nursing education of health care professionals regarding the HIV and AIDS in order to increase capacity at both undergraduate and post-graduate levels.

**HIV and AIDS MEPI clinical programme:** Relates to various HIV and AIDS educational activities that are undertaken within the discipline of nursing at the University of KwaZulu-Natal aiming at professional training and development of nursing students especially those at the undergraduate levels.

**MEPI Clinical skills laboratory activities:** This refers to all HIV and AIDS-related educational activities conducted within the School of Nursing aimed at capacity building of student nurses.

**Clinical skills laboratory:** An establishment that is sited within the School of Nursing and used as the practical training centre facility for nursing students, where various skills are demonstrated and practiced before certification.

**Evaluation:** The systematic collection of information about the activities, characteristics, and outcomes of the programme, services, policy, or processes, in order to make judgments about the programme/processes in order to improve effectiveness, and to inform decisions about future development (Patton, 2008).

**Outcomes evaluation:** Outcome evaluations investigate whether or not the programme produced demonstrable results for specifically defined target outcomes.

**Short-term outcomes:** In this study it refers to participants' theoretical and specific skills knowledge gained in relation to HIV and AIDS care, changes in attitudes and beliefs

including motivation and confidence levels towards treatment of HIV and AIDS, as well as participants' perceived benefits and barriers to the programme.

**Nursing students:** Refers to persons in academic training to becoming registered nurses.

**Nurses:** Refers to persons that have already completed their nursing training programme and are registered with South African Nursing Council as nurses.

**Programme participants:** Are all the nursing students with active University registration for studies in the discipline of nursing during period 2012 to date.

**Perceptions:** Refers to what the programme participants perceive to be the benefits and barriers including their experiences of the programme and its activities.

**Perceived Barriers:** In this study it refers to limitations or shortcomings in the content and other programme activities experienced by the students.

## **1.10 Conclusion**

This first chapter of the study has provided background information on the evaluation problem and has given information of the current global status and effects of HIV and AIDS with emphasis on the SACD region. Furthermore HIV and AIDS education in the context of nursing was discussed and was identified as having short comes. The innovative HIV and AIDS education programme under MEPI was described and explained in detail-since the study is based on evaluating its short-term outcomes. The problem addressed by the study was explained, with emphasis on the research questions and the significance of the study. The next chapter presents the literature review.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

A search of the published literature on HIV and AIDS education research articles was conducted using Databases including *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), *Academic Search Premier*, *Educational Resource Information Centre* (ERIC) and EBSCO. Published journal articles between 1999 and 2015, were used for this review and most of the articles found were between years 2009-2015. The following keywords were used: HIV/AIDS education, training HIV/AIDS nursing, HIV/AIDS nursing practice, student perceptions of HIV, and evaluations of HIV/AIDS-based education. The search was restricted to English language articles. Textbooks were also used to supplement the electronic search.

#### **2.2 HIV/AIDS burden on the country**

According to Coovardia et al. (2009) South Africa has four main burdens of disease and HIV and AIDS is prominent on the list. Currently, South Africa has 6.4 million people infected with HIV and AIDS (UNAIDS 2013). This number is 1.2-million more than what it was in 2008 and this shows that the proportion of South Africans infected with HIV has increased from 10.6 per cent in 2008 to 12.2 per cent in 2012 (Sishana et,al., 2014).

According to UNAIDS: 2013, South Africa is one of the countries in the Sub-Saharan region with the highest number of people living with HIV followed by Nigeria. There are an estimated 24.7 million [23.5–26.1 million] people living with HIV in sub-Saharan Africa, nearly 71 per cent of the global total. Ten countries— Ethiopia, Kenya, Malawi, Mozambique, Nigeria, South Africa, Uganda, the United Republic of Tanzania, Zambia and

Zimbabwe—account for 81 per cent of all people living with HIV in the region and half of those are in only two countries—Nigeria and South Africa. There are also more women living with HIV in sub-Saharan Africa than HIV-positive men: women account for 58 per cent of the total number of people living with HIV. There are 2.9 million [2.6 million–3.2 million] children (aged 0–14), 2.9 million [2.6 million–3.4 million] young people (aged 15–24) and more than 2.5 million [2.4 million–2.7 million] people aged 50 years and older living with HIV in sub-Saharan Africa (Lowicki-Zucca, Spiegel, Kelly, Dehne, Walker & Ghys, 2008). These figures demonstrate that there is a need for graduating health care professionals to be fully equipped with knowledge and competences on how to deal with HIV/AIDS infected and affected individuals. The nursing curriculum that is focused heavily on HIV/AIDS will benefit the country greatly in response to the current situation. Training the undergraduate nurses in HIV/AIDS is critical in order for them to be competent and response to the country's health needs at graduation.

### **2.3 Task-shifting and task-sharing**

The effect of HIV and AIDS has exacerbated the issue of human resources insufficiencies within the health care sphere, especially in countries like South Africa situated in the SADC region (Relf et al., 2004). According to the WHO/UNAIDS/PEPFAR (2008) Geneva report, sub-Saharan Africa suffers from the world's most pronounced crisis in human resources for health: 36 of the 57 countries that now face health worker shortages are in Africa. Task-shifting has been one of the adopted strategies aimed at achieving effective health care delivery to all population groups regardless of human resources inadequacies. In the context of this study, task-shifting will be discussed with reference mainly to HIV care.

Task-shifting was first proposed by the World Health Organisation in 2004 through their publication on *Integrated Management of Adult and Adolescent illness guidelines*, which

recommended that nurses and clinical aids be trained to provide primary care for HIV (World Health Organisation, 2004) as part of the immediate way to address staff shortages while bringing care that does not compromise on quality. The proposal was formalised and expanded by joint WHO/UNAIDS/PEPFAR guidelines for the implementation of task-shifting in HIV (World Health Organisation: 2007). Task-shifting means reassignment of clinical roles by shifting tasks to different cadres of health workers such as nurses becoming more involved in prescribing of drugs which was previously seen mainly as the medical doctors' function (Callaghan, Ford and Schneider: 2010). Task-shifting is not new; *Officiers de Santé* (Heller, 1978) were publicly recognised in France during the 19<sup>th</sup> century and commonly used the class of non-physician health-care workers, and in China, the so-called barefoot doctors were commonly deployed across the country in the mid-20th century (Sidel, 1972).

In Africa, non-physician clinicians have long been trained across the continent to fill various roles (Mullan & Frehywot, 2007; McPake & Mensah, 2008; Samb, Celletti, Holloway, Van Damme, De Cock, Dybul, 2007). In South Africa, ever since the introduction of the HIV counselling and testing (HCT) policy in 2010 by the minister of health, more and more people came to know their HIV status (DoH:2010), and those who were found to be infected had to be put on treatment (antiretroviral therapy) accordingly. But the number of people infected versus the number of health care practitioners did not balanced and it resulted in the health care practitioners not coping with the number of patients to be initiated and monitored on HIV treatment. A study conducted by Relf et al. (2014) revealed that nurses are often the only health care providers available to provide HIV and AIDS prevention, care and treatment services. The extreme shortage of qualified physicians leads to nurses accepting responsibility for initiating and monitoring clients on ART. There are 8 physicians per 10,000

people in South Africa (WHO, 2009). With respect to nurses, the WHO specifically identified critical shortages of nurses in Sub-Saharan Africa and South-East Asian countries, where as few as 21 nurses per 100 000 of the population are available (WHO, 2006). The situation in South Africa is not yet seen as equally critical. There is currently an active nurse-to-population ratio of 383: 100 000 (Econex, 2010a; SANC, 2011c). Due to the above reasons, task-shifting in South African was adopted in the context of HIV care. This was also due to the fact that the health care delivery system approach has changed from hospital-centred care to promotion of health and prevention of disease through primary healthcare, thus strengthening the District Health System (South Africa, SANC, 2008; South Africa, DoH, 2011; Klopper & Uys, 2013; South Africa, DoH, 2014).

Ever since the first cases of HIV/AIDS were diagnosed, nurses have been at the forefront of providing care to those infected with the virus (Williams et al., 2006) because the nursing profession forms the backbone of any healthcare system (South African Nursing Council [SANC], 2008; Buchan & Aiken, 2008; Lloyd, Sanders & Lehmann, 2010; Klopper & Uys, 2013). To ensure effective rendering of HIV care by nurses, MEPI has run nurse specific HIV training courses aimed at equipping the nurses on how to initiate, manage and monitor patients on ARVs in the absence of medical doctors. This type of training is called NiMART (Nurse initiated Management of Anti-retroviral therapy). MEPI is involved in offering the training to nurses both in the undergraduate and post-graduate levels in order to ensure that they are equipped to execute their task-shifting roles with confidence.

According to Callaghan, Ford & Schneider (2010), non-physician health care workers are able, with careful training and supervision, to deliver equal and sometimes better results than doctors; similarly there is now considerable evidence regarding the possibility of shifting tasks from professionals or midlevel workers to lay or community health workers. Most

importantly, task-shifting seems to substantially expand access to HIV interventions, even in underserved areas. The Medical Education partnership initiative (MEPI) has heeded the call to increase training in medical and nursing spheres with a strong emphasis on HIV/AIDS education. This would bring the nurses in line with the country's needs since there are specific national healthcare plans for the future that demand the availability of nurses who will be able to provide healthcare to patients in the absence of medical practitioners and pharmacists (Econex, 2010a; Econex, 2010b). It will be expected of nurses to man the healthcare clinics, take charge of healthcare settings, diagnose illness, manage all minor and most chronic conditions, as well as prescribe and administer certain scheduled medicines, such as anti-retroviral medication and a broad spectrum of antibiotics (Breier et al., 2007; Lehman, 2008; Econex, 2010a; Mayers, 2010).

#### **2.4 HIV/AIDS knowledge amongst the health care providers**

According to the literature, HIV/AIDS care has always had grey areas whereby care providers had gaps in their knowledge. Babu et al. (2014) concluded that care takers (nurses) had inadequate knowledge regarding non-curative care of terminally ill patients, but the planned educational programme for non-curative terminally ill patients was highly effective in improving this knowledge. Additionally, a study by Relf et al. (2009) indicated that a number of student nurses possessed attitudes and beliefs that are not reflective of the codes of ethics provided to guide nursing care within the United States and South Africa. However this may be an indication that there is a lack of confidence in taking over the patients' care based on fear induced by inadequate knowledge of the disease itself in terms of its pathology and its progression. A study conducted on knowledge among nurses towards HIV/AIDS by Agrawal et al. (2013) concluded that some of the nurses had no idea about mode of transmission of HIV/AIDS, almost 34 per cent of the study subjects did not know the term

Post exposure prophylaxis. 17 per cent incorrectly believed that HIV/AIDS can be completely cured. A figure of 2 per cent still wrongly believed that HIV/ AIDS can be prevented by vaccination, surprisingly, 9.5 per cent of the respondents believed that HIV could be spread through mosquitoes. The findings demonstrate that nurses' knowledge on HIV/AIDS was inaccurate and insufficient for future work in the health care sector.

Inadequacy of HIV/AIDS knowledge by the nurses is a worrying factor because nurses are the backbone of the health care system especially in the SADC region as well as in many part of the world (Coovardia et al., 2009); nurses are often the only health care providers available to provide HIV and AIDS prevention, care, and treatment services (Relf et al. 2011). Williams et al. (2006) attested to the fact that nurses have been in the forefront in HIV care ever since the first cases of HIV/AIDS were diagnosed.

Literature reveals that, numerous studies have been conducted around the world on HIV/AIDS knowledge amongst nursing students and practicing nurses. The findings of most of those studies point out that, nurses possess a negative attitude towards the HIV/AIDS infected individuals respectively. Among the countries where the studies were conducted were: United States of America (USA) (O'Sullivan, Preston & Forti, 2000; Bray Preston, Kassab & Barthalow Koch, 2000), Cameroon (Mbanya Zebaze, Kengne, Minkoulou & Awah, 2001), Uganda (Walusimbi and Okonsky, 2004), Spain (Pita-Fernandez, Rodríguez-Vazquez & Pertega-Diaz , 2004), Taiwan (Juan, Siebers, Wu, Wu, Chang, & Chao , 2004), Nigeria (Adepoju, 2006) and China (Williams et al., 2006). Lack of education was identified as the major cause of the negative attitude, fear, anxiety and reluctance to care for HIV/AIDS-infected individuals by nurses, in the USA (O'Sullivan et al., 2000; Preston, Forti, Kassab & Koch, 2000). In the same way, Juan et al. (2004) found that HIV/AIDS education reduces nurses' anxieties and appropriate HIV/AIDS educational programmes have the



potential to change nurses' caring patterns and attitudes. Oyeyemi, Oyeyemi, & Bello (2006) and Williams et al. (2006) had supportive findings in their studies respectively, both in Nigeria and China; they stated that HIV/AIDS education produces confident and fearless nursing care for HIV-infected individuals. In 2009, a study conducted by Pickles, King & Belan (2009) also demonstrated similar concerns from various regions of the world regarding nurses, knowledge and attitudes towards caring for the HIV-infected people.

However studies in European countries such as Germany, Finland, Turkey and UK demonstrated that nurses knowledge levels have been good (Lohrmann , Välimäki, Suominen, Muinonen, Dassen & Peate, 2000; Peate Suominen, Välimäki, Lohrmann & Muinonen, 2002; Bektas & Kulakac, 2007; Veeramah , Bruneau & McNaught , 2008; Suominen, Vänskä, Koponen, Staniuliene, Istomina, Aro, ... & Välimäki, 2010). Flaws and gaps have also been identified in the various countries. (Ngan, Kiat, Kheng, Lin, Suan, & Nagammal, 2000; Earl & Penny, 2003; Cornelius, 2006; Bektas & Kulakac, 2007; Veeramah et al., 2008; Suominen et al., 2010) Relatively poor knowledge levels and great knowledge gaps have been reported in Asia and Africa, in countries such as Nepal and Ghana, for example (Atulomah & Oladepo, 2002; Earl & Penny, 2003; Mill, Opare & Fleming, 2004; Mahat & Eller 2009).

So the responsibility is upon the nurse educators to ensure that the nursing curriculum provides the students with sufficient knowledge of HIV/AIDS to empower them to provide safe, high quality compassionate care (Pickles, King & Belan, 2012). This is necessary because nurses have inadequate basic education and opportunities for continuing education in relation to HIV care (Mill et al., 2014).

## 2.5 HIV/AIDS competencies in nursing

At present, HIV and AIDS competencies have not been identified for the SADC region (Relf et al., 2014). Even though *Core Competencies: Results from the International Consensus Meeting on HIV Service Delivery Training and Certification* was published by the WHO in 2005. This was the document which outlined the core competencies for the roll-out of ART for the continuum of health care providers. No clear guidance for the nursing profession was provided. Instead nurses and midwives, classified as ‘health care workers,’ are combined with clinical officers and medical assistants in a manner that fails to differentiate a diverse group of health care workers by educational preparation and scope of practice (Relf et al., 2011). This does create uncertainties within the nursing profession itself because on the one hand the nurse has to follow her scope of practice yet on the other hand she/he is responsible for implementation of the national HIV and AIDS plans for the country which, in most cases, has been developed and recommended by WHO. In the case of South Africa the South African Nursing Council does not accredit any of the HIV and AIDS-based courses that provide relevant knowledge, skills, and initial competence in the nursing sphere, yet externally-validated competence is of importance (Relf, Berger, Crespo-Fierro, Mallinson, & Miller-Hardwick, 2004). However, Relf et al., (2011) argue that nurse preparedness regarding the HIV/AIDS care provision should be interrogated since there is lack of formal training, or clinical mentoring present in didactic courses, the training materials are outdated or not contextually based in the culture and health care system, there is a lack of legal coverage for the advanced tasks they are expected to perform, and there is a limited scope of practice provided that may not be clearly delineated

Literature advocates that nursing education must include updated information on HIV and AIDS-related issues because medical and nursing staffs are the most important groups in the

prevention of HIV/AIDS and nurses are in the front line in the prevention of HIV, and in caring for these patients and risk groups (Suominen, Laakkonen, Lioznov, Polukova, Nikolaenko, Lipiäinen ... & Kylmä, 2015). However, globally, there are no clear guidelines of competencies outlined for nurses in training for HIV/AIDS specifically, except in the USA and Canada (Relf et al., 2011; Mill et al., 2014).

In many countries, there are incongruences between nursing practice and national regulations that are often outdated and not reflective of the emerging roles of the nurse (Relf et al., 2011). The same is true in the context of HIV/AIDS in South Africa, where the nursing professional regulating body has no clear regulatory guidelines and recognition on specific competencies in nursing regarding HIV/AIDS care as a speciality in nursing. There is divergence between the official scope of practice and the reality of daily practice (Relf et al., 2011).

Globally, the profession of nursing has not yet established a set of essential core competencies related to HIV and AIDS prevention, care, and treatment. Specific criteria for demonstrating professional HIV and AIDS competence in nursing care is dependent on the setting and available resources; competencies for all nurses, would need to be defined in the context of nursing in their countries and/or regions (Relf et al., 2011). To adequately prepare nurses to deliver comprehensive, holistic prevention, care, and treatment services, it is important to identify and adopt essential core competencies for nursing care related to HIV and AIDS.

## **2.6 The undergraduate nursing student in the South African context**

An undergraduate nursing student is a student enrolled for a nursing programme leading to a Baccalaureate Degree in Nursing at an accredited Nursing Educational Institution situated

within a University or University of Technology. Traditionally an undergraduate nursing student was characterised as being younger, female and white (Wright & Maree, 2007; Mc Lachlan, 2010 and Mdepa & Tshiwula, 2012), but due to opened access for other racial groups to higher education institutions, this has led to a change in the characteristics of undergraduate nursing students to what is termed a non-traditional undergraduate nursing student. Non-traditional students are more numerous and they are now characterised as being from any racial group, from both genders and they tend to be older. These students have, in addition, broader family responsibilities. A further characteristic is that English is rarely their first language (Wright & Maree, 2007; Mc Lachlan, 2010 and Mdepa & Tshiwula, 2012). The successful nursing student exits with a Baccalaureate Degree in Nursing and registers as a Registered Nurse with the SANC to practise in general, community health and psychiatry nursing, as well as in midwifery. The research institution for this evaluation is a University, and all students have been registered with the SANC as student nurses (*South Africa, Nursing Act 33 of 2005*). For the purpose of this study the definition nursing student will be used when discussing a student nurse, as registered with the *South African Nursing Council*.

## **2.7 A selected university's demographic profile**

The demographic profile of the students enrolled at the selected university during the period (2013 to 2015) when MEPI activities were implemented, is presented as follows. During the year 2013, 29 385 (66.42 per cent) students were Africans, 10869 (24.57 per cent) were Indians, 2877 (6.50 per cent) were whites and 950 (2.15 per cent) were coloureds. In 2014, African students were still the majority with 30440 (66.97 per cent) students, Indians were 11433 (25.per cent), Whites 2462 (5.42 per cent) and Coloured 985(2.17 per cent) and in 2015 there were 31266 (68.83 per cent) Africans, 10777 (23.72 per cent) Indians, 2141 (4.71 per cent) Whites and 1005 (2.21 per cent) Coloured, (DMI, undated).

## 2.8 Evaluation conceptual Model

According to Burns and Groove (2005), a conceptual model is a set of highly abstract, related constructs that broadly explain phenomena of interest. It expresses assumptions and reflects a philosophical stance and it provides a conceptual framework to underpin the study (Polit & Beck, 2006). But in evaluation research a logic model is used. A logic model is a diagram that presents key features of the programme being evaluated. According to Fitzpatrick, Sanders, and Worthen (2011), the logic model is helpful for programme planning, evaluation, and research because, in addition to programme theory, the logic model can help the evaluator understand the reasoning behind programme goals, which can differ from the stated programme goals. The basic design of a logic model includes information about programme inputs, activities, outputs, and outcomes.

This evaluation research study will be underpinned by CIPP Evaluation model presented in *figure 1* below. The CIPP model of programme evaluation was developed by Daniel L. Stufflebeam in (1971). It refers to the four phases of evaluation: context evaluation, input evaluation, process evaluation and product evaluation. It is based upon the view that the most important purpose of evaluation is to improve the functioning of a programme (Topno, 2012). It is a decision-making model and it has a management-orientation approach to educational evaluation (Ling, Seng, Chi, Jaafar, Yi-Ling, Thangaraju, & Woels, 2008). It aims to facilitate effective decision-making.

In evaluating an education programme, the CIPP model examines the needs and goals assessment, inputs and resources, processes, the likely programme impact and outcomes (Ling et al., 2008). The CIPP model is also practitioner-centric and it is useful for both formative as well as summative evaluation. In other words, it enables decision-makers to

track the accountability of a programme from its inception, conduct on-going appraisal as well as assess programme outcomes (Ling et al., 2008). For this evaluation study, the CIPP model will be suitable since the short-term outcome of the HIV and AIDS MEPI clinical programme will be explored and described. Moreover according to Stufflebeam (2003), the CIPP evaluation model is a framework for guiding evaluations of programs, evaluation systems, personnel, projects, products, and institutions.



**Figure 2.1:** CIPP evaluation model (Stufflebeam, 2003).

The HIV and AIDS MEPI clinical programme evaluation study will focus on the fourth aspect of the CIPP model which is Product. It involves measuring and interpreting the attainment of training and development objectives. The purpose of product evaluation is to measure, interpret and judge the extent to which organisation’s improvement efforts have achieved their short-term and long-term goals (Topno, 2012). It also examines both intended and unintended consequences of improvement efforts. The main focus of this study will be on the short-term goals attainment and the evaluation will be done to assess what short-term product was achieved as a result of the HIV and AIDS MEPI clinical programme implementation in the discipline of nursing.

Outcomes evaluation is a systematic examination of the outcomes resulting from a set of activities implemented to achieve a stated goal, and a systematic examination of the extent to which those activities actually caused those outcomes to occur. The intention of outcome evaluation is to assess the effectiveness of these activities with respect to the benefits achieved, to suggest improvements and possibly to provide direction for future activities (Patton, 2008).

## **2.9 Conclusion**

The second chapter of the study highlighted the burden of HIV and AIDS in the South Africa context as well as the responsibilities of the health care workers in response to the endemic, task-shifting and task sharing were discussed. Knowledge of HIV and AIDS by the nurses was explored with specific reference to the undergraduate nursing students as well as HIV and AIDS competencies. The CIPP conceptual framework that guided the study was discussed in detail.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter focuses on the evaluation research paradigm and approach that was employed during the evaluation process. The research setting, sampling procedures, data collection methods and instruments used are discussed, as well as the validity and reliability issues including the handling of ethically-related issues.

Evaluation is a methodological area that is closely related to, but distinguishable from more traditional social research. Evaluation research utilises many of the same methodologies used in traditional social research (Trochim, 2006).

#### **3.2 The Paradigm**

Teddlie & Tashakkori (2009: 84) define a paradigm as “a worldview, together with the various philosophical assumptions associated with that point of view.” Likewise Creswell & Plano Clark (2007) refer to a paradigm as a worldview.

A positivist paradigm was adopted for this evaluation study. According to Polit & Beck (2004), a positivist paradigm refers to the traditional paradigm underlying the scientific approach, which assumes that there is a fixed, orderly reality that can be studied objectively, which is often associated with quantitative research. The researcher in this evaluation study aimed to determine objectively the value of the MEPI clinical HIV and AIDS programme for the nursing students.



### **3.3 Research Approach**

A quantitative approach which is closely aligned with the positivist tradition was used to fulfil the objectives of this evaluation study. Burns and Grove (2010) describe quantitative research as a formal, objective, rigorous, systematic process for generating information about the world. It is conducted to describe new situations, events or concepts in the world. This approach was appropriate for the study which is aimed at describing a phenomenon for the first time, which, in this case was the identifying and describing of the student nurses' perceptions of the HIV and AIDS MEPI clinical programme.

### **3.4 Research Design**

According to Polit and Beck (2004), research design refers to, the overall plan for obtaining answers to the questions being studied. A descriptive, exploratory design will be used in this evaluation study. According to Burns and Grove (2010), a descriptive design is used to get more information about the characteristic within the particular field of study. This research design was ideal for this study because the aim was to get feedback on the HIV and AIDS MEPI clinical programme as part of the short-term outcomes evaluation process. Furthermore, a descriptive design was used to obtain information on the current status of the phenomena in order to describe 'what exists' with respect to variables or conditions. In this study a descriptive design was appropriate and employed to describe nursing students' perceptions, as well as the benefits gained from and limitations of the HIV and AIDS MEPI clinical programme education.

### **3.5 Research Setting**

The setting for this evaluation was the Discipline of Nursing which is found in the school of Nursing And Public Health within one of the higher educational institutions found in Durban, KwaZulu-Natal, South Africa.

### **3.6 Research Population**

According to Polit and Beck (2004:50), a population refers to the aggregate of research subjects conforming to a set of specifications. The School of Nursing and Public Health had 1550 students enrolled in 2015 (DMI, undated). The discipline of Nursing had 234 active students in the under-graduate programme for the bachelor of Nursing in 2015 (DMI, undated). For this evaluation study, all nursing students enrolled in for year II, III & IV in the Bachelor of Nursing degree were eligible for inclusion in the study, since they all had been exposed to HIV and AIDS MEPI clinical programme. The programme and its activities took place in the nursing clinical skills laboratory. It commenced during the 2<sup>nd</sup> semester of 2013. A total of 164 students had participated in the HIV and AIDS MEPI clinical programme in the past and all of the 164 students formed part of the evaluation study population.

### **3.7 Sampling and sample size**

In cases where the evaluator is actively collecting data from programme stakeholders, the sampling methods should be determined. Two common types of sampling are purposive and random sampling methods (Weiss & Weiss, 2012). For this evaluation study, the purposive sampling method was deemed suitable and it was used.

According to Burns and Grove (2009), random sampling is not considered desirable in evaluation research, but rather larger heterogeneous samples should be obtained. The rationale is that such samples should reflect as much as possible all those who would be

receiving the service in the real world. According to Watson & Hoogbruin (2001), if the study population is small (200 people or less), it may be preferable to do a census of everyone in the population, rather than a sample. Christensen, Johnson & Turner, (2011) argue that the use of a total population in a study can be considered if the size of the population is small. For this evaluation study, the population was 164 nursing students who were part of the programme recipients. Therefore all nursing students who had an exposure to the clinical MEPI programme were included in the evaluation study by means of participating in the survey, to answer all the evaluation questions. Therefore purposive sampling informed this evaluation study. According to Polit & Beck (2010), the purpose of purposeful sampling is to select information-rich cases whose study will illuminate the questions under study.

All nursing students who had attended the HIV and AIDS MEPI Clinical programme were therefore included in the evaluation. The total population was the sampling size. The expected sample size was 164 but only 133 volunteered to be part of the study, and that constituted 81.1 per cent. This was essential because feedback from all the programme participants and recipients is valuable in outcomes evaluation.

### **3.8 Evaluation Research Instrument**

The questionnaire developed by the University of Wisconsin-Extension referred to as the G3658-11 Collecting Evaluation data: End-of-Session Questionnaire (Taylor-Powel, 2009), was adopted for this evaluation study refer annexure A. The adopted Questionnaire has been widely quoted in the literature since its first publication in 2000 (Taylor-Powell & Renner, 2009). According to Burns & Groove (2005), questionnaires can be used to determine facts about the subject or persons known by the subject, facts about events or situations known by the subject, or beliefs, attitudes, opinions, levels of knowledge, or intentions of the subject.

The G3658-11 Collecting Evaluation data: End-of-Session Questionnaires questionnaire was adapted to fit this evaluation study. Not all the questions found in the G3658-11 were included for this evaluation study, as some of the questions were not applicable to the short-term outcomes of an MEPI clinical programme for nursing students' objectives. The researcher did not obtain permission to use the questionnaire since it is available in the public domain.

The questionnaire was made up of eight sections: Refer to attachment in annexure one

Section A: Demographic data, with six items, aimed at responding to evaluation objective one of this evaluation study.

Section B: Questions on perceived knowledge gained on HIV and AIDS content and theory, with seventeen items, to respond to the second objective of the evaluation study.

Section C: Questions on specific HIV skills acquired as a result of participating in the MEPI clinical programme, with thirteen items, which responded to objective two of the evaluation study.

Section D: Questions on changes in participants' attitudes and beliefs towards HIV and AIDS that have been influenced by participating in MEPI clinical programme. This section consisted of thirteen items, which responded to evaluation objective two.

Section E: Questions on changes in participants' motivation and confidence levels towards HIV and AIDS that have been achieved by participating in the MEPI clinical programme. It had eight items, also responding to evaluation of question two.

Section F: Questions based on the perceptions about the programme activities. It had fifty five items to respond to evaluation objective three.

Section G: Questions based on the benefits of the programme as perceived by the participants, with nineteen items, aimed to respond to evaluation objective three.

Section H: Questions on perceived limitations of the HIV and AIDS MEPI clinical programme. This section had two items aimed at responding to evaluation objective three.

The questionnaire consisted of items evaluated by means of the use of a Likert scale of one to four for objectives one to three. Four open-ended questions addressed part of objective three.

### **3.9 Data Collection**

Methods of data collection are decided upon by the researcher based on the type of evaluation and the evaluation questions. The methods of data collection that are commonly used to conduct an evaluation include tests, surveys, direct measures of specific constructs, individual interviews, focus group interviews, observations, and artifacts (Fitzpatrick, et al., 2011). For this evaluation study a quantitative method using a survey was used as the data collection method. Prior to the data collection process, full written permission granting approval for conducting evaluation research was obtained from the Dean and the Head of school from the school of nursing and public health. The University's ethics committee granted approval for the study and the Registrar gave the gate keepers' approval (Refer to annexures D and E).

The data collection process took place in the naturalistic environment of the participants i.e. in their classroom after their instruction period. The students were approached in their classroom after the permission had been obtained from the School of Nursing and Public Health and the academic leader of the Nursing discipline. The lecturers that were conducting a class sessions with the students were notified a day prior to the collection that data were going to be collected. That was done in order to prepare the lecturers and was further requested to inform the students at the beginning of the lectures that the researcher would be

coming on that particular day after lectures, for data collection. The data collection process took place over a two day period; this was due to nursing students attending lectures twice a week every week during their programme. Half of the students were reached on the 1<sup>st</sup> day and the rest of the students were reached on the 2<sup>nd</sup> day. The purpose of the study was explained to all the students and voluntary participation was solicited. The questionnaire and written consent forms were issued to all the students who were present in their classes. A participant information leaflet was also issued to the students. Two research assistants were employed and trained on how to distribute and ensure that questionnaires were completed appropriately. These two research assistants were employed in order to reduce bias since the researcher was the programme implementer.

Students were informed to use a black pen to fill in the questionnaire; if the students did not have a black pen then the research assistant would provide one to the students. Students were expected to complete the questionnaire and to hand it over to the research assistants immediately on completion. The maximum time expected to fill in the questionnaire was thirty minutes. On completion of the survey, all the questionnaires were inspected for completeness and they were entered into the computer and the hard copies were stored in a locked cupboard in the researcher's office.

### **3.10 Data management, storage and disposal**

The instruments used for the data collection were safely guarded by the researcher and were kept under lock and key. Data were accessible to researcher only for the purpose of writing up the research project. After the completion of the project, the data will be kept for five years at the School of Nursing and public Health, UKZN, after which they will be destroyed in accordance with University of KwaZulu-Natal requirements.

### **3.11 Data analysis**

Data analyses were performed using quantitative data analysis methods SPSS version 23. Descriptive statistics that describe one variable at a time were used, such as the mean, median and mode. Each response was given a code to be captured in the computer. Data was checked or cleaned and explored through the use of graphical display, and then it was analysed, interpreted and summarised. Descriptive statistics were used to characterize the profile of each nursing student. Descriptive statistics were used to describe and summarise the socio-demographic characteristics and perceptions of participants. Percentages were used in the evaluation.

Open-ended questions were analysed using content analysis techniques. Themes were constructed as they emerged from the data. Data was collected using manually distributed questionnaires.

The results were analysed using descriptive statistics and these are presented in the form of tables and graphs. The analysis was done using the statistical Package for Social Sciences (SPSS) Windows version 23.0. Answers to open-ended questions in the questionnaire were summarised by using content analyses and responses were put into themes. Data presentation was guided by the research questions.

### **3.12 Validity and Reliability of Instrument**

Reliability is the consistency with which an instrument measures the attributes (Polit and Beck; 2006). According to Brink (2006), reliability of the research instrument refers to the degree to which the instrument can be relied upon to yield consistent results, if it is used repeatedly over time on the same persons, or if used by two different researchers. Therefore the instrument that was used for the survey already exists in literature and its reliability has

been ensured that it measures what it's supposed to measure. Furthermore, internal consistency was measured to ensure the reliability of the adapted questionnaire by means of calculating the Cronbach's alpha. The indexes of internal consistency ranged in value between .00 and 1.00, the higher the reliability coefficient, the more accurate (internally consistent) the measure (Polit and Beck; 2006). The Cronbach's  $\alpha$  for the entire questionnaire is .865. According to Tavakol & Dennick (2011), the score of .865 is considered to be good.

Content validity refers to the ability of the instrument's items to represent all the major content of the construct being measured (Burns & Groove, 2009). Content validity was determined in this study in consultation with the research supervisor who is an expert on the research topic under study.

The outcomes evaluation framework that displays content validity of the instrument is summarised in the table below.

**Table 3.1 Validity of Research Instrument**

<b>Evaluation questions</b>	<b>Link to outcomes in the logic model</b>	<b>Data collection method</b>	<b>Data collection tool(s)</b>	<b>Timing of data collection</b>
1. What are the demographic characteristics of nursing students who participated in the HIV and AIDS MEPI Clinical programme?	The whole logic model	Survey	Questionnaire (Q1-Q6)	After the programme
2. What are the short-term outcomes demonstrated by the participants of the HIV and AIDS clinical programme?	Knowledge gain of HIV/AIDS theory. HIV specific skills acquisition. Changes in attitudes & beliefs regarding HIV & AIDS Motivation & confidence towards HIV & AIDS	Survey	Questionnaire (Q7-Q57)	After the programme



	Competency in performance of HIV and AIDS Various clinical skills			
3. What are the perceptions of the HIV and AIDS clinical programme by the participants?	Programme's activities  Benefits of the programme  Barriers to the programme-	Survey	Questionnaire (Q58-Q77)  (Q78-Q232)  (Q133-Q134)	After the programme

### 3.13 Ethical Considerations

In accordance with the University of KwaZulu-Natal's rules, the researcher applied for and sent the proposal to the UKZN ethical committee for ethical approval. The researcher also sought the permission from the Dean the School of Public Health (by means of a letter), the Nursing Discipline academic leader, as well as from the participants before the research was conducted.

For participants to make their decisions on whether to participate in the study or not, they require accurate information about the study (Grove et al., 2013). Individuals should be informed about the study they are about to participate in. To inform participants in this study, the researcher had to explain to the participants the purpose and significance of the study verbally and as well through the information sheet written in English, which was retained by the participants. The researcher also had to provide an avenue to support all participants in case they had the need to discuss any concerns or uncertainties they had and that was achieved through consultation with the researcher personally. This controlled any potential

harm such as embarrassment that could arise from filling in the questionnaire. They were also informed of the use to which the evaluation will be put, as well as of any other implications of the evaluation.

As it is unethical to allow an unauthorised person to have access to the study's raw data (Grove et al., 2013) the researcher kept the information obtained from the respondents confidential. To further protect their rights to privacy, the participants were not required to disclose any personal, identifiable information. The questionnaires did not request respondents to provide their names. The required information was such that information cannot be traced back to respondents through their responses to the questionnaire. Qualitative data presentation would not identify any participant by name. Not participating in the study did not affect their studies in any way.

In addition, consent forms were also issued to the participants to obtain their written permission (consent). In it, it was clearly stated that participation was voluntary and they could voluntarily withdraw from participation at any point of the study and could seek for clarification where necessary. The contact information of the researcher, the researcher's supervisor and UKZN ethical committee chair was provided for any questions or concerns that the participants may have had regarding the study.

Participants were informed that no direct benefits and harm were to be anticipated from the study and that it was being conducted for academic purposes. Participation was voluntary, with no form of coercion was used against participants. After data collection, all the information collected was placed in a location with restricted access until analysis was completed. Information collected and the forms used to obtain consent will be stored for 5 years post data analysis for future reference should any ethical issues that require verification arise during this period.

### **3.14 Conclusion**

This chapter looked at the research approach, the design, study setting, study population, study sampling and sample size. The instrument was described, the validity with regards to objectives and frame of reference were looked at. Data collection procedure, data analysis, ethical considerations, data management, storage and disposal were described.

## **CHAPTER 4**

### **EVALUATION STUDY RESULTS**

#### **4.1 Introduction**

This chapter presents the results of the evaluation study which was conducted to describe the short-term outcomes of the MEPI HIV/AIDS clinical programme for student nurses at UKZN.

#### **4.2 Sample realisation**

One hundred and sixty four (100 per cent) questionnaires were distributed to all the nursing students in their second, third and fourth levels of study. A total of 133 (81 per cent) of the students agreed to voluntarily participate in the evaluation study. Out of these 164 distributed questionnaires, a total of 31 (19 per cent) students did not voluntarily agree to participate in the study. Of the 31 learners that did not participate in the study, 9 (29 per cent) were absent from class during the period when data was being collected, while 22 (71 per cent) simply did not participate and that was evidenced by failure to complete the consent forms and returned blank questionnaires. However (n=133) (81 per cent) was achieved as the final sample size from the population, This was deemed to be a good sample size for this evaluation study, because according to the statistics calculator from Survey Systems, 115 is the desired sample size at 95 per cent confidence level and  $\pm 5$  per cent confidence interval (<http://www.surveysystem.com/resource.htm>, Accessed 16 October 2015). Further composition of the sample is shown in the table below (see Table 4.1)

**Table 4.1 Sample size**

Student category	Frequency	Per cent
2nd year	52	39.1
3rd year	34	25.6
4th year	47	35.3
Total (N=133)	133	100.0

The results presentation is guided by the evaluation questions and objectives.

Evaluation Objective 1: Describe demographic profile of the nursing students who participated in the MEPI HIV & AIDS clinical programme.

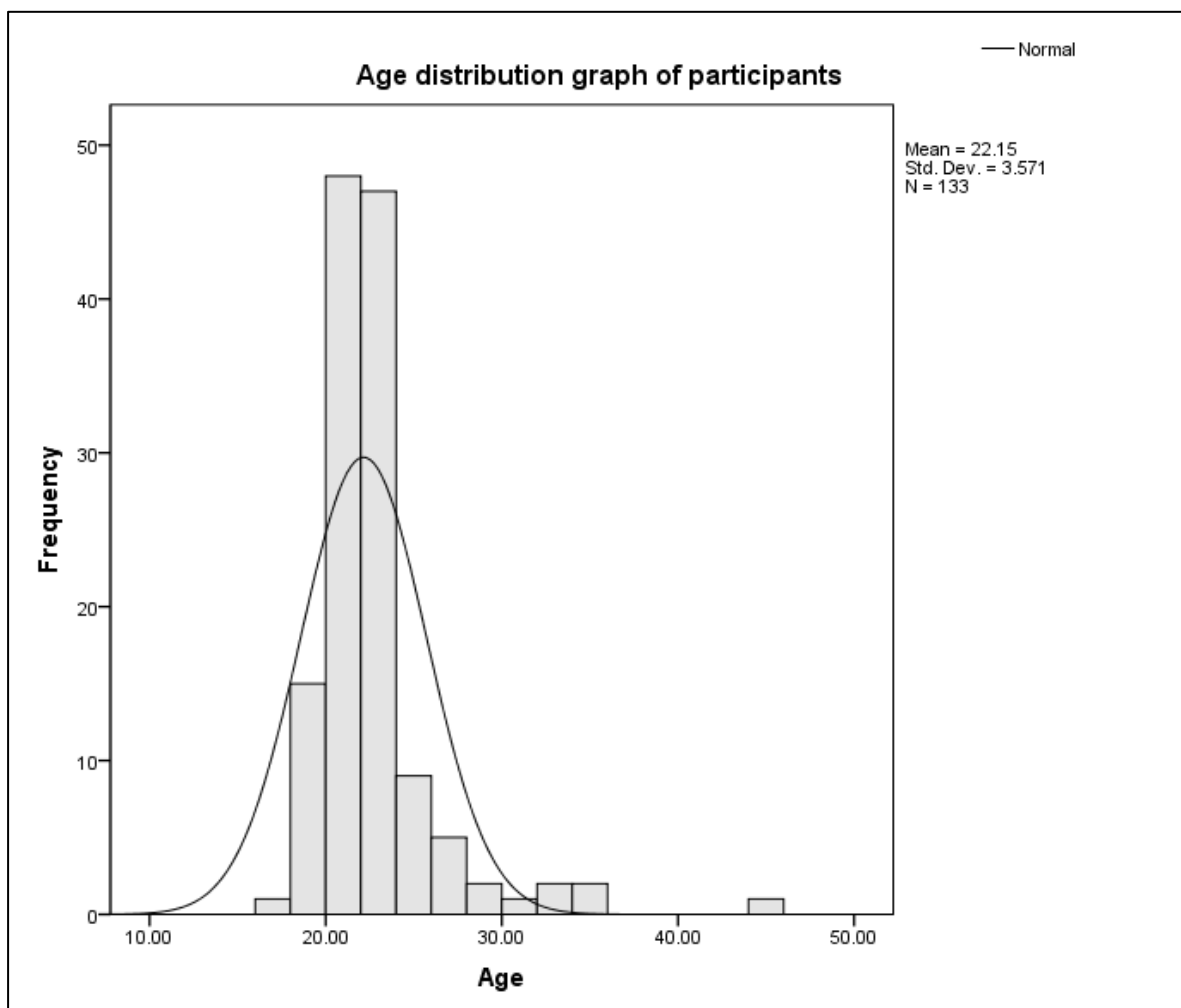
### **4.3 Demographic data of participants**

The demographic data of participants comprised age of participants, gender, race, and nationality, level of study and length of exposure to the programme.

#### **4.3.1 Age of the participants**

The findings of this evaluation study showed that the participants' age ranged between 17 and 45 years, with the span of 28 years. The mean age was 22.2 years (SD = 3.6) with a median of 22 years and the mode was 20 years. The majority of the sample participants were aged between 19-23 years (n=109, 82 per cent) compared to those aged 24 years and above (n=22; 16.5 per cent) and the smallest group were those aged between 17 and 18 years (n=2; 1.5 per cent) as reflected in figure 4.1. The ages of the participants were normally distributed, since most ages were close to the mean age, very few were distributed to one side or positively skewed.

The mean age of participants enrolled for 2<sup>nd</sup> year of their nursing studies (n=52; 39.5 per cent) was 20.7 years with standard deviation of 3.9. Those in 3<sup>rd</sup> year (n=34; 25.6 per cent) had a mean age of 22.1 years with a standard deviation of 2.2. Finally the 4<sup>th</sup> year enrolled participants (n=47; 35.3 per cent) had the mean age of 23.7 years and standard deviation 3.4 (See Table 4.2 below).



**Figure 4.1: Age of participants**

**Table: 4.2 :Mean Age distribution of participants**

Year of study	Mean	N	Std. Deviation
2nd year	20.7	52	3.9
3rd year	22.2	34	2.2
4th year	23.7	47	3.4
Total	22.2	133	3.6

### **4.3.2 Gender of participants**

The majority of the participants were female nursing students (n=110; 82.7 per cent). Male participants constituted the minority (n= 23; 17.3 per cent). Participants from all study levels were dominated by females, i.e. 2<sup>nd</sup> year students (n=44; 86.5 per cent), 3<sup>rd</sup> year students (n=26, 76.5 per cent) and 4<sup>th</sup> year students (n=40; 85 per cent). Males constituted (n=8; 13.5 per cent), (n=8; 23.5 per cent) and (n=7, 15 per cent) respectively. (See Table 4.3)

**Table 4.3 Gender per year of study distribution of participants**

Gender	Year of study			Total
	2nd year	3rd year	4th year	
<b>Male</b>	9 (17.3%)	8 (23.5%)	7 (15%)	24 (18%)
<b>Female</b>	43 (82.7%)	26 (76.5%)	40 (85%)	109 (82%)
<b>Total</b>	52 (100%)	34 (100%)	47 (100%)	133 (100%)

### **4.3.3 Race group of participants**

African participants were dominant over the other race groups, leading with 81.9 per cent (n=109), followed by Indians at 11.4 per cent (n=15), Whites at 3.8 per cent (n=5) and the least being Coloureds at 2.3 per cent (n=3). Essentially, African participants were dominant in all three levels of study. At 2<sup>nd</sup> year level there were (n= 40) 77 per cent, at 3<sup>rd</sup> year level (n=32) 85.9 per cent and at 4<sup>th</sup> year level (n=37) 78.8 per cent). Coloured participants were least represented in the entire sample (n=3) 2.3 per cent. None of the participants were from this demographic category at the 3<sup>rd</sup> year level. Only (n=1) 1.9 per cent representation was recorded from the 2<sup>nd</sup> year level, and (n=2) 4.3 per cent was from the 4<sup>th</sup> year level participants. The proportion of Indian participants (n=9), 17.2 per cent, came from the 2<sup>nd</sup> year level, (n=2) 8.8 per cent from 3<sup>rd</sup> year level and (n=5) 10.5 per cent came from the 4<sup>th</sup> year level. No white participants were involved at the 3<sup>rd</sup> level of study, only (n=2) 3.8 per cent and (n=3) 6.4 per cent were from the 2<sup>nd</sup> and 4<sup>th</sup> year levels respectively (See Table 4.4 below).

**Table 4.4 Race and gender distribution**

Gender	2 <sup>nd</sup> years (n=52)		3 <sup>rd</sup> years (n=34)		4 <sup>th</sup> years (n47)		Total N= 133
	Male	Female	Male	Female	Male	Female	
<b>Race African</b>	7 (13.5%)	33 (63.5%)	8 (15.3%)	24 (70.6)	7 (14.9%)	30 (63.9%)	109 (82.6%)
<b>Coloured</b>	0	1 (1.9%)	0	0	0	2 (4.3%)	3 (2.3%)
<b>Indian</b>	1 (1.9%)	8 (15.3%)	0	2 (5.8)	0	5 (10.6%)	15 (11.4%)
<b>White</b>	1 (1.9%)	1 (1.9%)	0	0	0	3 (6.4%)	5 (3.8%)
<b>Total</b>	9 (17.3%)	43 (82.7)	8 (23.5)	26 (76.5%)	7 (14, 9%)	40 (85.1%)	133 (100)



#### **4.3.4 Nationality of participants**

The majority of the students (n=127) 95.5 per cent were South Africans, while (n=6) 4.5 per cent were from other countries within the African continent, including Swaziland (n=3) 50 per cent, Congo (n=1) 17 per cent and Rwanda (n=2) 33 per cent. (See Table 4.5)

#### **4.3.5 Year of study of respondents**

Fifty two (39.1 per cent) of the respondents were currently second year nursing students, 34 (25.6 per cent) were third years and 47 (35.3 per cent) were in their final year. (See Table 4.5)

#### **4.3.6 Length of exposure to the MEPI clinical programme**

Fifty two (39.1 per cent) respondents had one year of exposure, 34 (25.6 per cent) had two years of exposure and 47 (35.3 per cent) had three years of exposure to the MEPI clinical programme. (See Table 4.4)

**Table 4.5 Demographics of respondents (summery)**

<b>Variable</b>	<b>Frequency N=133</b>	<b>Per centage %</b>
<b>GENDER</b>		
Male	23	17.3%
Female	110	82.7%
<b>RACE</b>		
African	109	81.9%
Coloured	3	2.3%
Indian	15	11.4%
White	5	3.8%
<b>NATIONALITY</b>		
South African	127	95.5%
Other	6	4.5%
<b>YEAR OF STUDY</b>		
2 <sup>nd</sup> level	52	39.1%
3 <sup>rd</sup> level	34	25.6%
4 <sup>th</sup> level	47	35.3%
<b>LENGTH OF EXPOSURE TO THE MEPI PROGRAMME</b>		
1 year	52	39.1%
2 years	34	25.6%
3 years	47	35.3%

Evaluation Objective 2: What are the short-term outcomes demonstrated by the participants of the HIV and AIDS clinical programme?

#### **4.4 Short-term outcomes of the MEPI HIV/AIDS clinical programme**

Short-term outcomes for the MEPI HIV/AIDS programme were operationalised and this referred to participants' theoretical and specific skills knowledge gained related to HIV and AIDS. Changes can be seen in attitudes and beliefs including motivation and confidence levels towards implementing HIV and AIDS care. Participants also perceived benefits and limitations to the programme demonstrated by the nursing students after having participated in the MEPI clinical programme.

##### **4.4.1 Theoretic HIV/AIDS knowledge gain**

In this evaluation study, knowledge was measured by asking the participants to rate their level of understanding of various HIV and AIDS theoretically- based topics, as well as by asking them, about their understanding of specific HIV-related clinical skills that they would have acquired through participation in the MEPI HIV/AIDS clinical programme. Participants' responses were then placed into two categories, i.e. understanding and not understanding. It was concluded in the context of this evaluation study that those who responded positively by stating that they understood the various topics at hand, they were then categorised into those who were knowledgeable and those who responded negatively who were categorised as not being knowledgeable. Both the theoretical and clinical skills were measured under this objective as the short-term outcome of the programme. (See Tables 4.6 and 4.8 below).

**Table 4.6 Participants' theoretical HIV/AIDS knowledge gain**

N=133	Knowledgeable		Not knowledgeable	
	n	%	n	%
Origins and history of HIV & AIDS	84	63.4%	49	36.6%
HIV epidemiology	91	68.1%	42	31.9%
HIV pathophysiology	93	70.2%	40	29.8%
Immunology and HIV	97	72.9%	36	27.1%
HIV transmission	116	87.5%	17	12.5%
HIV screening/diagnosis	109	81.8%	24	18.2%
Values clarification , Risk Assessment and Risk Reduction	92	69.5%	41	30.5%
HIV prevention strategies	118	88.4%	15	11.6%
Stages of HIV and Stage monitoring	106	80%	27	20%
Pre and post HIV test counselling	104	78%	29	28%
STIs	106	79.4%	27	20.6%
Opportunistic infections	108	81.3%	25	18.7%
Stigma and disclosure Legal and ethical issues- informed consent and confidentiality	99	74.6%	34	25.4%
Management of HIV	91	75%	42	25%
Introduction to Anti-retroviral Treatment	88	66.4%	45	33.6%
HIV care overtime: Palliative care	72	54.3%	61	45.7%

Below, in Table 4.7, evidence can be seen of the participant's theoretical knowledge gain, as per their study levels with respect to knowledge of the pathophysiology of HIV.

**Table 4.7 Theoretical knowledge gain: HIV pathophysiology**

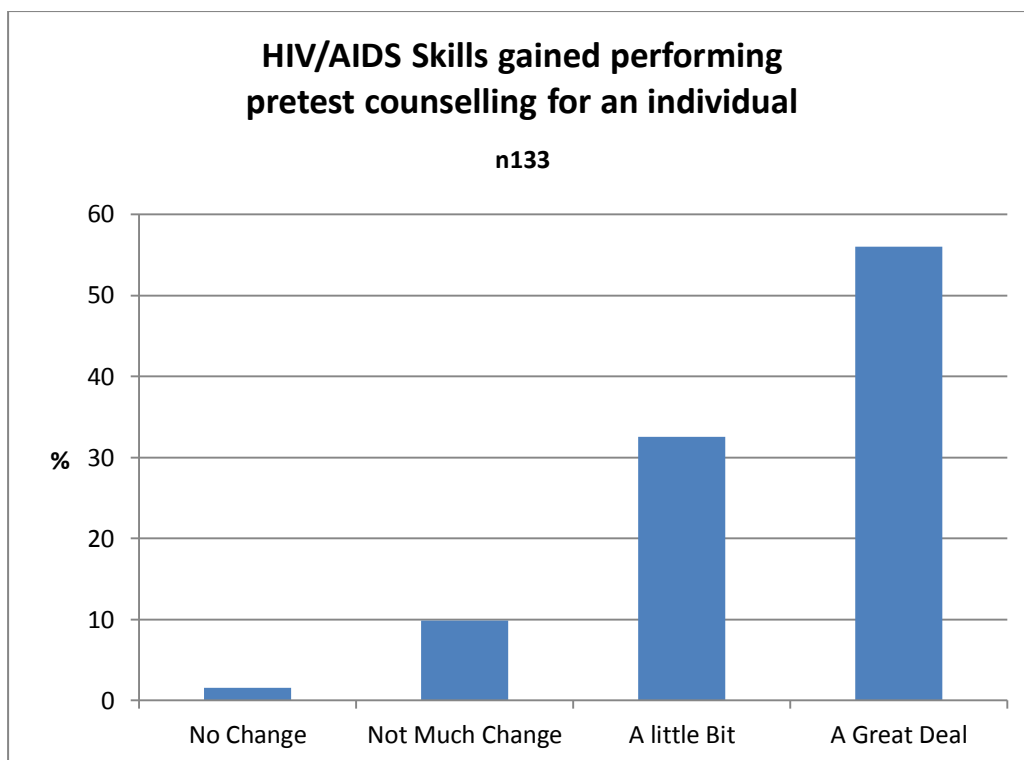
N=133	As a result of MEPI clinical programme, to what extent do you understand: HIV pathophysiology				Total
	Not very well	Understand quite well	Understand very well	Already knew	
Year of study 2nd year	5 (3.8%)	14 (10.7%)	30 (23%)	2 (1.5%)	51(39%)
3rd year	1 (0.8%)	10 (7.6%)	18 (13.7%)	4 (3.1%)	33 (25%)
4th year	1 (0.8%)	8 (6.1%)	34 (26%)	4 (3.1%)	47 (36%)
Total	7 (5.3%)	32 (24%)	82 (63%)	10 (7.6%)	131(100%)

#### **4.4.2 Participants' HIV and AIDS related SKILLS (competencies) gained**

Specific HIV related skills or competencies were taught during the MEPI HIV/AIDS clinical programme. Participants were required to explain the extent of which they felt they had gained these skills. Responses were then summarised into knowledgeable and non-knowledgeable categories - similar to theoretical knowledge gain above. Participants reported having knowledge of all HIV/AIDS-related skills. A figure of 88.7 per cent of the participants knew how to conduct Pre-HIV test counselling for an individual, see figure 4.2 where illustrations per each level is demonstrated. Counselling for couple (83.2 per cent), group (74 per cent) and care giver (77.8 per cent) as also reported as being obtained by the students. Respondents reported sound knowledge of conducting HIV screening and laboratory investigation tests, namely rapid HIV test (93.7 per cent), PCR (64.3 per cent) and CD4 cell count (66.4per cent) including viral load (61.4 per cent) tests together with their interpretations. A figure of 83.1 per cent of the respondents reported being able to issue various HIV results to the client. Skills related to HIV prevention modalities were mostly rated as known with respect to demonstration on how to use a male (93.1 per cent) and female (94.7 per cent) condom using a model. (See table 4.8)

**Table 4.8 HIV & AIDS-related SKILLS gained**

N=133	Knowledgeable		Not knowledgeable	
	n	%	n	%
HIV pre -test counselling (individual)	118	88.7%	15	11.3%
HIV pre -test counselling (couple)	111	83.2%	22	16.8%
HIV pre -test counselling (group)	98	74%	35	26%
HIV pre -test counselling (care-giver)	103	77.8%	30	22.2%
Performing rapid HIV testing	125	93.7%	8	6.3%
Post-test HIV counselling	114	85.9%	19	14.1%
Issuing of various HIV results to a client	111	83.1%	22	16.9%
obtaining a specimen for CD4 cell count & interpretation	88	66.4%	45	33.6%
obtaining a specimen for Viral load & interpretation	82	61.4%	51	38.6%
Performing PCR	86	64.3%	47	35.7%
Putting on a male condom	124	93.1%	9	6.9%
Putting on the female condom	126	94.7%	7	5.3%
Adherence to treatment counselling	117	87.9%	16	12.1%



**Figure 4.2 HIV/AIDS skills performance of individual pre-test HIV counselling**

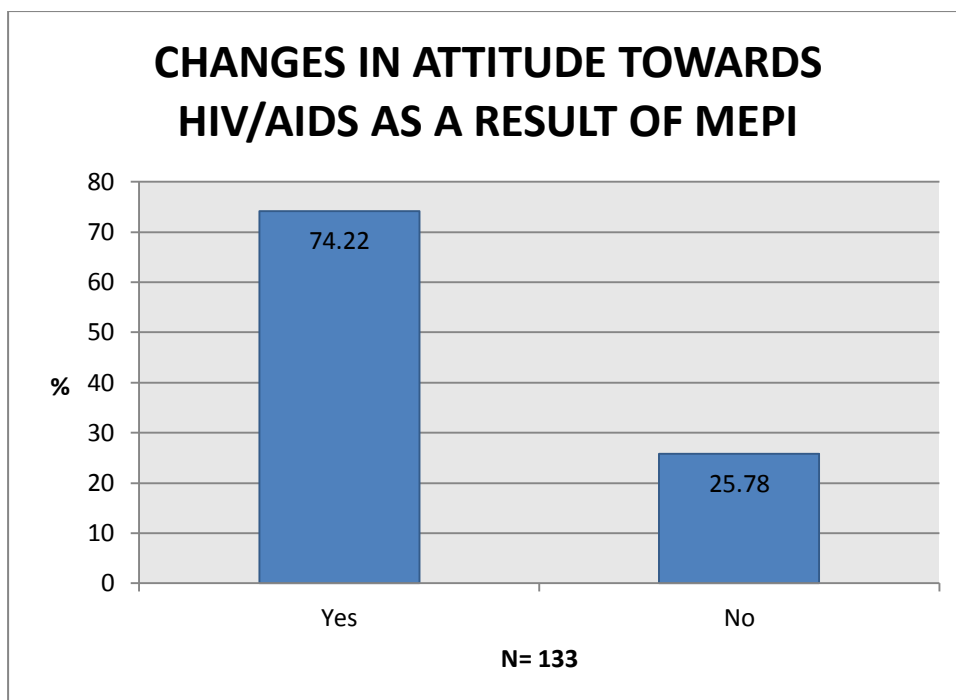
Further illustration, on the extent to which HIV/AIDS-related skills have been reported, per participant’s study levels, is displayed in the Table below.

**Table 4.9 HIV-related skill: putting on a male condom**

	To what extent do you feel you’ve gained new skills by participating in the MEPI clinical programme: Putting on a male condom				Total%
	No change	not much change	a little bit	a lot	
Year of study 2nd year	1(0.8%)	1(0.8%)	12 (9%)	38 (28.8%)	52 (39.4)
3rd year	1 (0.8%)	2 (1.5%)	10 (8.1%)	20 (15.1%)	33(25)
4th year	1 (0.8%)	3 (2.2 %)	10 (8.1%)	33 (25%)	47(35.6)
Total	3 (2.3%)	6 (4.5%)	32 (24.2%)	91 (69%)	132(100)

#### **4.4.3 Changes in Attitudes and beliefs about HIV and AIDS**

Since the MEPI HIV/AIDS clinical programme delivers HIV and AIDS-based education, it was anticipated that the programme participants would have a change in attitude and belief towards HIV and AIDS, and that could constitute a measure of the effectiveness of the programme and a measure of its benefits. This lies at the core of this evaluation study. Participants were asked if there were changes in their attitudes and beliefs regarding HIV and AIDS as a result of participating in the MEPI HIV/AIDS clinical programme. (See Figure 4.2 and Table 4.9 below). Additional questions were asked on attitudes and beliefs and the responses are summarised below. Responses were placed into positive and negative attitudes categories based on the responses given. The participants' attitude towards HIV/AIDS in various aspects was measured in order to see what impact or value the MEPI HIV/AIDS programme has had on the participants as whole. Questions were asked addressing attitudes towards HIV/AIDS in practice, as well as towards people infected and affected by HIV and AIDS. As a result of the MEPI HIV/AIDS clinical programme it is anticipated that a paradigm shift regarding HIV/AIDS should take place since the programme is purely HIV/AIDS-orientated. Responses were categorised into positive and negative attitudes. (See Table 4.10 below)



**Fig 4.3 Changes in attitude as a result of MEPI HIV Clinical programme**

**Table 4.10 Changes in Attitude and Belief about HIV and AIDS**

	Have you changed your attitude about HIV & AIDS in any way as a result of attending the MEPI clinical programme?		Total
	Yes	No	
Year of study 2nd year	32 (62.7%)	19 (32.3%)	51 (40%)
3rd year	24 (77.4%)	7 (22.6%)	31(24.2%)
4th year	39 (84.8%)	7 (15.2%)	46 (36%)
Total	95 (74.2%)	33 (25.7%)	128 (100%)

The majority of the students responded that they did experience a change of attitude as a result of attending the MEPI clinical programme across all levels of study as depicted in figure 4.3 and Table 4.10 above. With each level of study the level of change is increased. Detailed attitudes are displayed in Table 4.11 whereby the students generally present positive attitudes to most of the variables and negative attitudes were also reported by the minority.



**Table 4.11 Respondents' attitudes regarding HIV as results of the clinical programme.**

N=133	Positive		Negative	
	n	%	n	%
I am afraid of catching HIV through clinical practice	79	59.4%	54	40.6%
I believe sex workers, youths and other vulnerable groups are responsible for spreading HIV & AIDS	70	52.4%	63	47.6%
I believe that clients who get HIV & STI through illegal behaviour(e.g. Sex work) should not be treated at government clinics and hospitals	117	87.8%	16	12.2%
Hospitals should not refuse to care for a patient just because they are HIV positive.	110	82.5%	23	17.5%
There's no point treating a person with AIDS as they will die anyway.	116	87.1%	17	12.9%
As a student nurse I have a right to know a client's HIV status for my own safety	89	66.6%	44	33.4%
I would not go to a local clinic to be tested for HIV because everyone would know my status.	110	82.4%	23	17.6%
It is better NOT to know my HIV status.	119	89.3%	14	10.7%
I would care for a HIV positive relative in my home	15	11.4%	118	88.6%
I would buy food from a shop where an HIV positive person is working	16	12.2%	117	87.8%
I would visit the house of a friend even if they have a family member who has HIV	14	10.6%	119	89.4%
If I discover that my best friend is HIV positive- I would continue being their friend	18	13.6%	115	86.4%
I have an increased morale towards HIV & AIDS	132	99.3%	1	0.7%
I have greater confidence in my HIV & AIDS knowledge	130	97.8%	3	2.2%
I have increased motivation level towards dealing with cases of HIV & AIDS	131	98.5%	2	1.5%
I support the availability of an HIV treatment room within the clinical skills lab.	127	95.4%	6	4.6%
My fears towards HIV & AIDS decreased.	118	88.5%	15	11.5%
I can independently nurse a client with HIV	124	93.2%	9	6.8%
The programme has contributed to a better understanding of some electives which have HIV & AIDS content	131	98.5%	2	1.5%

Below in Table 4.12, the participants' fear of contracting HIV during clinical placement is outlined as per each year of study.

**Table 4.12 Fear of contracting HIV through clinical practice**

	CHANGES IN ATTITUDES AND BELIEFS ABOUT HIV AND AIDS : I am afraid of catching HIV through clinical practice				Total%
	Strongly agree	Agree	Disagree	Strongly disagree	
Year of study					
2nd year	9 (17.3%)	21 (40.3%)	14 (27%)	8 (15.4%)	52 (39)
3rd year	10 (29.4%)	16 (47.1%)	5 (14.7%)	3 (8.8%)	34 (25.6)
4th year	9 (19.1%)	14 (29.8%)	14 (29.8%)	10 (21.3%)	47 (35.3)
Total	28 (21.1%)	51 (38.3%)	33 (24.8%)	21 (15.8%)	133(100)

Majority of the students (59.4 %) of the students have fear of contracting HIV infections through clinical practice. 3rd year level students possess greatest fear.

**Table 4.13 Attitude towards an HIV positive friend**

N132		If I discover that my best friend is HIV positive- I would continue being their friend				Total
		Strongly agree	Agree	Disagree	Strongly disagree	
Year of study	2nd year	6 (11.8%)	0	7 (13.7%)	38 (74.9%)	51 (39%)
	3rd year	5 (14.7%)	2 (5.9%)	6 (17.6%)	21 (61.8%)	34 (26%)
	4th year	3 (6.4%)	2 (4.3%)	5 (10.6%)	37 (78.8%)	47 (36%)
Total		14(10.6%)	4 (3%)	18(13.6%)	96 (72.7%)	132(100%)

**Table 4.14 Attitudes towards an HIV-positive relative**

		<b>CHANGES IN ATTITUDES AND BELIEFS ABOUT HIV AND AIDS: I would care for an HIV- positive relative in my home</b>				<b>Total</b>
		<b>Strongly agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	
<b>Year of study</b>	<b>2nd year</b>	<b>3 (5.9%)</b>	<b>0</b>	<b>9 (17.6%)</b>	<b>39 (76.5%)</b>	<b>51 (100%)</b>
	<b>3rd year</b>	<b>1 (3%)</b>	<b>4 (12.1%)</b>	<b>10 (30.3%)</b>	<b>18 (54.5%)</b>	<b>33 (100%)</b>
	<b>4th year</b>	<b>4 (8.5%)</b>	<b>3 (6.4%)</b>	<b>12 (25.5%)</b>	<b>28 (59.8%)</b>	<b>47 (100%)</b>
<b>Total</b>		<b>8 (6.1%)</b>	<b>7 (5.3%)</b>	<b>31 (23.6%)</b>	<b>85 (84.9%)</b>	<b>131 (100)</b>

Table 4.13, & 4. 14 illustrate the negative attitudes student nurses have towards a friend or relative who can be diagnosed as being HIV positive. 84.9% would not care for a positive relative and only 13.6% of the students would continue being friends with someone who is HIV positive.

#### **4.4.4 Changes in motivation, confidence or abilities as a result of the MEPI clinical programme.**

Motivation and confidence levels of participants towards HIV/AIDS were measured to ascertain if any changes took place as a result of having being part of the MEPI HIV/AIDS clinical programme. The findings were placed in two categories, those of change and no change. Participants whose responses were classified as being no change meant that the participants were not inspired at any level regarding HIV/AIDS. Participants whose responses affirm that there was a change in their motivation meant that participants did gain some insight regarding HIV/AIDS as a topic to some extent.

All the study participants reported that changes in their HIV knowledge had taken place as a result of participating in the MEPI clinical programme. 96.2 per cent reported that they had an increase in morale towards HIV/AIDS. Greater confidence in HIV/AIDS knowledge was reported by 98.5 per cent. A figure of 97.7 per cent reported that the programme has

contributed towards a better understanding of some electives which have HIV and AIDS content in them. (See Tables 4.12 and 4.13 above)

**Table 4.15 Confidence and motivation towards HIV and AIDS**

N=133	Change		No change	
	n	%	n	%
I have an increased morale towards HIV & AIDS	128	96.2%	5	3.8%
I have greater confidence in HIV & AIDS knowledge	131	98.5%	2	1.5%
I have an increased motivation level towards my handling of HIV & AIDS cases	128	96.2%	5	3.8%
I support availability of an. HIV care room within the clinical skills lab.	126	94.5%	7	5.5%
My fears towards HIV & AIDS decreased.	124	93%	9	7%
I can independently nurse a client with HIV	126	94.6%	7	5.4%
The programme has contributed in better understanding of some electives which have HIV & AIDS content.	130	97.7%	3	2.3%

**Table 4.16 Motivation and confidence levels as per participant's level of study**

Statement	Strongly agree			agree			Disagree			Strongly disagree		
	2nd year n <sup>52</sup>	3rd year n <sup>34</sup>	4th year n <sup>47</sup>	2nd year n <sup>52</sup>	3rd year n <sup>34</sup>	4th year n <sup>47</sup>	2nd year n <sup>52</sup>	3rd year n <sup>34</sup>	4th year n <sup>47</sup>	2nd year n <sup>52</sup>	3rd year n <sup>34</sup>	4th year n <sup>47</sup>
I have an increased morale towards HIV & AIDS	19 37%	17 50%	21 45%	31 60%	16 47%	26 55%	2 4%	0	0	2 4%	0	0
I have greater confidence in my HIV & AIDS knowledge	29 56%	14 41%	26 55%	21 40%	19 56%	21 45%	2 4%	1 3%	0	0	0	0
I have increased my motivation level towards handling HIV & AIDS cases	24 46%	14 41%	22 49%	27 52%	19 56%	25 53%	1 2%	0	0	0	0	0
I support the availability of an HIV room within the clinical skills lab.	18 35%	12 35%	18 38%	32 62%	19 56%	26 55%	1 2%	2 6%	1 2%	1 2%	0	1 2%
My fears towards HIV & AIDS have decreased.	29 56%	13 38%	21 45%	15 29%	17 50%	20 43%	7 13%	1 3%	5 11%	0	1 3%	1 2%
I can independently nurse a client with HIV	20 39%	9 37%	28 60%	26 50%	22 65%	18 38%	6 12%	1 3%	0	0	1 3%	0
The programme has contributed to a better understanding of some electives which have HIV & AIDS content.	28 54%	12 35%	29 62%	21 40%	20 59%	17 36%	1 2%	0	1 2%	0	0	0

**4.4.5 Perceptions on programme activities MEPI HIV/AIDS clinical programme**

For this evaluation study, the programme recipients' perceptions regarding the programme activities were deemed to be vital since they would play an important part in providing insight and feedback about the programme activities. Especially by looking at how the

programme was offered in order to provide feedback to various stakeholders as well as to further influence future implementation of the programme activities. This will fulfil the meaning and definition of evaluation according to Levin-Rozalis (2003); Fitzpatrick, Sanders, & Worthen (2011), where they state that the importance of evaluation is all about attaching value and judging how the programme is progressing. Furthermore, Fitzpatrick et al. (2011), highlight that the one important goal of evaluation is the use of the evaluation findings to inform decisions especially those of the funders.

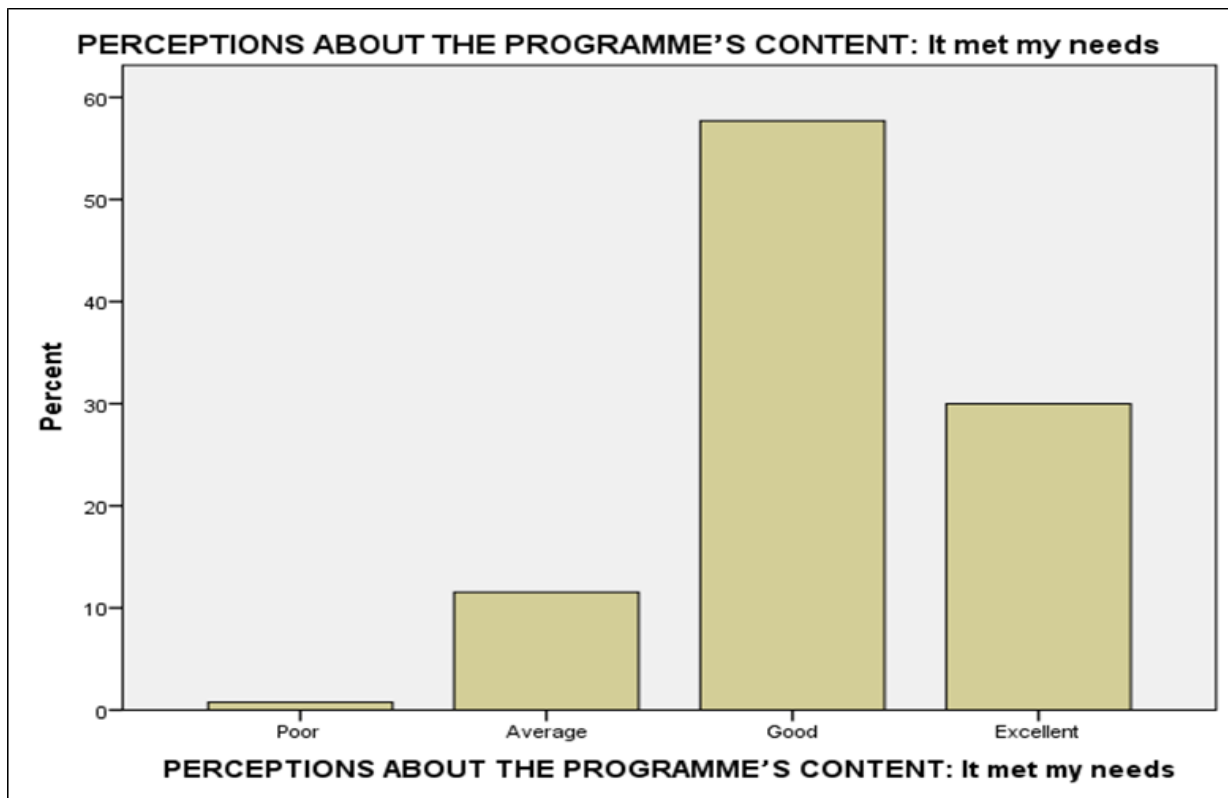
The participants' responses regarding programme activities were placed into three categories namely poor, average and good. This aspect in the evaluation study served as a display of the extent of the participants' satisfaction with the MEPI HIV/AIDS programme. Five areas were at the core to measure participants' perceptions, namely programmes content, organisation, the speaker as well as the teaching media used during the programme. (See Tables 4.17, 4.18, 4.19, and 4.20 below)

**Table 4.17 Perceptions about the HIV/AIDS MEPI clinical programme: Content**

N=133	Poor		Average		Good	
	Count	Percentage	Count	Percentage	Count	Percentage
It met my needs	1	0.8%	15	11.5%	117	87.7%
It is suitable to my level of experience and study	1	0.8%	11	7.8%	121	91.4%
It is interesting	1	0.8%	16	9.9%	116	89.3%
It is up to date and forward-looking	1	0.8%	11	8.5%	121	90.7%
It is consistent with stated objectives	1	0.8%	9	6.8%	123	92.5%
It is understandable	0	0	3	2.3%	130	97.5%
It is logically organized	1	0.8%	14	10.6%	118	88.6%
It includes sufficient examples	1	0.8%	14	10.7%	118	88.5%
The lecture description was accurate	2	1.5%	17	12.9%	114	85.6%

**Table 4:18 Content suitability for participants' level of study and experience**

Suitability (n=133)	2 <sup>nd</sup> years %	3 <sup>rd</sup> years %	4 <sup>th</sup> years %
Poor	1.9		
Average	5.8	18.2	2.1
Good	44.2	63.6	34.0
Excellent	48.1	18.2	63.8
Total	100.0	100.0	100.0



**Figure 4.4 Programme perception: meeting needs**

**Table 4.19 Perceptions about the HIV/AIDS MEPI clinical programme: Organisation**

N=133	Poor		Average		Good	
It is well organized	0	0%	15	11.4%	118	88.6%
It follows a logical order	0	0%	15	11.3%	118	88.7%
It starts on time	3	2.3%	26	19.4%	104	78.3%
The venue is always prepared for the session	2	1.5%	19	14.4%	112	84.1%
The equipment required was available and in good working order	3	2.3%	24	18.2%	106	79.5%
The environment was conducive	2	1.5%	18	13.5%	113	85%
The quality of the facilities was adequate for learning	4	3.0%	13	9.8%	116	87.2%

**Table 4.20 Perceptions about the HIV/AIDS MEPI clinical programme: The Presenter**

N=133	Poor		Average		Good	
Always prepared	0	0%	10	7.6%	123	92.4%
Possesses knowledge of the subject matter	1	0.8%	12	9.0%	120	90.1%
Clear and easy to understand	1	0.8%	14	10.5%	118	88.7%
Answers questions well	1	0.8%	11	8.4%	121	90.8%
Presented the subject matter clearly and effectively	2	1.5%	11	8.3%	120	90.2%
Expressed ideas clearly	1	0.8%	11	8.5%	121	90.8%
The teaching format/length was suitable to content	2	1.5%	15	11.3%	116	87.2%
The teaching level was appropriate to audience	1	0.8%	11	8.4%	121	90.9%
Responsiveness to questions	1	0.8%	9	6.8%	123	92.5%
Speaking/teaching ability	1	0.8%	8	6.1%	124	93.2%
Used audio-visual aids effectively	3	2.3%	11	8.3%	119	89.5%
Gives clear and easy to follow hand-outs or notes	6	4.5%	10	7.5%	117	88%



**Table 4.21 Perceptions about the HIV/AIDS MEPI clinical programme: Teaching Media and Methods**

N=133	Poor		Average		Good	
	Count	Percentage	Count	Percentage	Count	Percentage
PowerPoint presentation	1	0.8%	4	3%	128	96.2%
Lectures	0	0%	6	4.5%	127	95.4%
Visual aids	2	1.5%	17	12.9%	114	85.7%
Group activities	8	6.1%	32	24.4%	93	69.5%
Clinical skills demonstration	3	2.3%	23	17.3%	7	80.4%
Notes	1	0.8%	10	7.6%	122	91.7%
Oral presentation	0	0%	8	6.1%	125	93.9%

Participants were further required to express their positive and negative experiences about the MEPI HIV/AIDS clinical programme activities, in order to gain more insight into their perceptions of the programme. Participants' responses were arranged categorically as portrayed in table below:

**Table 4.22 participants' positive and negative experiences**

CATEGORIES	
Positive experiences (95%)	Negative experiences (5%)
<ul style="list-style-type: none"> <li>• Knowledge gain</li> <li>• Confidence gain</li> <li>• Competency on rendering HIV care</li> <li>• Diminished fears about HIV/AIDS</li> <li>• Equips students with clinical skills.</li> <li>• Personal growth</li> <li>• Refreshments appreciated</li> <li>• Good support such as Resources</li> </ul>	<ul style="list-style-type: none"> <li>• Information overload, (41%)</li> <li>• Lengthy duration per session</li> <li>• Content covered for short amount of time</li> <li>• Insufficient resources</li> <li>• Certain topics were boring. So was the presenter.</li> <li>• Installation of fear</li> <li>• Real encounter with HIV positive person</li> <li>• Content not included in the curriculum</li> </ul>

Evaluation Objective 3: How do participants perceive the outcome of the HIV and AIDS clinical programme as presented through MEPI?

According to this evaluation study, the perceived outcome referred to what the programme participants perceived as being the benefits and barriers of the programme towards HIV/AIDS as a subject as well as their overall impression of the programme of the MEPI clinical programme. Further open-ended questions on benefits and barriers were asked for the participants to share.

#### **4.4.6 Perceived programme benefits**

Two categories were formulated in response to the participants' responses regarding the perceived programme benefits namely beneficial and non-beneficial.

A majority of the participants (96.1 per cent) expressed the view that they had gained an expanded understanding of HIV and AIDS, and 96.9 per cent also stated that the programme refocused their attention on HIV/AIDS. A figure of 98.4 per cent stated that new thinking in the area of HIV and AIDS was stimulated, while 98.4 per cent reported that the programme benefited them by helping with self-understanding. The HIV/AIDS concepts were learned and understood in great detail by 96.9 per cent, while 97.6 per cent of the participants felt that interest to learn more was stimulated and 91.3 per cent reported finding the course intellectually challenging. A figure of 97.7 per cent considers that they had learned something that they considered to be valuable. (See table 4.23)

**Table 4.23 Participants' reported benefits as a result of attending the MEPI programme.**

N=133	Beneficial		Not beneficial	
I gained an expanded understanding of HIV & AIDS	128	96.1%	5	3.9%
My insight increased into what was already known	128	96%	5	4%
Refocused attention on HIV & AIDS	129	96.9%	4	3.1%
Helped integrate information gained from other modules	124	92.9%	9	7.1%
Helped in understanding one's own beliefs	128	96.1%	5	3.9%
My thinking about HIV & AIDS was challenged	123	92.2%	10	7.8%
It stimulated interest to learn more	130	97.6%	3	2.4%
Stimulated new thinking in the area of HIV & AIDS.	130	98.4%	3	1.6%
Triggered ideas around HIV & AIDS.	128	96.1%	5	3.9%
Helped in applying information in real situations.	130	97.6%	3	2.4%
Encouraged action.	129	96.8%	4	3.2%
Helped in self-understanding.	129	96.9%	4	3.1%
I have learned new skills that will help in the clinical area	130	98.4%	3	1.6%
I have increased my knowledge about HIV & AIDS	129	96.8%	4	3.2%
I am more aware of other transmission routes	128	96.1%	5	3.9%
I am stimulated to learn more about HIV and AIDS	130	98.4%	3	1.6%
I found the course intellectually challenging and stimulating.	121	91.3%	12	8.7%
I have learned something which I consider valuable	130	97.7%	4	2.3%
My interest in HIV & AIDS has increased as a consequence of the MEPI programme.	129	96.8%	4	3.2%
I have learned and understood concepts about HIV & AIDS in great detail.	130	97.6%	3	2.4%

#### **4.4.7 Perceived participants' barriers**

An open-ended question was asked to address the limitations that the participants encountered while being part of the MEPI HIV/AIDS clinical programme. Participants were further requested to make suggestions on the perceived limitations. Responses were subjected to content analyses and below are the summary of the findings and variables found were placed in categories. See Table 4.24.

**Table 4:24 Limitations and suggestions for the Clinical programme.**

<b>BARRIERS that were reported by 27 per cent of the students:</b>
<ul style="list-style-type: none"><li>• Timing of some programme activities not conducive</li><li>• Needed Communication and interpersonal skills from the students.</li><li>• Not enough preparedness to deal with positive results</li><li>• Content at a higher level.</li><li>• Lecturer absent during the practicals (simulation)</li><li>• Shorter attention span.</li><li>• Lack of interest -content repetitive on some topics</li><li>• Time frame is short</li><li>• Lack of feedback from students.</li></ul>

#### **4.4.8. Overall perceived benefits or impression of the programme**

Participants' impressions were categorised into three difference categories, namely poor, average and good.

All the participants had a good impression of an HIV/AIDS MEPI clinical programme for the undergraduate nursing students. All the participants reported all variables in this section as being good. (Refer to Table 4.25)

**Table 4.25 Overall impression of the clinical programme**

N=133	Poor		Average		Good	
It helped me better understand HIV content	1	0.8%	9	6.8%	123	92%
It provided me with relevant information needed for clinical practice	0	0%	7	5.3%	126	93.7%
It provided me with relevant information needed for personal development	0	0%	8	6.2%	125	93.8%
Information gained will be of great immediate use to me	0	0%	8	6%	125	94%
It expanded my thinking about the topic	0	0%	6	4.6%	127	93.4%
It will be helpful in my career	1	0.8%	7	5.3%	125	93.9%
It built my confidence regarding HIV aspects	0	0%	7	5.3%	126	94.7%
It should continue to take place.	1	0.8%	6	4.5%	126	94.7%
Information could be applied to practice	1	0.8%	8	6%	124	93.2%
I acquired new skills or knowledge in relation to topic discussed	1	0.8%	10	7.5%	122	91.8%
Information could contribute to achieving personal, professional goals	0	0%	7	5.3%	126	94.7%

#### **4.5 Conclusion**

In this chapter, the summary of all the results based on the evaluation questions posed to the participants was presented mainly in the form of descriptive statistics, and use of frequencies and tables. The main findings are based on the first objective of the study. The findings

reflect that the demographic profile of the students that participated in the Clinical HIV/AIDS programme shows that there are a majority of African, females, of an average age of 22.2 years and from South Africa. With regards to the second objective the participants demonstrated an increase in HIV knowledge and skills with changes in attitude towards people living with HIV but with a very negative attitude if it affects people who are related to them, despite having reported that they have increased morale towards HIV/AIDS as a topic. The main findings of the final objective include the participants stating they were empowered by the programme and they felt that it should be incorporated into the nursing curriculum.

## **CHAPTER 5**

### **DISCUSSION**

#### **5.1 Introduction**

This chapter presents the discussion of findings. The main purpose of the study was to conduct short-term outcomes evaluation of the MEPI HIV and AIDS clinical programme for nursing students in a selected site. The discussion is guided by the study objectives as well as well as the programme's logic model and CIPP evaluation model.

#### **5.2 Discussion of Findings**

The discussion focuses on the demographic profile of the nursing students who participated in this evaluation study, perceived outcomes relating to knowledge and skills gained as a result of attending the programme, and outcomes relating to attitude and beliefs about HIV and AIDS, motivation and confidence, perceptions about the programme activities, overall impression as well as barriers and suggestions about the programme.

##### **5.2.1 Demographic profile of the participants**

All the study participants (n=133) were undergraduate nursing students either enrolled in the second, third or fourth year level of study.

##### ***5.2.1.1 Race***

The majority of the nursing students (n=109, 81.9 per cent) who participated in this evaluation study were Africans, followed by Indians (n=15, 11.4 per cent), Whites (n=5, 3.8 per cent) and Coloureds (n=3, 2.3per cent) as a minority. This demographic finding was not

surprising because the University under study has a demographic makeup which was dominated mainly by African students during the period 2013-2015 when these study participants were registered (DMI, undated). Therefore, the demographic profile of the nursing students is in line with that of University's profile, and in terms of the MEPI objectives it also meets one of the programme objectives of wanting to offer clinical training of physicians and nurses in Sub-Saharan African countries, which are heavily burdened by HIV/AIDS. Therefore this was an expected outcome as per programme objectives. As a result, it can be said that MEPI has successfully met their stated or desired objective of training African students from HIV-burdened countries through the clinical programme.

#### ***5.2.1.2 Age***

The age of nursing students in this evaluation study ranged from a minimum of 17 years (n=1, 0.8 per cent) to a maximum of 45 years (n=1, 0.8 per cent) and an average age was 22 years (n=37, 27.8 per cent). It was somewhat encouraging to note that the programme recipients' were relatively young, this meant that the programme was able to reach the proportion of the key at risk population, since the 2014 GAP report highlighted that the highest HIV incidence and prevalence rates are among women aged 15 to 24 in South Africa. However the age was in line with programme's target for undergraduate nursing training in HIV. Previous studies on HIV and nursing students have reported that the age had a positive correlation with HIV knowledge among the student nurses (Bektas & Kulakac, 2007; Suominen et al., 2010). However in this study, such a correlation was not made due to the homogeneous nature of the sample in terms of the age, since majority (n=117, 88.3 per cent) of the students fell between the ages of 19 to 24. In short, the student nurses who participated in this evaluation study were classified as being non-traditional undergraduate students due to the nature of diversity in terms of their race, gender and age (Wright & Maree, 2007; Mc



Lachlan, 2010 and Mdepa & Tshiwula, 2012). The minimum age of 17 (n=1, 0.8 per cent) was rather uncommon and unexpected; because it meant that the student would have completed his/her primary and secondary educational level at the age of 15 which is not a normal expectation in the South African context. But in terms of the MEPI project, these results meant that it was good that majority of the young and future nursing professionals received pre-service training which meant that their training will have an impact to the communities and health service for a long time after graduation, as opposed to training the older generation who are nearing retirement and those who have been in the service for a long time, since literature reveals that such nurses fail to embrace new knowledge and want to continue doing things the way they have always done. They tend to be resistant to change (Hader & Officer, 2013). The MEPI HIV/AIDS clinical programme lays a good HIV knowledge foundation, which, hopefully, will not easily be forgotten by the students. It now forms part of their primary professional education in nursing.

The student's maximum age of 45 (n=1,0.8 per cent) was still an acceptable and expected age since nursing is open for enrolment to the programme at any age as long as retirement age had not been reached on application. Therefore this type of student would also be referred to a non-traditional undergraduate nursing student (Wright & Maree, 2007; Mc Lachlan, 2010 and Mdepa & Tshiwula, 2012).

### ***5.2.1.3 Nationality***

The majority (n=127, 95.5 per cent) of the students' participating in the study were South Africans and a minority (n= 6, 4.5 per cent) originated from other foreign African countries, such as Swaziland (n=3, 50 per cent), Congo (n=1, 17 per cent) and Rwanda (n=2, 33 per

cent). These findings are important in order to establish whether or not the programme is addressing the right target population that it intended to address. In this case, the programme was rendered to the right target population since MEPI grant conditions stipulated clearly that it was awarded by the National Institute of Health (NIH) in order to provide support to African institutions working in partnership with a U.S. and/or other African University-based medical schools to strengthen and build the clinical and research capacity of Medical Educational Institutions in Sub-Saharan Africa and thereby help to strengthen the human capacity for Health in Africa. Furthermore, one of the UKZN MEPI project goals was capacity development by increasing the quality and quantity of local healthcare workers trained. This study confirmed that local nursing students are being trained in HIV/AIDS which in turn means that capacity development is taking place as a result of the programme and the country will be producing nursing graduates that are knowledgeable, equipped and skillful, especially in terms HIV/AIDS as a subject. They should therefore be in a position to improve the country's HIV care delivery needs at the end of their academic training. Unfortunately no previous studies have been conducted as programme of this nature had never been implemented before.

Students' places of origin (nationality) in the context of HIV/AIDS education are important because delivery and management of HIV/AIDS depends uniquely on how each individual country views and is affected by the pandemic as well as their economic standing. The World Health Organisation can make recommendations regarding its management, but each country has to adopt their own strategies towards dealing with epidemic. The MEPI HIV/AIDS clinical programme under evaluation was based on the South African context, driven by the National Department of Health policies on HIV/AIDS.

### ***5.2.1.3 Gender***

Nursing as a profession can be described as predominantly a female profession (Smith & Mackintosh, 2007). Therefore it is not surprising that the majority (n=110, 82.7 per cent) of this evaluation study's participants were females. Males constituted the minority (n=23, 17.3 per cent). This is consistent with what the literature reveals about males in nursing. Male nursing students are seen as non-traditional students in an undergraduate nursing programme (Dyck, Oliffe, Phinney & Garrett, 2009). Therefore, the MEPI clinical programme trained more female student nurses (n=110, 82.7 per cent) as opposed to male students. This is consistent with the findings of the study conducted on the Russian nursing students by Suominen et al., (2015) on describing their attitudes and knowledge in the context of HIV whereby 89 per cent in that sample consisted of females.

Comparisons of the male and female nursing students in light of HIV and their knowledge has been done before in the literature, and Bektas and Kulak (2007) found that male nursing students were more knowledgeable than female nursing students regarding HIV knowledge levels and attitudes in the Russian nursing students study. In this evaluation study, however, no comparisons were made between the males and females because male students constitute a small percentage compared to their female counterparts.

### ***5.2.1.4 Duration of exposure to the programme***

There was consistency between the lengths of exposure to the MEPI programme with the students' level of study. In literature there are no documented similar programmes such as this one with regards to the length of exposure and continuous HIV training, instead other educational HIV programmes ranged from a week to 6 months long distance HIV learning programme, those include among studies by Curran et al., (2005), Taher & Abdelhai (2011)

### **5.3 Participants' theoretical HIV/AIDS knowledge gain**

It was encouraging to note that all participants in the MEPI HIV/AIDS clinical programme reported improved understanding of various theory- based HIV/AIDS topics in this study. Their understanding of these topics it can confidently be said was as a result of the MEPI HIV/AIDS clinical programme. Theoretical HIV/AIDS knowledge gain has been achieved. This means that the nursing students have been equipped with background HIV/AIDS knowledge and that is essential since it will enhance how they perform day-to-day HIV care in nursing practice to improve the lives of those affected and infected with the disease.

Table 4.6 depicts that 87.5 per cent (n=116) of the nursing students across all the study levels reported that they possess knowledge of HIV transmission. 81.8 per cent (n=109) knew about HIV diagnosis, knowledge of HIV prevention strategies were reported by 88.4 per cent (n=118), 80 per cent (n=106) reported knowledge on stages of HIV and Stage monitoring, 78 per cent (n=104) reported good knowledge of Pre- and post-HIV test counselling. HIV/AIDS-related STIs and Opportunistic infections were reported at 79.4 per cent (n=106) and 81.3 per cent (n=108) respectively. This was a positive finding since it means that as future registered nurses, that have gone through this programme, they should be competent in dealing with HIV/AIDS in clinical practice, more so now since it has been an adopted and an accepted fact that in the South African Public Health System nurses are the main and leading role-players in the management and treatment of HIV influenced mainly by human resource incapability which has resulted in the introduction of task-shifting of HIV care services.

Implementation of task-shifting in HIV care has been formalised and indorsed by the WHO/UNAIDS/PEPFAR as early as 2007 even though the WHO came up with the proposal in 2004( WHO, 2004;2007). South Africa began the task-shifting of HIV care services in

2010 (DoH 2010). Relatively, it's a fairly new concept and an added role for nurses. Hence proper grounding and preparation is required for such new tasks such as screening, diagnosing, monitoring and prescribing of ARV drugs. These roles were previously seen as medical doctors' function only (Collaghan, Ford & Schneider; 2010).

The MEPI clinical programme is therefore properly grounding the nursing students with the necessary HIV/AIDS theoretical knowledge as early as in their second year of study. Such preparation and grounding is vital because theoretical knowledge forms the basis of good clinical practice in nursing. According to Williams at al., (2006) nurses have always been at the forefront in HIV care ever since the first case of the epidemic was reported. Such grounding provided by MEPI is therefore absolutely necessary and more especially in the South African context, where HIV/AIDS has been declared as one of the priority areas for health.

The HCT policy (NDoH, 2010) stipulates that all health care users should be offered HIV services irrespective of reasons why they are seeking health care services; this requires that health care providers be up to date with their HIV/AIDS knowledge.

Various studies that have been conducted previously which also reported a good HIV/AIDS knowledge base among student nurses were similarly trained. Such studies include the one that was conducted in Cairo by Taher & Abdelhai (2011), in which it was demonstrated that there were high levels of HIV/AIDS knowledge amongst both the undergraduate and post-graduate nursing students. Most respondents stated that they knew the ways of HIV transmission and they displayed a theoretical understanding of HIV-related concepts. Wong et al. (2008) also had similar findings in their study which reported good knowledge of HIV/AIDS in Malaysia from nursing students.

However, contrasting findings have been reported by studies conducted in countries such as Uganda (Mungherera et al., 1997; Walusimbi & Okonsky 2004), Nigeria (Adelekan et al., 1995; Oyeyemi et al., 2006), Tanzania (Kohi & Horrocks 1994) and Cameroon (Mbanya et al., 2001) since they reported that healthcare workers often had a lack of knowledge about transmission and prevention of HIV which was also accompanied by a fear of contracting the HI virus.

However even in this study there were topics that received poor ratings. Knowledge of HIV Palliative care, for example, was weak. Only 54.3 per cent (n=72) reported any significant knowledge of this and 45.7 per cent (n=61) reported not possessing enough understanding. It was interesting to note the difference, since the same amount of time was devoted to each topic. This was valuable feedback to the MEPI programme since it revealed where the programme was less effective. There are many factors, however, that contribute to this reported low understanding level, including failure to relate to the topic since the students have hardly worked in the palliative care aspect during their clinical rotation in hospitals. Alternatively, it could be that the topic was not interesting or maybe it was delivered in an unsatisfactory manner. Such findings are essential in informing the strengths and weaknesses of the programme so that more emphasis can be placed on the challenging areas reported by the students.

Good and sound knowledge in nursing is important because nurses are dealing with people's lives and according to Babakian et al. (2004) proper knowledge concerning possible routes of HIV transmission is not only crucial for decreasing the infection, but it is also essential to dispel persistent myths as partial knowledge that can further prolong the risk of infection.

Therefore, it is imperative that nursing students, including all nurses in general, should possess all knowledge regarding HIV/AIDS in order to render appropriate care. The findings of this study have demonstrated that indeed 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> year nursing students possess good theoretical background of HIV/AIDS knowledge, which is in line with what literature reveals on the topic of evaluating HIV/AIDS knowledge amongst nurses. Chamane and Kortenbout (1997) conducted a study in South Africa among registered nurses, and their study findings also reported good knowledge of HIV/AIDS, including HIV transmission. This confirmed that they had received good HIV/AIDS training, just like the students under this current study.

The above findings of good HIV theoretical knowledge by student nurses that participated in the MEPI clinical programme confirms that the MEPI project is effective and plays a substantial role in the HIV capacity development of future professional nurses, which are in line the programme objectives.

### ***5.3.1 HIV and AIDS related skills gained***

Primary prevention of HIV is a key to containing the virus. The nursing students need to possess the knowledge of such strategies so that they can transfer the knowledge they possess to the health care users. According to Suominen et al. (2015), nursing and medical staff are the most important groups in the prevention of HIV. It was significant, therefore, that students who participated in the MEPI HIV/AIDS clinical programme possessed very high levels of knowledge regarding HIV prevention strategies. 93.1 per cent (n=124) of the students knew how to put on a male condom and furthermore were able to demonstrate correctly how to insert, remove and discard it appropriately using a demonstration model.

Consistently 94.7 per cent (n=126) knew how to demonstrate and insert a female condom on the model. These findings are very encouraging since they serve a dual purpose in terms of HIV prevention, i.e. self-protection (prevention) for the students as well as for the public through education transfer from the student nurses via health education. This is important because it means that the students are equipped with knowledge on protection measures for themselves, as well as being able to translate appropriate health information about prevention of HIV to the public. This was somehow an unexpected outcome of the MEPI project whereby nursing student's self-empowerment was achieved through HIV/AIDS education via the programme.

The programme's main focus was targeting the community at large as the end beneficiaries after training of these healthcare workers had taken place. The 2014 GAP report highlights that Southern Africa has the highest HIV incidence and prevalence rates among women aged 15 to 24. This is alarming since most of the undergraduate student nurses fall within this age group category (n=117, 88 per cent). Additionally, they are also females (n=110; 82.7 per cent) from South Africa (n=127, 95.5 per cent). This means that the programme recipients are as much at risk of HIV infection as the rest of the population. So such knowledge given through MEPI HIV/AIDS clinical programme is vital for these students in terms of self-application.

According to Connelly, Veriava, Roberts, Tsotetsi, Jordan, DeSilva, Rosen & Bachman DeSilva, 2007; Keller, McCarthy, Mosendane, Tellie, Venter, Noble, Scott, Stevens, Van Rie, 2009; George, Quinlan & Reardon 2009, it is estimated that one out of seven South African nurses and student nurses are HIV positive . So this programme is also contributing to the student's self-knowledge and prevention from HIV, since 96.1 per cent (n=128) of the



students reported that they indeed gained expanded understanding of HIV and AIDS which influenced their insight.

Likewise, (n=128, 96.1 per cent) further reported that the programme helped them in understanding one's own beliefs and also helped in applying information in real life situations (n=130, 97.6 per cent). The programme therefore plays a very meaningful role in the students' lives as they fall within the vulnerable 'at risk' group for HIV according to Shishana et al. (2014). Additional contributing factors which place nursing students at increased risk is the fact that these students have just gained freedom by moving to University and they also begin to explore sexual relations (Madumo & Peu, 2006). Also the fact that the students have just entered tertiary education means that they have elementary knowledge of HIV/AIDS which was obtained from primary and secondary education, society and the media (Serlo & Aavarinne, 1999; Madumo & Peu, 2006).

However, after attending the MEPI clinical programme the majority of the students (n=125, 93.8 per cent) believed that that the programme provided them with relevant HIV/AIDS information needed for personal development entrenched in both the National Department of Health policies and research.

Since nursing is an art; performance of skills is as important as gaining the theoretical knowledge. This evaluation study revealed that student nurses had comprehensive knowledge on performing various specific HIV/AIDS-related skills. The majority of the student nurses (n=118, 88.7 per cent) could independently conduct HIV pre-test and post-test counselling as a result of attending the MEPI clinical programme. This is very encouraging for the programme to see that it has a positive impact on skills development even though 100 per cent has not yet been reported by the students. Inevitably it means that nursing students that

are graduating from UKZN are sufficiently equipped with HIV/AIDS-related skills to make them competent to render appropriate HIV/AIDS care. This is needed in the South African community at large.

The majority of the students (n=125, 93.7 per cent) knew how to perform a rapid HIV test, as well as (n=111, 83.1 per cent) were capable of interpreting and issuing various HIV test results to health care users. This is important, since the current South African HIV and Counselling and Testing policy (HCT) of 2010 requires that all health care providers need to offer HIV services to all health care users on contact with the health care system irrespective of the health care seeking reasons. It can confidently be said that the MEPI clinical programme has successfully equipped these nurses to competently render HIV/AIDS services that are in line with the DoH programme objectives.

Nonetheless, there is still a possibility that higher and improved scores can still be achieved as the programme continues, if students continue to attend. However contrary to these good HIV/AIDS-related skills findings, Chamane and Kortenbout (1997) established in their study that there was a lack of knowledge about identification of high risk groups, symptoms, diagnostic tests and universal precautions that were reported by nurses who were already in practice. This demonstrated that there were shortcomings in the nurses' training programmes with respect to HIV/AIDS education, that could be confirmed by the fact that at the core, most nursing curricula did not include HIV/AIDS competencies since very little was known about HIV/AIDS then, when the curricula were designed.

It is only in the recent past that HIV/AIDS has been seen as a matter of urgency in many affected global countries and the case is the same in the context of South Africa since it has been declared as the global epicentre of the disease (UNIGASS, 2010).

To date, there is not a set competency HIV/AIDS training programme globally prescribed for the nursing schools to follow, except for that in use in Canada. A project such as MEPI has made it possible for some training and education on HIV/AIDS to take place with undergraduate nursing students.

It can never be overemphasised that HIV-related skills are essential especially in the context of South Africa whereby HCT policy implementation is important ever since it was introduced in year 2010, where it is mandatory that all that every health care provider should be able to offer HIV counselling and testing followed by the initiation of appropriate management as per individual needs. Essentially, that means that every nurse should be adequately trained and should be competent in handling HIV/AIDS cases. The MEPI project has indirectly fulfilled such policy implementation needs by ensuring that at least nursing graduates from UKZN have already received specific HIV/AIDS training prior to graduation, which will benefit both the service providers as well as community that the new graduates will be servicing. Indirectly, as a result of this clinical programme, MEPI has saved the students' prospective employers money that they would have spent on sending their staff members for HIV training to fill the identified gap in the nursing curriculum with respect to HIV/AIDS. Usually the employers send their qualified members for special training in HIV/AIDS programmes such as NiMART so that they can obtain some HIV-related skills.

The great advantage is that such training has been conducted for these particular nursing students. In areas such as performing CD4 counts, viral loads and PCR diagnostic and monitoring tests just above 60 per cent (n=80) of the students in this evaluation study indicated having knowledge of and mastery of these skills.

For the MEPI clinical programme this is not an overly positive finding, since the programme is aiming at achieving above 90 per cent of self-reported knowledge and skill, since knowledge of performing such tests is essential because their accurate interpretation informs what appropriate interventions are suitable for the health care users at that point of care.

Nurses should know how to perform and interpret such skills, because without this ability, poor clinical outcomes will result. Regrettably, in many instances, the nurses do not receive such training and shortfalls in pre-service or in-service training have been reported globally including deficiency of knowledge about HIV-related care and reduced levels of proficiency in HIV-related skills (Raisler & Cohn, 2005; Dohrn et al., 2006; Knebel et al., 2008; Rispel, 2008; Breier et al., 2009; Evans & Ndirangu, 2009). McCann and Sharkey (1998), Renggli et al., (2008); the report from JHPIEGO (2009), the WHO (2010), as well as some international HIV associations such as the Canadian Association of Nurses in AIDS care (CANAC), 2013).

Even though, in this study, there are relatively low reported knowledge levels of HIV-related competency skills, it should not be seen a negative outcome about the programme but what it means it's that the students have received the basics about the required skills and with time they will fully master them as is the case with complete mastery of any skill that comes with

repeated practice. The possibility is that those students have not had enough clinical exposure which could lead to confident practice at this stage.

This study has revealed that at this stage students possessed more theoretical-based knowledge as opposed to clinical skills-based HIV knowledge.

Even though, as per MEPI HIV/AIDS clinical programme's objectives and aims, a reported 60 per cent (n=80) of HIV-related skills knowledge can be seen as low, in actual fact it can be regarded as a good short-term outcome, since nurses in practice cannot perform such skills as evidenced through a study conducted by Chamane and Kortebout (1997).

Comparing theoretical knowledge gain versus HIV-related skills knowledge gain, theoretical knowledge was reported at surprisingly higher scores. The possible explanation that could be attributed to the findings includes the fact that maybe student nurses do not have adequate exposure to performing the skills such as that of drawing of blood in the real situation during their clinical placement, because some of the institutions where they do their practice, only allow internship medical doctors to perform such skill, otherwise the only other exposure is at the campus' clinical skills laboratory where they conduct simulations. Second year nursing students do a community nursing module which is not very clinical but rather they only spend two weeks in the community clinics at the end of the year. A low response rate on this variable is therefore expected as well as procedures such as for PCR that are performed mainly by students who are at maternity units and those would be the ones already enrolled at the 4<sup>th</sup> year level of their studies.

Therefore this evaluation study has identified the areas for the programme to focus on in order to realise the programme's goals, basically added attention needs to be given to these identified areas in order to be able to improve nursing students' capacity to handle the needs of HIV cases.

### **5.3.2 Students' changes in attitudes and beliefs towards HIV as a result of MEPI HIV clinical programme.**

Suominen et al. (2015) stated that attitudes of students towards caring for people with HIV/AIDS are of vital importance since they will develop into future health professionals. In this evaluation study, students' attitudes towards HIV/AIDS were measured from two aspects. One aspect was measuring the attitudes with respect to students' personal relation towards HIV/AIDS and the other aspect was measuring attitudes based on the health care users affected by or infected with HIV/AIDS.

Essentially, 74.2 per cent (n=99) of the students confirmed that their attitude towards HIV/AIDS has been changed somehow as shown in figure 4.3. However, 25.8 per cent (n=34) reported that no changes in their attitudes towards HIV/AIDS have taken place as a result of attending the clinical programme. Therefore the programme has had a positive influence on the students' attitude, which is a pleasing result as part of the MEPI short-term outcome, which was somehow unexpected since attitude change takes longer to manifest in most cases. This is important since it is a form of feedback on the programme that confirms that an impact was made as a result of the programme.

Another commendable finding of this study is that the students' attitudes towards the health care users yielded a positive outcome as depicted in table 4.11, whereby 95 per cent (n=126) of the students possess and show positive attitudes towards health care users infected with HIV/AIDS. This element is important; because it means that the MEPI programme is

empowering and is contributing towards HIV stigma reduction by the students. Pickles et al. (2009) made similar findings, and confirmed through their study that reduced negative attitudes towards people living with HIV and AIDS (PLWHA) are achievable through HIV and AIDS-related education. But Taher & Abdelhai (2011) found the opposite in their study, whereby student nurses possessed negative attitudes towards HIV positive people despite exposure to an HIV/AIDS educational programme. Even in this evaluation study, as shown in table 4.11, only a minority (n=7) 5 per cent were found to having negative attitudes. This is echoed by findings reported from various studies that record that indeed nurses do possess negative attitudes towards HIV-infected individuals even though in this study the numbers are very low, (5 per cent) but it is still a cause for concern.

Studies that reported negative attitudes include the ones that were conducted in India (Agrawal et al., 1999), Iran (Tavoosi et al., 2004), Iraq (Ayranci, 2005) and Turkey (Hayyawi et al., 2010). The conclusion, based on this study, is that overall; UKZN nursing students from the 2<sup>nd</sup> to 4<sup>th</sup> year levels possessed a good attitude towards HIV/AIDS individuals as a result of having attended the clinical programme. As just above 93 per cent (n=124) of the students reported that they could independently nurse an HIV infected person, this means that they are confident enough to care for them as well as feel adequately equipped and comfortable with all aspects of HIV care. Ultimately, this means that the attitude they possess about HIV itself and the person infected with it, is a very positive one indeed. Furthermore, an overwhelming 99.3 per cent (n=132) of the students reported that they have greater morale towards HIV & AIDS as a subject, which demonstrates acceptable attitudes towards those infected with HIV.

What was surprising and an unexpected finding is that the very same nursing students in this evaluation study reported conflicting attitudes towards their personal relationship with HIV if

they were placed in the position of being infected or affected by HIV. A complete change of attitude towards HIV was seen whereby grossly negative attitudes were reported by the students, when HIV manifested as a reality in their personal lives. The majority of the students (n=117, 87.8 per cent) reported that they would not buy food from a shop if they knew that an HIV infected person works there, as depicted in table 4.11. Moreover, 89.4 per cent (n=119) reported that they would not visit a home of a friend if they knew that an individual with HIV lived in that home. A figure of 88.6 per cent (n=118) reported that they would not be able to care for someone infected with HIV at their home. That was surprising because it meant that these nursing students are not able to handle HIV and its effects on persons that they know or who are related to them, yet, on the other hand, they had reported that they can confidently and independently manage and look after someone who is infected with HIV since they have gained an increased morale towards HIV/AIDS.

These findings are consistent with the one by Turhan and colleagues when they found that almost half of the medical, medical technology and dentistry students from Turkey would not touch or live in the same house with an HIV positive patient (Turhan, et al., 2010). But a study conducted by Lui, et al. (2014) contradicts this evaluation finding whereby they reported that more than half of the medical and nursing students in their study expressed willingness to care for a close relative, buy food from a shop owned by an HIV positive person and share utensils with a family member who had HIV.

Therefore personal stigmatisation of HIV by the student was evidenced through this study since the students seem to become powerless, ignorant and hopeless when HIV affects the people close to them. All the HIV information that they possess becomes useless. This leaves MEPI with the question of whether or not what the students learn during programme instruction is only perceived as abstract information and cannot be transferred and made



applicable to their own real-life situations. This is a cause for concern since it means that students perceive HIV as an illness that can only affect other people but not them and their immediate associates.

As many as 88.5 per cent (n=118) of the students reported that fears towards HIV/AIDS decreased as a result of attending the MEPI HIV/AIDS clinical programme, yet almost 60 per cent (n=80) still reported that they are afraid of catching the illness in the clinical area. These findings are similar to the ones reported by Mbanya et al., (2001); Reis et al., (2005) and Oyeyemi et al., (2006). Furthermore, 66.6 per cent (n=89) believe that they have a right to know a client's HIV status for their own safety and this was consistent with what was found in a study in Fiji where the majority of the students believed the misconception that all health professionals have the right to know the patients' HIV status for their own safety, which is contrary to the law, and patients should be able to rely on confidentiality in all aspects of their health. This means that even though the MEPI programme is equipping the students with HIV/AIDS knowledge and related skills, it has not yet been effective in influencing the students on self-prevention against HIV, especially when they are in clinical areas, to prevent occupational exposure. Fear of contracting the virus has been reported across all students studying towards any health care profession. Researchers such as Bektas & Kulakac (2007) in Turkey, Madumo & Peu (2006) in South Africa, Petro-Nustas et al., (2002) in USA & Jordan, and Rondahl et al., (2003) in Sweden have reported the same findings. In most of these studies, it was believed that lack of knowledge about HIV as a whole; especially transmission was directly linked to the fear. However in this study, the students reported very high levels of theoretical HIV knowledge and displayed very good understanding of HIV/AIDS as a whole. Therefore, as per this study's findings, fear of catching HIV infection is not linked to lack of HIV knowledge/ education.

Approximately 66.6 per cent (n=89) of the students reported that they have a right to know the health care user's HIV status so that they can employ protective measures, which is a negative approach. No student nurse has to know their clients status unless the health care user discloses their status themselves. Instead, the importance of being able to prevent themselves from contracting the disease while in the clinical area is stressed and the programme advises them to adhere to all universal precautionary measures at times and to regard every health care user in their care as infected. This is taught with the aim to encourage self-protection at all times and to reduce occupational exposure to needle-stick injuries, even though, statistically, the risk of successful HIV transmission is recorded in low numbers. The average risk of transmission of human immunodeficiency virus (HIV) to a health care worker after percutaneous exposure to HIV-infected blood has been estimated to be 0.3 per cent (Tokars et al., 1993; Ippolito et al., 1993; Gerberding, 1994; Henderson et al., 1990). The very same students, 74.6 per cent (n=99) in this evaluation study, contradict themselves by being knowledgeable in aspects of legal and ethical issues including stigma and disclosure. For the MEPI, this might mean that the students are maybe not getting the message that they are supposed to get as intended by the programme. Therefore, more emphasis during programme instruction should be on this area.

While almost 75 per cent (n=100) of the nursing students reported a good understanding of stigma and disclosure around HIV, it was noted that 87.8 per cent (n=117) of the student nurses stigmatised HIV infected individuals, since they reported that they would not buy food from the shop where an HIV-infected person is employed. Therefore, for student nurses, there is still a stigma attached to HIV infected individuals, despite having attended the MEPI clinical programme. The same results were reported by Mbanya et al. (2001); Reis et al. (2005) and Oyeyemi et al. (2006) where nurses revealed discriminatory behaviour. A study

done in Russia also revealed that the majority of student nurses were afraid of being in contact with HIV/AIDS patients (Suominen, 2015), even though more than half of the students reported having received enough information to deal with people with HIV infection. The same applies to the findings of this evaluation study whereby all the students reported being knowledgeable about HIV but still cannot manage to interact with HIV infected people outside the health care establishment.

Globally studies have been conducted examining nurses' attitudes towards people living with HIV/AIDS and they have been reported to have varied from positive (Lohrmann et al., 2003; Peate et al., 2002; Veeramah et al., 2008), average (Bektas & Kulakac, 2007; Suominen et al., 2009), to negative (Cornelius, 2006; Earl & Penny, 2003; Mahat & Eller, 2009; Mill et al., 2004). Even in this study, it can be concluded that the student nurses who have been part of the MEPI HIV/AIDS clinical programme possess negative attitudes towards people living with HIV, especially if they not found in the health care settings. Walusimbi and Okonsky (2004) pointed out that nurses do possess empathetic attitudes which kill negative attitudes.

It is somewhat encouraging to note that only 10.7 per cent (n=14) of the nursing students prefer not to know their HIV status. This displays a good attitude towards HIV/AIDS awareness on the part of the majority, since the programme has instilled the importance of knowing versus not knowing. This is a valuable outcome brought about by the programme where promotion of knowing one's own HIV status is a must in a country that is the global epicentre of the disease. Benefits of knowing the HIV status is that one can access necessary care that is needed regarding their management of the condition. If they are found to be HIV negative, then they will be encouraged and equipped with the ways to remain negative. As well as if they are found to be HIV positive, they can be appropriately managed, based on the

clinical advancement of the virus in their system either by joining a wellness programme or through treatment directly. A figure of 89.3 per cent (n=119) of the students in this study actually reported that they would go forward and test for HIV. This shows that they are applying what they are learning in the MEPI clinical programme to their personal lives. No literature was found documenting the willingness and importance for nursing students to know their own HIV status hence these findings were not comparable to any previous studies. This study revealed that, even though students produced high scores in both theoretical and practical aspects of HIV, there was still an element of fear of HIV inside them; this means that certain aspects of the information that they are gaining, are not applicable in their own personal lives. More work needs to be done around this area since it promotes stigmatisation of HIV rather than eliminating it. HIV/AIDS is viewed through the lenses of the students as an illness that can only affect the health care users, while they don't have immunity against it as well.

### ***5.3.3 Changes in motivation confidence or abilities as a result of being MEPI recipients***

It was an expected outcome that students' confidence and motivation levels should be influenced to a certain degree as result of attending the programme, but the expectation was overwhelmingly met, since all variables relating to the changes in confidence and motivation towards HIV/AIDS subject were rated above 93 per cent (n=124). A figure of 96.2 per cent (n=128) reported to have achieved an increased morale towards HIV and AIDS. Greater confidence in HIV and AIDS knowledge was reported by 98.5 per cent (n=131). In the literature there are no studies similar to this against which to compare these results. Based on the results one has to conclude that MEPI has contributed positively towards ensuring that the healthcare user will be cared for by highly motivated and confident students.

## **5.4 Perceptions about programme activities**

Perceptions about programme activities have been reported by the participants in terms of the content, organisation, and speaker, teaching media and methods as well as overall impression of the activities. This is deemed important so that changes and adjustments can be made to the programme if need be based on the feedback received. Since this is a unique innovative programme, MEPI sees programmes recipients' perception as being very important as it allows the programme stakeholders to reflect on and look at the ways in which the programme could be improved in order to more successfully meet its stated objectives.

### ***5.4.1 Content***

Table 4.17 reports that all variables measuring the content of the MEPI clinical programme were reported to be good by the participants. A figure of 97.5 per cent (n=130) reported that it was understandable, whilst 89.3 per cent (n=119) reported that it was interesting; 91.4 per cent (n=122) felt it was suitable for their level of study, 12.9 per cent (n=17) reported that the content description was just average and 0.8 per cent (n=1) reported that the content was not logically recognised and did not include sufficient examples. These findings contradict the study conducted by Williams et al., (2006). In their study the nursing student participants believed that the HIV/AIDS content in their programme was not suitable for nursing as some of the content was believed to be on a higher level and was suitable for the physicians.

It was interesting to note that students across all levels felt that the content was suitable for their level of study and experience as depicted in table 4.18. The senior students (97.8%) felt the programme was more suitable followed by the junior students in the 2<sup>nd</sup> level (92.3%) and the 3<sup>rd</sup> year level (81.8%) students felt the content was least suitable for them. This can be

interpreted as are finding the programme was relevant and beneficial in their professional training.

#### ***5.4.2 Organisation***

Under organisation as depicted by table 4.19, all variables were added together across all students and a common score was found whereby 84.5 per cent (n=113) of the students felt that the MEPI clinical programme was good, 14 per cent (n=19) reported that it was average and 1.5 per cent (n=2) felt that it was poor. This shows that the student nurses were satisfied, in the main, with how the programmes' organisation in terms of its structure, logical flow, time management, venue, equipment and facility with which it was hosted. Organisation of any programme is important in order to enhance learning in a venue without any distractions. Therefore it can be said that the sessions went smoothly but there's still an element of improvement needed in about 15.5 per cent (n=21) of the programme. Regrettably, not many of the studies of this nature have been conducted and reported on in the literature, but a similar study was conducted by Chew et al. (2012) which found that there were organisational and logistical challenges in the implementation of their educational HIV programme which contradicts the findings of this study.

#### ***5.4.3 Presenter***

All variables relating to the speaker were reported to be good by all respondents. The majority, 90.1 per cent (n=120), felt that the speaker possessed good knowledge of the subject matter, and 93.2 per cent (n=124) reported that the teaching ability was good, while 90.8 per cent (n=121) of the respondents stated that the speaker was good at expressing ideas clearly, as well as having an ability to answer questions well. MEPI expected these positive findings regarding the speaker because the programme trainers have vast experience and backgrounds in lecturing on HIV issue. The programme appointed highly suitable personnel

for the presentation of the programme. None of the participants reported that the speaker's preparedness for each session was poor, while 11.3 per cent (n=15) reported that the length of time allocated per session was average. The use of audio-visual material was deemed average by 8.3 per cent (n=11). Overall, the students felt the programme presenter was effective and clear enough to convey the content.

#### ***5.4.4 Teaching media***

Teaching strategies and tools that were used during the sessions contributed to the teaching media and methods employed. All variables about the teaching methods and media were reported as being good by all students since they were all rated above 69.5 per cent (n=92). Group activities were reported at 24.4 per cent (n=32) as being average, while 80.4 per cent (n=107) of the participants felt clinical skills demonstrations were good, as well as the use of power point presentations which was rated good by 96.2 per cent (n=128). Therefore, the teaching methods and media could be deemed as being effective, even though the use of visual aids, group activities and clinical demonstration can still be improved upon since just below 25 per cent (n=33) of the students felt that methods and media were just average.

### **5.5 Overall perception: programme activities**

#### **5.5.1 Experiences**

Students' experiences about the programme are important, since the students are the recipients of the programme, and their feedback on their experiences should provide an insight into the outcomes of the programme. It was very interesting to note that only the minority (n=7, 5 per cent) of the students reported that they had experienced the programme in a negative way. It was affirming for the MEPI programme, that the findings in terms of students' experiences had a mainly positive outcome, since this meant that the programme was somehow effective and was able to achieve the programme's objectives. Both the positive and negative experiences were shared.

### ***5.5.1.1 Students' positive experiences about the MEPI HIV/AIDS clinical programme***

MEPI deems the students' feedback as important because it gives the programme organisers' an idea of where the programme is effective and where the programme can be improved for greater effectiveness.

- **Knowledge gain**

About 95 per cent (n=126) of the students commented that they learned so much about HIV.

*Seriously before attending these sessions I never knew that HIV was so deep, I mean from the transmission, to prevention, to treatment, to baby management, I can confidently say I am amazed at the amount of information I have about HIV.*

This is similar to the findings that were revealed by Taher & Abdelhai (2011) where undergraduate nursing students were found to be more knowledgeable about HIV after they received a structured HIV short course programme, compared to post-graduate students who received the same intervention.

- **Confidence gain**

Above 80 per cent (n=106) of the students reported that their confidence levels regarding caring and nursing a health care user with HIV has increased and they felt adequately equipped.

- **Competency in rendering HIV care by being equipped with clinical skills.**

Essential and basic skills related to HIV, as per Modeste's (2015) recommendations, were gained by the students (90.6%, n=121) and they further reported that they could perform these independently.

- **Diminished fears about HIV/AIDS**



Students (95%; n= 126) reported that since they had been equipped with necessary HIV knowledge through the MEPI HIV/AIDS clinical programme, they have experienced decreased fears about HIV/AIDS in general except that they still fear contracting the virus during clinical rotation- otherwise the students stated that they view HIV/AIDS just like any other chronic illness.

- **Refreshments appreciated**

Refreshments were served when training took place for a prolonged length of time such as in the NiMART and HIV workshops. The students were provided with breakfast, lunch and supper for 5 days. Students reported that the food was indeed appreciated and was reported by almost 100 per cent of the students as being part of the positive encounter with the programme.

- **Good support, such as Resources**

Students (98%; n= 130) reported that the existence of the HIV room/corner at the clinical skills laboratory has helped in reinforcement of knowledge gained as they access the room on any day and they could find various resources available ranging from guidelines, pamphlets, medication, DVD's etc.

#### ***5.5.1.2 Students' negative experiences about the MEPI HIV/AIDS clinical programme:***

- **Information overload.**

Less than half (n=55, 41 per cent) of the participants felt that the content given during the MEPI session is sometimes 'too much' for them to grasp; meaning that the programme delivers many HIV/AIDS-related topics in a day and makes the students feel overwhelmed. For example, some of the students wrote that by the end of day one of NiMART training or the HIV workshop, they found that they had covered so much content that it left them feeling tired. The information given was too much for some to handle, but they further stated that they understood that it was the nature of the

programme design. This can be understood since sometimes the students would be hearing a concept for the first time in their nursing professional life. The 2<sup>nd</sup> year nursing students are the majority of the students who voiced this aspect as part of their negative experience. The 3<sup>rd</sup> year nursing students mostly stated that they were beginning to handle the content as more exposure to the clinical sites increases their chances to nurse or to interact with HIV positive health care users. Only about 2 per cent (n=3) of the 4<sup>th</sup> year nursing students reported information overload as part of their negative encounter with the programme. Even though this can be viewed as a negative experience by the students, it is encouraging to learn that the students, as they progress with their studies, also experience an improvement in their ability to absorb increased content.

### **Time management factor**

One of the students wrote the following statement in their questionnaire.

*Each session sometimes can go on forever!*

Some of the students felt that, as the time was so limited, the lecture was rushed through and then the presenter moved on to the next lecture topic – in which cases, some content was not allocated enough time to be explained thoroughly. Sometimes students' understanding of the topic is not sufficiently established. This could be contributed to by the fact that time management is somehow problematic for the sessions because the lecturers are not included in the timetabling and material has to be squeezed into the only available slot in the programme. Other students also raised the point that the sessions are sometimes done during vacation periods which makes it impossible for them to go home during holidays.

- **Insufficient resources**

About 15 per cent (n=20) of the students complained that:

*Sometimes no notes are given after the lecture-or even before so that one can follow through during presentation.*

- **Installation of fear**

The following statement was written by three students:

*As it is I am so scared of ending up with HIV knowing its horrible effects on the body-honestly I am soooooo afraid of HIV, throughout the lecture it was made very clear that that one should not get HIV by all means.*

As much as this statement has been written as a negative experience by the student, it is actually good so that the students will always know that getting HIV shouldn't be their choice, even by mistake.

- **Real encounter with HIV positive individuals**

During the sessions, HIV positive persons are invited to willingly share their story and students get a chance to ask them for firsthand information regarding their experience of HIV. Usually, the 2<sup>nd</sup> year nursing students become very shocked because sometimes it's their first real encounter with an actual HIV positive individual and the encounter leaves them shocked, about 82 per cent (n=109) of them stated the following under their negative experience on the programme:

*\For some of us it was really sad and unexpectedly interacted with an HIV positive individuals who came to class to share their life story and it was indeed very sad and depressing.*

The feeling is not shared though by the 3<sup>rd</sup> and 4<sup>th</sup> year students. These students had had several encounters with HIV positive people and there is no surprise when meeting them. Somehow this experience can be seen as a tool used to positively reinforce the ‘realness’ of the condition as well as its consequences.

- **Content not included in the curriculum.**

Students’ questioned strongly why the content of the MEPI HIV/AIDS clinical programme was never included as part of the modules taught within the programme, because they reported that they found the information to be very valuable, practical and helpful during clinical placement.

### **5.5.2 Overall perceived benefits**

Overall, just above 96 per cent (n=128) of the students reported that they benefited from the MEPI HIV/AIDS programme. The students found the programme of much value, since 96.1 per cent (n=128) reported that they gained an expanded understanding of HIV and AIDS. Not only did they gain knowledge, but their insight was also increased. The programme assisted them in understanding their own beliefs in 96 per cent (n=128) of the students, while 92.9 per cent (n=124) of the students reported that the content of the programme not only helped with the nursing modules, but it actually facilitated a better understanding of other modules such as Anthropology and Psychology and 97.6 per cent (n=130) reported that they were able to apply information gained in real situations, and new clinical skills gained will also help in the clinical area in the practice of 98.4 per cent (n=131) of the students. A further 96.1 per cent (n=128) of the students were more aware of other transmission routes, which is in agreement with the findings of Akansel et al. (2012).

### 5.5.3 Perceived barriers

Table 4.24 depicts concerns identified by the 27% of the nursing students which they view as the barriers towards the programme. Time commitment had been reported in a study conducted in Canada by Caine, Mill, O'Brien, Solomon, Worthington, Dykeman, Gahagan, Maina, De Padua, Arneson, & Rogers (2016), as being the barrier to such similar programmes of HIV by participants, as it is also a finding in this study. Time frame for each session as well as the timing of the programme was raised as a concern. In some cases '*the sessions would go on forever*' and that has an impact on their attention span. Student nurses felt somehow overwhelmed and bored at times; especially when they found certain aspect of the content challenging or when same information was being repeated. Due to the limited time frame schedule for the sessions the student nurses felt that not enough time was dedicated on teaching students how to deal with HIV positive results as well as they are on their own after the session to go and practice at the clinical skills laboratory.

### 5.5.4 Suggestions about the programme from the nursing students

- **Content to be included in curriculum as part of core modules.**

The students felt that the content that is contained and delivered through the MEPI HIV/AIDS clinical programme could be incorporated into their curriculum and that it could be part of one of their core modules, rather than such information being offered as an additional piece of information:

*yet it is so valuable to us as students*

and there is no means of formal assessment for it.

- **Conducted in smaller groups at a time**

Certain components of the programme can be delivered in smaller groups in order to ensure effectiveness of the programme, obviously depending on the aspect of the content that is delivered at that time. For instance during the demonstration of a certain skill such as

conducting a rapid HIV testing - the effects will not be the same when demonstrating to a small group of students consisting of between 10-15 people, as opposed to demonstrating to 71 students at one go.

*So in my opinion smaller groups are a must for skills demonstration or practical aspects of the programme.*

**•More time to be spent on post-test counselling**

*Role-plays on post-test counselling focusing on different test results should be done rather than focusing mainly on the negative test results-what if we get a positive HIV results?*

**•Shorten the lecture and have more time to connect with the student**

*More time should be allocated for each session so that it can allow the students to be able to interact with the lecturer. Because of time constraints we as students feel as if we are just expected to receive the information and have no say about it even when we want to offer a comment or pose a question- the lecturer is just carrying on with his material.*

**5.6 Conclusion.**

In the chapter the evaluation findings were discussed based on the study objectives as well as the programme's logic model. Study findings revealed that even exposure of up to 3 years of HIV and AIDS education does not easily eliminate the negative attitudes students still have towards HIV especially when HIV is made real and personal to the students. Furthermore, very positive outcomes were achieved and benefited the students in terms of their theoretical and skills. Overall satisfaction levels by the students can be drawn as the conclusion based on the findings.

## **CHAPTER 6**

### **STUDY SUMMARY, LIMITATION AND RECOMMENDATIONS**

#### **6.1 Introduction**

A brief summary of the study and its limitations have been included in this chapter. The results of the study have been considered and the recommendations have been made for programme funders, nursing education, nursing research and Policy development.

#### **6.2 Summary of the study**

A rationale for the study is presented followed by a brief review of literature, methodology and discussion of results.

##### **6.2.1 Rationale for the study**

Short-term outcomes evaluations have become an important part in any implemented programme, in order to determine and measure what immediate results have been accomplished as result of the programme. In this study the short-term outcomes of the MEPI HIV and AIDS Clinical programme for undergraduate nursing students at a selected university have been the evaluated.

##### **6.2.2 Literature review**

HIV infection and AIDS have emerged as one of the most serious public health problems in the world (Akansel, Aydin, Özdemir; & Töre, 2012). South Africa is no exception, Coovardia et al (2009), elaborated that HIV and AIDS is one of the four main burdens of diseases, the country faces. Besides the country is the global epicentre of the pandemic (UNIGASS, 2010). Therefore the focus is on ensuring that health care a worker especially nurses are able to cope and manage HIV and AIDS, since the nursing profession forms the backbone of any

healthcare system (South African Nursing Council [SANC], 2008; Buchan & Aiken, 2008; Lloyd, Sanders & Lehmann, 2010; Klopper & Uys, 2013) and because ever since the first cases of HIV/AIDS were diagnosed, nurses have been at the forefront of providing care to those infected with the virus (Williams, et al., 2006). Yet At present, HIV and AIDS competencies have not been identified for the SADC region (Relf et al, 2004). In the case of South Africa there is no documentation of professional credentialing by the South African Nursing Council of any HIV and AIDS based course that demonstrates relevant knowledge, skills, and initial competence in the nursing sphere, yet externally-validated competence is of importance (Relf, Berger, Crespo-Fierro, Mallinson, & Miller-Hardwick, 2004). However, Relf et al, (2011) argue that nurse preparedness regarding the HIV/AIDS care provision should be debatable since there is lack of formal training, clinical mentoring present of didactic courses in nature and training materials that are outdated or conflicting which at times are not contextually based in the culture and health care system, a lack of legal coverage for the advanced tasks they are expected to perform and a limited scope of practice that may not be clearly delineated. It is therefore imperative that the nurses (both practicing and those who are still in training) possess high level of competency and capacity to render appropriate contextual HIV and AIDS care aimed at prevention, and treatment services (Relf, et al. 2011). The insufficiency in HIV and AIDS content in the nursing curriculum can be justified by the fact that the current nursing curricula in many institutions have not been revised therefore an out-dated curriculum is being followed which does not include significant amount of HIV and AIDS content to efficiently and fully equip nurses with adequate knowledge and clinical competency in HIV and AIDS care (Mill, Caine, Arneson, Maina, De Padua, & Dykeman, 2014). A study conducted by Relf et al, (2004) stipulated that nurses are often the only health care providers available to provide HIV and AIDS prevention, care, and treatment services. Hence the MEPI HIV and AIDS clinical programme



ensures that the graduating nursing student from this selected university receives pre-service learning in HIV and AIDS in order to be able to meet the health care needs of the community. No documentation of similar programme such as MEPI HIV and AIDS clinical programme has been found in literature search in the country,

### **6.2.3 Methodology**

The purpose of the study was to obtain feedback from the undergraduate nursing students on how they experienced and perceive the MEPI HIV and AIDS clinical programme activities as the first programme cohort recipients. Quantitative methodology was chosen in order to obtain the short-term outcomes of the programme. Data collection took place during October 2015 employing a self-reported questionnaire which also included open ended questions.

Hundred and thirty three undergraduate nursing students in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> level of their study participated in the evaluation. Descriptive data analysis was done using percentages frequencies and tables. Open ended answers were put into themes.

### **6.2.4 Overview of findings**

Objective 1: To describe the profile of nursing students who have participated in the HIV and AIDS MEPI clinical programme. The majority of the programme recipients' were African (n=109; 82.6%), females (n=110; 82.7 per cent), from South Africa (n=127, 95.5 per cent). The age of participants ranged between a minimum of 17 years (n=1, 0.8 per cent) to a maximum of 45 years (n=1, 0.8 per cent) and an average age was 22 years (n=37, 27.8 per cent). Participants were either in the 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> year of study, with length of exposure to the programme of 1 to 3 years.

Objective 2: To describe the short term outcomes of the HIV and AIDS MEPI clinical programme. The majority (n=116; 87.5 per cent) of nursing students across from all study levels gained theoretical HIV and AIDS knowledge, in topics such as HIV transmission, HIV diagnosis (n=109; 81.8 per cent), HIV prevention strategies (n=118; 88.4 per cent), stages of HIV and Stage monitoring (n=106; 80 per cent), (n=118; 88.7 per cent) are knowledgeable on pre and post HIV counselling.

The majority of the students (n=125, 93.7 per cent) gained HIV related skills competency including conducting a rapid HIV test, and (n=111, 83.1 per cent) could interpret and issue such results accurately.

Furthermore (n=99; 74.2 per cent) of the students reported changes in attitudes and beliefs as a results of attending the programme, yet (n=34; 25.8 per cent) reported no changes. Students possessed conflicting attitudes towards HIV and AIDS. They reported positive attitudes towards people living with HIV and AIDS (n=126; 95 per cent) yet a grossly negative attitudes were also reported especially when HIV was removed from the health care setting. The majority of the students (n=117, 87.8 per cent) reported that they would not buy food from a shop if they knew that an HIV infected person works there. Moreover (n=119; 89.4 per cent) reported that they would not visit a home of a friend if they know that there is an individual with HIV in that home and (n=118; 88.6 per cent) reported that they would not be able to care for someone infected with HIV at their home.

Programme resulted in changes in confidence and motivation towards HIV and AIDS to (n=124; 93 per cent) of the nursing students.

Objective 3: To describe participants' perception of the HIV and AIDS clinical programme as presented through MEPI programme.

Participants (n=130; 97.5per cent) reported that content of the programme was understandable, and (n=122; 91.4per cent) felt it was suitable for their level. The organisation aspect of the programme was rated as being good by (n=113; 84.5%) yet (n=19; 14 percent) reported that it was average and (n=2; 1.5%) stated it to be poor. (n=120; 90.1 per cent) felt the speaker possessed knowledge of the subject matter. All variables about the teaching methods and media were reported as being good by all students since they were all rated above 69.5 percent (n=92). About 95 per cent (n=126) of the students' commented and said they learned so much about HIV and perceive the programme to be valuable yet only the minority (n=7, 5%) of the students reported that they had experienced the programme in a negative way. Overall just above 96 per cent (n=128) of the students reported that they benefited from the MEPI HIV/AIDS clinical programme and furthermore 97.6 per cent (n=130) reported that its content actually facilitated better understanding of other modules such as Anthropology & Psychology.

Barriers to the programme was experienced by 27 per cent of the students elaborating the timing of some programme activities were not conducive, Communication and interpersonal skills development is not adequately covered and programme does not adequately prepare students to deal with positive results and sometimes content is at a higher level.

### **6.3 Limitations of the study**

There are several factors that were viewed as part of the limitations for this evaluation study.

#### **6.3.1 Lengthy questionnaire.**

The questionnaire was long and the students experienced fatigue and, as a result, most of the open-ended questions were not filled in. Consequently, the researcher could have missed out on some important information which the participants could have documented, but could not because they were tired.

### **6.3.2 Small sample size**

The evaluation study was conducted at University located in one province out of eleven provinces in South Africa based on an innovative programme which is not found anywhere else in the country, the innovative programme has not been formally recognised as part of the nursing curriculum, in consequence the study findings are contextual, specific to the study setting and therefore the findings cannot be generalised to the rest of the other Universities conducting nurses training programmes.

### **6.3.3 Lack of pre-evaluation data**

No data was collected at the beginning of the programme to measure all the variables when the innovation programme was initiated, it was just assumed that since the programme was not there before, it meant that the programme recipients did not possess the attributes offered by the programme and the researcher is aware that, that could be untrue. The current evaluation findings could have been used as comparative data to measure how much and what difference the programme had yield thus far on students.

## **6.4 Recommendations**

The following recommendations emanated from the evaluation findings and they are specific to Nursing Research, Programme funders, as well as Nursing Education:

### *6.4.1 Nursing Research*

Similar to other professions, a specialised body of knowledge helps define nursing as a profession (Groove et al., 2013). The findings of this evaluation study have contributed to the knowledge base of nursing students in the undergraduate programme generally. Therefore, further studies can be conducted on the post-graduate students as well. Also findings can further influence research needs on externally funded training programmes which, according

to literature, are not widely available in many developing countries with reference to HIV and AIDS training. The evaluation study findings obtained also forms part of the baseline evidence since a study of this nature has never been conducted before. Therefore, future research should emanate from this study and issues raised should be explored further and applying different research methodologies.

#### *6.4.2 MEPI Project Funders:*

From the presented findings, this programme is deemed to be very valuable, especially in terms of implications for personal and academic development of the nursing students who are at the core (epicentre) of the epidemic. Fulfilment of the stated programme objectives have been met significantly thereby, strengthening the call for continuing with the project funding, also to possibility extend the project to other higher nursing education institutions .

#### *6.4.3 Nursing curriculum*

Based on the evaluation study findings, it can be said that the students are benefiting substantially from the information acquired from the MEPI HIV/AIDS education programme, yet this is not an endemic part of the nursing curriculum. The strongest recommendation is that such a programme should be adopted and included in the nursing curriculum content for all BN nursing students enrolled at UKZN and furthermore that this programme should be spread out to all other nursing training institutions including nursing colleges since the Nursing curriculum has a very limited HIV content in it.

#### *6.4.4 Nursing education*

A further call would be to offer the programme first to all nurse lecturers and educators in order to equip them with necessary HIV and AIDS information, knowledge and skills which would in turn they would transfer it to their nursing students.

#### *6.4.5 South African Nursing council*

Professional Regulatory body to recognise, include, and prescribe HIV and AIDS content at all training levels for all nurses and professional credentialing of HIV and AIDS based courses.

### **6.5 Conclusion**

In order for proper preparation to be provided for future professional nurses who would be competent and fit to undertake task-shifting roles with regard to HIV clinical management and care, it is imperative that such preparation involves HIV/AIDS education in the undergraduate programme. Several studies have been conducted globally and even locally (Madumo & Peu, 2006; Modeste, 2015) emphasising the need for such training and pre-service education dedicated purely to HIV/AIDS. The findings of this study demonstrate that the MEPI HIV/AIDS clinical programme contributes substantially to nursing students' personal, professional and academic development with respect to HIV and AIDS. The programme resulted in HIV/AIDS knowledge enhancement, as well as in improvement in clinical nursing roles. However, student's nursing attitudes were not changed and remained negative especially when HIV/AIDS impacted on their personal lives, and this was the focal concern for the researcher since it meant that students' attitudes regarding HIV and AIDS are not easily influenced despite dispensation and possession of knowledge. The programme has contributed to equipping and preparing the nursing students for proficient HIV care as future professionals, which is commendable role played by MEPI within the school of nursing and students benefited significantly from it.

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## ANNEXURES

### ANNEXURE A: THE QUESTIONNAIRE

BE373/15

Study title: **Short term outcomes of a HIV and AIDS Medical Education Partnership Initiative (MEPI) Clinical programme for nursing students in a selected site: A descriptive evaluation study**

Questionnaire no:

#### Section A: Demographic Data

*Please indicate by using an (X) on the answer that is most applicable to you.*

1. What is your gender?  
Male  1      Female  2
2. What is your age?
3. What is your nationality?  
South African  1      other  2      please specify  3
4. What is your Race?  
African  1      Coloured  2      Indian  3      White  4
5. What is your year of study?  
2<sup>nd</sup> year  1      3<sup>rd</sup> year  2      4<sup>th</sup> year  3
6. How long have you participated in the MEPI clinical programme?  
1 year  1      2 years  2      3 years  3

#### **SECTION B: PERCEIVED CHANGES IN HIV & AIDS THEORY (KNOWLEDGE) BASED ON ATTENDING THE MEPI CLINICAL PROGRAMME.**

7. Have you received any formal training HIV & AIDS content before participating in this HIV and AIDS clinical programme?  
Yes  1      No  2

**As a result of the MEPI clinical HIV & AIDS programme, to what extent do you understand the following topics? (Please indicate by using an (X) make one choice for each topic)**

Topic	Not	Understan	Understand	Already
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	very well	d quite well	very well	knew
8. Origins and history of HIV & AIDS	1	2	3	4
9. HIV epidemiology	1	2	3	4
10. HIV pathophysiology	1	2	3	4
11. Immunology and HIV	1	2	3	4
12. HIV transmission	1	2	3	4
13. HIV screening/diagnosis	1	2	3	4
14. Values clarification , Risk Assessment and Risk Reduction	1	2	3	4
15. Dual Protection, condom use- male/female	1	2	3	4
16. Stages of HIV and Stage monitoring	1	2	3	4
17. Pre and post HIV test counselling	1	2	3	4
18. STIs	1	2	3	4
19. Opportunistic infections	1	2	3	4
20. Stigma and disclosure Legal and ethical issues-informed consent and confidentiality	1	2	3	4
21. Management of HIV	1	2	3	4
22. Introduction to Anti-retroviral Treatment (ART)	1	2	3	4
23. HIV care overtime: Palliative care	1	2	3	4

**SECTION C: HIV & AIDS RELATED SKILLS GAINED AS A RESULT OF MEPI CLINICAL PROGRAMME.**

**To what extent do you feel you've gained new skills by participating in the MEPI clinical programme? (Please indicate by using an (X) one choice for each topic)**

Skill	No change	Not much	A little bit	A great deal
24. HIV pre-test counselling (individual)	1	2	3	4
25. HIV pre-test counselling (couple)	1	2	3	4
26. HIV pre-test counselling (group)	1	2	3	4
27. HIV pre-test counselling (care giver)	1	2	3	4
28. Performing rapid HIV testing	1	2	3	4
29. Post-test HIV counselling(individual)	1	2	3	4
30. Issuing of various HIV results to a client	1	2	3	4
31. obtaining a specimen for CD4 cell count & interpretation	1	2	3	4
32. obtaining a specimen for Viral load &interpretation	1	2	3	4
33. Performing PCR	1	2	3	4
34. Putting on a male condom	1	2	3	4
35. Putting on the female condom	1	2	3	4

36. Adherence to treatment counselling	1	2	3	4
--	---	---	---	---

**SECTION D: CHANGES IN ATTITUDES & BELIEFS ABOUT HIV & AIDS.**

37. Have you changed your attitude about HIV & AIDS in any way as a result of attending the MEPI clinical program?

Yes  1                      no  2

If yes, please

specify:.....  
 .....  
 .....  
 .....  
 .....

**As a result of MEPI clinical programme, to what extent do you feel that your attitude and belief about HIV & AIDS has changed?**

Statement	Strongly agree	agree	Disagree	Strongly disagree
38. I am afraid of catching HIV through clinical practice	1	2	3	4
39. I believe sex workers, youths and other vulnerable groups are responsible for spreading HIV & AIDS	1	2	3	4
40. I believe that clients who get HIV & STI through illegal behaviour(eg. Sex work) should not be treated at government clinics and hospitals	1	2	3	4
41. Hospitals should not refuse to care for a patient just because they are HIV positive.	4	3	2	1
42. There's no point treating a person with AIDS as they will die anyway.	1	2	3	4
43. As a student nurse I have a right to know a client's HIV status for my own safety	1	2	3	4
44. I would not go to a local clinic to be tested for HIV because everyone would know my status.	1	2	3	4
45. It is better NOT to know my HIV status.	1	2	3	4
46. I would care for a HIV positive relative in my home	4	3	2	1
47. I would buy food from a shop where an HIV positive person is working	4	3	2	1
48. I would visit the house of a friend even	4	3	2	1

if they have a family member who has HIV				
49. If I discover that my best friend is HIV positive- I would continue being their friend	4	3	2	1

**SECTION E: CHANGES IN MOTIVATION, CONFIDENCE OR ABILITIES AS A RESULT OF THE MEPI CLINICAL PROGRAMME.**

50. To what extent do you feel more able to care and nurse a patient infected with HIV and AIDS following the MEPI clinical programme.

Not at all 1	Very little 2	Quite a bit 3	A great deal 4
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Which of the following statements on motivation, confidence and abilities regarding HIV and AIDS is applicable to you, following your attendance in the MEPI clinical programme?

Statement	Strongly agree	agree	Disagree	Strongly disagree
51. I have an increased morale towards HIV & AIDS	4	3	2	1
52. I have greater confidence in HIV & AIDS knowledge	4	3	2	1
53. I have increased motivation level towards HIV & AIDS	4	3	2	1
54. Support availability e.g. HIV room at the clinical skills lab.	4	3	2	1
55. My fears towards HIV & AIDS decreased.	4	3	2	1
56. I can independently nurse a client with HIV	4	3	2	1
57. The programme has contributed in better understanding of some electives which have HIV & AIDS content	4	3	2	1

**SECTION F: perceptions about the programme's activities**

Statements regarding CONTENT	Poor	Average	Good	Excellent
58. It met my needs	1	2	3	4
59. It is suitable to my level of experience and study	1	2	3	4
60. It is interesting	1	2	3	4
61. It is up to date and forward looking	1	2	3	4
62. It is consistent with stated objectives	1	2	3	4
63. It is understandable	1	2	3	4
64. It is logically organized	1	2	3	4
65. It includes sufficient examples	1	2	3	4
66. The lecture description was accurate	1	2	3	4

<b>Statements regarding ORGANISATION</b>	<b>Poor</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>
67. It is well organized	1	2	3	4
68. It follows a logical order	1	2	3	4
69. It starts on time	1	2	3	4
70. The venue is always prepared for the session	1	2	3	4
71. The equipment used available and in good working order	1	2	3	4
72. environments is conducive	1	2	3	4
73. The quality of the facilities was adequate for learning	1	2	3	4

<b>Statements regarding THE PRESENTER / SPEAKER</b>	<b>Poor</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>
74. Always prepared	1	2	3	4
75. Possess knowledge of the subject matter	1	2	3	4
76. Clear and easy to understand	1	2	3	4
77. Answers questions well	1	2	3	4
78. Presented the subject matter clearly and effectively	1	2	3	4
79. Expressed ideas clearly	1	2	3	4
80. The teaching format/length was suitable to content	1	2	3	4
81. The teaching level was appropriate to audience	1	2	3	4
82. Responsiveness to questions	1	2	3	4
83. Speaking/teaching ability	1	2	3	4
84. Used audio-visual aids effectively	1	2	3	4
85. Gives clear and easy to follow Hand-outs or notes	1	2	3	4

<b>Statements regarding TEACHING MEDIA AND METHODS</b>	<b>Poor</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>
86. PowerPoint presentation	1	2	3	4
87. Lectures	1	2	3	4
88. Visual aids	1	2	3	4
89. Group activities	1	2	3	4
90. Clinical skills demonstration	1	2	3	4
91. Notes	1	2	3	4
92. Oral presentation	1	2	3	4

<b>Statements regarding OVERALL IMPRESSION</b>	<b>Poor</b>	<b>Average</b>	<b>Good</b>	<b>Excellent</b>
93. It helped me better understand HIV content	1	2	3	4
94. Provided me with relevant information needed for clinical practice	1	2	3	4

95. Provided me with relevant information needed for personal development	1	2	3	4
96. Information gained will be of great immediate use to me	1	2	3	4
97. It expanded my thinking about the topic	1	2	3	4
98. It will be helpful in my career	1	2	3	4
99. Built my confidence regarding HIV aspects	1	2	3	4
100. It should continue to take place.	1	2	3	4
101. Information could be applied to practice	1	2	3	4
102. I acquired new skills or knowledge in relation to topic discussed	1	2	3	4
103. Information could contribute to achieving personal, professional goals	1	2	3	4

To what extent your motivation changed	Not at all	Very little	Quite a bit	A great deal
104. I have an increased morale towards HIV & AIDS	1	2	3	4
105. I have greater confidence in HIV & AIDS knowledge	1	2	3	4
106. I have increased motivation level towards HIV & AIDS	1	2	3	4
107. Support availability e.g. HIV room at the clinical skills lab.	1	2	3	4
108. My fears towards HIV & AIDS decreased.	1	2	3	4
109. I can independently nurse a client with HIV	1	2	3	4
110. The programme has contributed in better understanding of some electives which have HIV & AIDS content	1	2	3	4

**111. What has been your positive experience regarding attending the MEPI clinical programme?**

.....  
.....  
.....  
.....  
.....  
.....

**112. What has been your negative experience regarding attending the MEPI clinical programme?**

.....  
.....  
.....  
.....  
.....

**SECTION G: OVERALL PERCEIVED BENEFITS FROM THE HIV & AIDS MEPI CLINICAL PROGRAMME.**

**PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS:**

**As a result of participating in the MEPI clinical programme**

<b>statement</b>	<b>Strongly agree</b>	<b>agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
113.I gained Expanded understanding of HIV & AIDS	4	3	2	1
114.My insight increased into what was already known	4	3	2	1
115.Refocused attention on HIV & AIDS	4	3	2	1
116.Helped integrate information gained with other modules	4	3	2	1
117.Helped in understanding one's own belief	4	3	2	1
118.My thinking about HIV & AIDS was challenged	4	3	2	1
119.It stimulated interest to learn more	4	3	2	1
120.Stimulated new thinking in area of HIV & AIDS.	4	3	2	1
121.Triggered ideas around HIV & AIDS.	4	3	2	1
122.Helped in applying information in real situations.	4	3	2	1
123.Encouraged action.	4	3	2	1
124.Helped in self-understanding.	4	3	2	1
125.I have learned new skills that will help in the clinical area	4	3	2	1
126.I have increased my knowledge about HIV & AIDS	4	3	2	1
127.I am more aware of other transmission routes	4	3	2	1
128.I am stimulated to learn more on HIV and AIDS	4	3	2	1
129.I have found the programme course intellectually challenging and stimulating	4	3	2	1
130.I have learned something which I consider valuable	4	3	2	1
131.My interest in HIV & AIDS has increased as a consequence of the MEPI programme.	4	3	2	1
132.I have learned and understood concepts about HIV & AIDS in great detail.	4	3	2	1

**Section H: BARRIERS TOWARDS THE MEPI CLINICAL PROGRAMME.**

133.Please briefly list major challenges/barriers / problems that you may have towards PARTICIPATING the HIV & AIDS MEPI Clinical Programme for nursing students.

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.....  
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134. Please give suggestions that you think can help to overcome such challenges/barriers/problems.

.....  
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.....  
.....  
.....  
.....

Thank you for your participation!



## **ANNEXURE B: PARTICIPANTS INFORMATION SHEET**

### **Project Title: Short term outcomes of an HIV and AIDS Medical Education Partnership Initiative (MEPI) Clinical programme for nursing students in a selected site: A descriptive evaluation study**

We would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or would like more information. Take time to decide whether or not to take part.

An HIV and AIDS Medical Education Partnership Initiative (MEPI) Clinical programme for nursing students is one component of the Medical Education Partnership Initiative grant which is funded by the US National Institute of Health.

#### **What is the purpose of the study?**

The purpose of this study is to evaluate the effectiveness and acceptability in terms of short-term outcomes of the HIV training activities in the nursing discipline. We have specifically undertaken this study to investigate how beneficial the training activities have been on undergraduate students, who have been participating in the Clinical programme for nursing students' sessions.

#### **Why have I been invited?**

You have been selected to participate because you have attended and participated in one of MEPI clinical programme activities-for student nurses, whose aim is to which increase HIV and AIDS knowledge. We would like you to participate in the study to evaluate how useful the training has been on your academic, career and professional development.

#### **Do I have to take part?**

Participation in this study is voluntary.

#### **What will happen to me if I take part?**

If you wish to participate, you will be given a letter of informed consent and the questionnaire. The questionnaire will take you not more than 30 minutes; the time limit depends on the length of your responses.

#### **Expenses and payments**

You will not incur any expenses whilst participating in this study and there will be no incentives.

**What will I have to do?**

You will need to complete a questionnaire and in the presence of the researcher or research assistants.

**What are the risks and benefits?**

There are no direct risks or benefits of this research.

**What if there is a problem?**

Should you have any problems or queries, please direct them to Ms Silingene Ngcobo ([ngcobos4@ukzn.ac.za](mailto:ngcobos4@ukzn.ac.za)) or Prof Gugu Mchunu ([mchunug@ukzn.ac.za](mailto:mchunug@ukzn.ac.za))

**Will my taking part in the study be kept confidential?**

Yes, your completed questionnaire will be collected after completion and will be kept in a lock and key cupboard for 5 years and will only be accessed by the researchers. Your questionnaire will receive a pseudo-nym and all data will be linked to a pseud-nym only. References will only be made to pseudo-nyms.

**What will happen if I don't carry on with the study?**

You can decide what happens to the data we collected. Upon your withdrawal we will contact you requesting you to allow us to either destroy all the information and data collected from you, to date and removed your name and details from all the study files **or** we will use the data collected up to your withdrawal.

**What will happen to the results of the research study?**

The results of the research will be made available to the MEPI steering committee as well as the funders. The research will also be published in a journal and presented at conferences. All participants will receive an executive summary of the research findings.

We would like to thank you for taking the time to read this information sheet. Should you have any queries, please feel free to contact Ms Silingene Ngcobo ([Ngcobos4@ukzn.ac.za](mailto:Ngcobos4@ukzn.ac.za)/031-260 3037/3710. We hope that you will consider participating in the research.

## **ANNEXURE C: CONSENT FORM**

**Project Title: Short term outcomes of an HIV and AIDS Medical Education Partnership Initiative (MEPI) Clinical programme for nursing students in a selected site: A descriptive evaluation study**

### **Background:**

You are being invited to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to evaluate the short term outcome of HIV/AIDS training you received as an undergraduate nursing student for your academic, career and professional development through the Medical Education Partnership Initiative (MEPI) programme.

### **Study Procedure:**

Your expected time commitment for this study is forty (40) minutes

This study will involve you answering a set of close-ended questions and few open ended question which will require brief explanation of your answer.

### **Risks:**

There are no risks involved in participating in the study. You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

### **Benefits:**

There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained may influence how future training initiatives are planned and conducted.

### **Confidentiality:**

For the purposes of this research project your comments will not be anonymous but your identity will be kept confidential and private. Every effort will be made by the researcher to preserve your confidentiality including the following:

Assigning code names/numbers for participants that will be used on all researcher notes and documents. Responses and notes and any other identifying participant information will be kept in a locked file cabinet in the personal possession of the researcher. When no longer necessary for research, all materials will be destroyed.

The researcher and the members of the MEPI monitoring and evaluation team will review the researcher's collected data. Information from this research will be used solely for the purpose

of this study and any publications that may result from this study. All participants involved in this study will not be identified and their confidentiality will be maintained.

**Person to Contact:**

Should you have any questions about the research or any related matters, please contact the researcher, Ms Silingene Ngcobo, email [Ngcobos4@ukzn.ac.za](mailto:Ngcobos4@ukzn.ac.za) / (031) 260 3037/3710.

**Research Ethics Committee:**

If you have questions regarding your rights as a research subject, or if problems arise which you do not feel you can discuss with the researcher, please contact the Biomedical Research Ethics Committee on:

BIOMEDICAL RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

University of KwaZulu-Natal

Private Bag X 54001, Durban, 4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2602486 - Fax: 27 31 2604609

Email: [BREC@ukzn.ac.za](mailto:BREC@ukzn.ac.za)

Please note that the study has been approved by the above ethics committee under ethics reference number: **BE373/15**

**Voluntary Participation:**

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you do decide to take part in this study, you will be asked to sign a consent form. If you decide to take part in this study, you are still free to withdraw at any time and without giving a reason. You are free to not answer any question or questions if you choose. This will not affect the relationship you have with the researcher.

**Unforeseeable Risks:**

There are direct risks in this study. Should any risks arise, you will be notified accordingly.

**Costs to Subject:**

There are no costs to you for your participation in this study

**Compensation:**

There is no monetary compensation to you for your participation in this study.

**Consent:**

By signing this consent form, I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Signature \_\_\_\_\_ Date \_\_\_\_\_

## ANNEXURE D: ETHICAL APPROVAL LETTER



16 October 2015

Mrs SJ Ngcobo (209535846)  
Discipline of Nursing  
School Of Nursing and Public Health Medicine  
[ngcobos4@ukzn.ac.za](mailto:ngcobos4@ukzn.ac.za)

**Protocol:** Short-term outcomes of an HIV and AIDS Medical Education Partnership Initiative (MEPI)  
Clinical programme for nursing students in a selected site: A descriptive evaluation study.

**Degree:** Masters in Nursing

**BREC reference number:** BE373/15

### EXPEDITED APPLICATION

A sub-committee of the Biomedical Research Ethics Committee has considered and noted your application received on 18 August 2015.

The study was provisionally approved pending appropriate responses to queries raised. Your responses received on 13 October 2015 to queries raised on 05 September 2015 have been noted by a sub-committee of the Biomedical Research Ethics Committee. The conditions have been met and the study is given full ethics approval.

This approval is valid for one year from **16 October 2015**. To ensure uninterrupted approval of this study beyond the approval expiry date, an application for recertification must be submitted to BREC on the appropriate BREC form 2-3 months before the expiry date.

Any amendments to this study, unless urgently required to ensure safety of participants, must be approved by BREC prior to implementation.

Your acceptance of this approval denotes your compliance with South African National Research Ethics Guidelines (2015), South African National Good Clinical Practice Guidelines (2006) (if applicable) and with UKZN BREC ethics requirements as contained in the UKZN BREC Terms of Reference and Standard Operating Procedures, all available at <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>.

BREC is registered with the South African National Health Research Ethics Council (REC-290408-009). BREC has US Office for Human Research Protections (OHRP) Federal-wide Assurance (FWA 678).

The sub-committee's decision will be **RATIFIED** by a full Committee at its meeting taking place on **10 November 2015**.

We wish you well with this study. We would appreciate receiving copies of all publications arising out of this study.

Yours sincerely

  
Professor J Tsoka-Gwegweni  
Chair: Biomedical Research Ethics Committee

cc: supervisor: [mchunug@ukzn.ac.za](mailto:mchunug@ukzn.ac.za)  
cc: postgrad: [dhanrajc@ukzn.ac.za](mailto:dhanrajc@ukzn.ac.za)

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Biomedical Research Ethics Committee

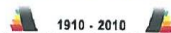
Professor J Tsoka-Gwegweni (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 2486 Facsimile: +27 (0) 31 260 4609 Email: [brec@ukzn.ac.za](mailto:brec@ukzn.ac.za)

Website: <http://research.ukzn.ac.za/Research-Ethics/Biomedical-Research-Ethics.aspx>



Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

## ANNEXURE E: PERMISSION TO CONDUCT RESEARCH AT THE SETTING



2 October 2015

Ms Silingene Joyce Ngcobo (SN 209535846)  
School of Nursing and Public Health  
College of Health Sciences  
Howard College Campus  
UKZN  
Email: [ngcobos4@ukzn.ac.za](mailto:ngcobos4@ukzn.ac.za)

Dear Ms Ngcobo

### RE: PERMISSION TO CONDUCT RESEARCH

Gatekeeper's permission is hereby granted for you to conduct research at the University of Kwazulu-Natal (UKZN), towards your postgraduate studies, provided Ethical clearance has been obtained. We note the title of your research project is:

*"Short term outcomes of an HIV and AIDS Medical Education Partnership Initiative (MEPI) Clinical programme for nursing students in a selected site: A descriptive evaluation study".*

It is noted that you will be constituting your sample by inviting nursing students, to complete questionnaires, on the Howard College Campus.

Please ensure that the following appears on your questionnaire/attached to your notice:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using 'Microsoft Outlook' address book.

Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

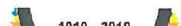
  
**PROFESSOR D JAGANYI**  
**REGISTRAR (ACTING)**

#### Office of the Registrar






Postal Address: Private Bag X54001, Durban, South Africa

Telephone: +27 (0) 31 260 8005/2206 Facsimile: +27 (0) 31 260 7824/2204 Email: [registrar@ukzn.ac.za](mailto:registrar@ukzn.ac.za)

Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)



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## ANNEXURE F: EDITOR'S LETTER



7 Woodlands Rd  
GLENWOOD  
DURBAN  
4001  
083 415 2531

1 March 2016

**Reg. No. 2006/156780/23**

To whom it may concern

### **EDITING OF RESEARCH DOCUMENT: S. NGCOBO**

I have an MA in English from University of Natal (now UKZN) and have been performing editing services via my company for ten years. My company regularly edits the research dissertations, papers and theses of the School of Nursing, Environmental Studies and various other schools and disciplines at the University of KwaZulu-Natal and other institutions, as well as editing for publishing firms and private individuals on contract.

I hereby confirm that Dennis Schaffer from Word Weavers cc edited **S. Ngcobo's** dissertation titled "Short-term outcomes of an HIV and AIDS Medical Education Partnership Initiative (MEPI) clinical programme for nursing students at a selected site: A descriptive evaluation study" and commented on the anomalies he was unable to rectify in the MS Word Track Changes and review mode by insertion of comment balloons. Corrections were made in respect of grammar, punctuation, spelling, syntax, tense and language usage. Once the queries referred to above have been attended to by S. Ngcobo, the document should be correct. The dissertation was edited from Chapter 1 to the Reference list.

I trust that the document will prove acceptable in terms of editing criteria.

Yours faithfully

**C Eberle**  
**Catherine P. Eberle (MA: University of Natal)**

