

**KNOWLEDGE, ATTITUDES AND PRACTICES ASSOCIATED WITH PMTCT
AMONG BREASTFEEDING MOTHERS LIVING WITH HIV IN A KING SOBHUZA II
PUBLIC HEALTH UNIT, SWAZILAND**

by

PHUMZILE LUCIA DLAMINI

submitted in accordance with the requirements

for the degree of

MASTER OF ARTS

in the subject

NURSING SCIENCE

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: DR TSB MOKOBOTO-ZWANE

JANUARY 2015

Dedication

This academic work is most fittingly dedicated to my caring mother, Mrs D Dlamini; my loving husband, Mr SN Mashwama; and my adorable children, Okweth'kuhle, Melokuhle and Phethokuhle.

Their collective support, encouragement, and unflinching belief in my potential has greatly motivated me even under very challenging circumstances.

Student Number: 48358290

DECLARATION

I declare that **KNOWLEDGE, ATTITUDES AND PRACTICES ASSOCIATED WITH PMTCT AMONG BREASTFEEDING MOTHERS LIVING WITH HIV, IN A KING SOBHUZA II PUBLIC HEALTH UNIT, SWAZILAND** is my own work and all the sources that I have used, cited or quoted have been indicated and acknowledged by means of complete references, and that this work has not been submitted before for any other degree at any other institution.

MS PHUMZILE L DLAMINI



JANUARY 2015

ACKNOWLEDGEMENTS

First and foremost, I express my most sincere gratitude and admiration to Almighty God, by whose omnipresent and numinous love, grace and mercy I was able to persevere throughout this study.

While I appreciate and admire the various roles played by different individuals during the various stages and final completion of this study, I most poignantly acknowledge the pivotal roles of the following individuals:

- Dr Sheila Mokoboto-Zwane, my supervisor, for all her insightful supervision, academic support, and patient encouragement
- The management of King Sobhuza II Public Health Unit, for cordially granting me the permission to conduct the study at the clinic
- My colleagues at King Sobhuza II Public Health Unit, for availing themselves to work with me during the data collection stages
- Ms Irene Hankasenke the statistician, for her prolific statistical input and skills in the data analysis of the study
- Dr TJ Mkhonto, for his comprehensive language editorial input and other technical compliance aspects of the manuscript

**STUDY OF KNOWLEDGE, ATTITUDES AND PRACTICES ASSOCIATED WITH
PMTCT AMONG BREASTFEEDING MOTHERS LIVING WITH HIV IN A KING
SOBHUZA II PUBLIC HEALTH UNIT, SWAZILAND**

STUDENT NUMBER: 48358290
STUDENT: PHUMZILE LUCIA DLAMINI
DEGREE: MASTER OF ARTS IN NURSING SCIENCE
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
SUPERVISOR: DR TSB MOKOBOTO-ZWANE

ABSTRACT

The purpose of the study was to assess knowledge, explore attitudes and determine practices of breastfeeding mothers living with HIV regarding post-natal PMTCT interventions and services.

The study was quantitative and descriptive in nature, utilising a retrospective cohort design. The study sample included breastfeeding mothers living with HIV, who attended the King Sobhuza II public health unit in the Manzini region of Swaziland.

A written questionnaire was administered to a non-random sample of 90 consecutively selected mothers living with HIV attending the above-cited public health unit for post-natal health purposes.

The overall study results revealed that the majority of breastfeeding mothers living with HIV in the afore-mentioned region (77.8%) presented high levels of knowledge on PMTCT, and 90% demonstrated a positive attitude; while a further 90% also demonstrated positive behaviour towards PMTCT. However, stigma and discrimination among family members, non-disclosure of HIV status to sexual partners; as well as poverty and fear of future drug-resistance are the cause of non-adherence to ARV prophylaxis. Furthermore, inconsistent condom use, mixed-feeding methods and wet-nursing also emerged as other contributing factors to the increase of post-natal mother-to-child transmission of HIV among breastfeeding mothers living with HIV.

Key concepts

HIV/AIDS; PMTCT knowledge; PMTCT attitude; PMTCT practices; breastfeeding.

TABLE OF CONTENTS

CHAPTER 1: ORIENTATION TO THE STUDY	1
1.1 INTRODUCTION	1
1.1.1 Prevention of Mother-to-Child Transmission (PMTCT)	1
1.1.2 The PMTCT Scenario in Swaziland	2
1.2 BACKGROUND TO THE RESEARCH PROBLEM.....	3
1.3 RESEARCH PROBLEM	4
1.4 RESEARCH PURPOSE AND OBJECTIVES.....	5
1.4.1 Research Purpose	5
1.4.2 Research Objectives.....	5
1.5 THE RESEARCH QUESTIONS.....	6
1.6 SIGNIFICANCE OF THE STUDY	6
1.7 ETHICAL CONSIDERATIONS	7
1.7.1 Protecting the Integrity of the Institutions in which Research is Conducted.....	7
1.7.2 The Principle of Respect for Human Dignity	8
1.7.3 The Principle of Justice.....	8
1.7.4 The Principle of Beneficence	9
1.8 RESEARCH DESIGN AND METHODOLOGY	9
1.8.1 Research Design	9
1.8.2 Study Setting	9
1.8.3 Population.....	10
1.8.4 Sampling and sample size.....	10
1.8.5 Data collection	11
1.8.6 Data analysis	12
1.9 DEFINITION OF KEY CONCEPTS	12
1.9.1 Conceptual Definitions.....	12
1.9.2 Operational Definitions	13
1.10 ORGANISATION OF THE STUDY.....	14
1.11 CONCLUSION.....	14
CHAPTER 2: LITERATURE REVIEW	15
2.1 INTRODUCTION	15

2.1.1	HIV in a Global Context	15
2.1.2	HIV in the Sub-Saharan African Context	16
2.1.3	HIV in the Swaziland Context	16
2.2	OVERVIEW OF MOTHER-TO-CHILD TRANSMISSION (MTCT)	17
2.3	PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT)	18
2.4	BREAST-FEEDING WITHIN A PMTCT CONTEXT	22
2.4.1	Exclusive Breast-feeding	22
2.4.2	Duration of Breast-feeding	23
2.4.3	Risk of HIV Transmission Through Breast-feeding	23
2.4.4	Timing of Post-natal Transmission Through Breast-feeding	24
2.4.5	Late Post-natal Transmission	24
2.5	KNOWLEDGE REGARDING PMTCT	24
2.6	ATTITUDES REGARDING PMTCT	28
2.7	PRACTICES REGARDING PMTCT	29
2.8	CONCLUSION.....	31
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY.....		33
3.1	INTRODUCTION	33
3.2	RESEARCH PURPOSE AND OBJECTIVES.....	33
3.2.1	Purpose of the Study	33
3.2.2	Research Objectives.....	33
3.3	RESEARCH DESIGN	34
3.4	RESEARCH METHODOLOGY	35
3.4.1	The study setting	35
3.4.2	Population.....	36
3.4.3	Sampling methods and procedures	36
3.4.3.1	Inclusion/Eligibility Criteria	37
3.4.3.2	Exclusion Criteria.....	38
3.4.3.3	Sample Size Determination	38
3.4.4	Data collection	39
3.4.4.1	Questionnaire Development and Administration.....	39
3.4.4.2	Pilot Testing.....	40

3.4.5	Data analysis	41
3.4.5.1	The Data Analysis Process.....	41
3.4.5.2	Data Quality Management	42
3.4.5.2.1	Validity	42
3.4.5.2.2	Reliability	43
3.5	ETHICAL CONSIDERATIONS	43
3.5.1	Permission to Conduct the Study	43
3.5.2	Informed Consent	43
3.5.3	The Principle of Beneficence	44
3.5.4	The Right to Privacy, Confidentiality and Anonymity	44
3.5.5	Open Withdrawal from the Study	44
3.6	SIGNIFICANCE OF THE STUDY	44
3.7	CONCLUSION.....	45
CHAPTER 4: PRESENTATION AND ANALYSIS OF THE RESEARCH FINDING		46
4.1	INTRODUCTION	46
4.2	FINDINGS OF THE STUDY	46
4.2.1	Demographic Data.....	46
4.2.1.1	Age Characteristics.....	47
4.2.1.2	Marital Status Characteristics	48
4.2.1.3	Educational Level Characteristics.....	48
4.2.1.4	Employment Status Characteristics	49
4.2.1.5	Knowledge Regarding PMTCT of HIV	49
4.2.1.6	PMTCT Knowledge in Relation to Age and Educational Status.....	51
4.2.2	Attitude Towards PMTCT of HIV.....	53
4.2.2.1	Attitude in Relation to Age	55
4.2.2.2	Attitudes in Relation to Marital Status.....	56
4.2.2.3	Attitudes in Relation to Educational Level.....	56
4.2.3	Practices Related to PMTCT of HIV	57
4.2.3.1	Practices in Relation to Age.....	58
4.2.3.2	Practices in Relation to Marital Status	58
4.2.3.3	Practices in Relation to Educational Status	59
4.2.3.4	Practices in Relation to Employment Status	59
4.3	CONCLUSION.....	59

CHAPTER 5: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS.....	61
5.1 INTRODUCTION	61
5.2 SUMMARY AND INTERPRETATION OF RESEARCH FINDINGS.....	61
5.2.1 Demographic Data.....	62
5.2.2 Conclusion on PMTCT of HIV Knowledge.....	62
5.2.3 Conclusion on PMTCT of HIV Attitudes.....	63
5.2.4 Conclusion on PMTCT of HIV Practices.....	63
5.3 LIMITATIONS OF THE STUDY	66
5.4 RECOMMENDATIONS	66
5.4.1 Nursing Research.....	66
5.4.2 Nursing Practice	67
5.4.3 Nursing Education	67
5.4.4 Policy Change	68
5.5 CONCLUDING REMARKS.....	68
LIST OF REFERENCES.....	70

LIST OF TABLES

Table 1	Demographic Data of Participants	47
Table 2	Participants' Marital Status	47
Table 3	Participants' Educational Levels	48
Table 4	Participants' Employment Status	49
Table 5	Percentage of Respondents' Showing Knowledge on PMTCT of HIV	50
Table 6	Knowledge Regarding PMTCT in Relation to Age	51
Table 7	Knowledge Regarding PMTCT in Relation to Educational Status.....	52
Table 8	Respondents' Attitudes in Relation to Marital Status	56

LIST OF ANNEXURES	76
Annexure A Letter of Permission by the Higher Degrees Committee of the Department of Health Studies at the University of South Africa.....	76
Annexure B Letter of Permission by the Swaziland Scientific and Ethics Committee	77
Annexure C Permission letter by the Management of King Sobhuza II Public Health Unit	78
Annexure D Consent Form (English).....	79
Annexure E Consent Form (SiSwati).....	81
Annexure F Research Instrument (Questionnaire)	82

LIST OF ABBREVIATIONS

AIDS	Acquire Immune Deficiency Syndrome
AIDSTAR	AIDS Support and Technical Assistance Resources
ANC	Ante Natal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
AZT	Azidothymidine (Zidovudine)
EFA	Education for All
EBF	Exclusive Breastfeeding
HIV	Human Immuno Virus
IMR	Infant Mortality Rate
KABP	Knowledge, Attitude, Behaviour and Practice Survey
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MNH	Maternal and Neonatal Health
MTCT	Mother-to-Child Transmission
NHSSP	National health sector strategic plan
NSF	National Strategic Framework
NVP	Nevarapine
PMTCT	Prevention of Mother-to-child Transmission
PEPFAR	The US President's Emergency Plan for AIDS Relief
SDHS	Swaziland Demographic Health Survey
Sd-NVP	Single dose of Nevarapine
3TC	Lamivudine
RHMs	Rural Health Motivators
TBA	Traditional Birth Attendant

UN	United Nations
UNAIDS	Joint United Nations Programme on AIDS
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WHA	World Health Assembly

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Swaziland has the world's highest HIV prevalence of 26% among adults of reproductive age, and an estimated comparative HIV incidence of 3% in the Sub-Saharan region; while an HIV prevalence of 41.1% among pregnant women posits a state of affairs that warrants immediate action-oriented approaches (Swaziland Government 2009-2014:19). The annual number of deliveries in Swaziland is estimated at about 40,000. Based on the latter figure then, approximately 16, 000 children will be born to HIV-infected mothers, and an estimated 6,800 of these will be HIV infected. HIV-negative infants born to HIV-infected mothers then have a two- to five-fold increased mortality risk as a direct consequence of mothers' HIV infection leading to early death as a result of the severity of the disease (Swaziland Government 2006:2).

1.1.1 Prevention of Mother-to-Child Transmission (PMTCT)

The introduction of Prevention of Mother-to-Child Transmission (PMTCT) services helps reduce HIV transmission including transmission by means of breast milk. Mother-to-child transmission (MTCT) accounts for the vast majority of more than 90 % estimated new infections in children worldwide annually. In the absence of any meaningful interventions, HIV infected mothers have a 35% overall risk of transmitting HIV to their child during pregnancy, delivery and breast-feeding. An estimated 2.1 million children under 15 years of age were living with HIV in 2008 and from this number, 430 000 children were newly infected and 280 000 died of AIDS-related causes (Greenon, Dana, Elizabeth, Maryanne & Cassandra 2011:1).

Prevention of mother-to-child transmission aims at reducing the risk of the mother infecting her child with HIV. Comprehensive prevention of mother-to-child transmission programmes has nearly eliminated MTCT in developed countries. However, in resource-limited settings, progress has been slow in the implementation of similar prevention programmes. Only 9% of all HIV-positive pregnant women actually benefit from such services in these resource-limited countries (PEPFAR 2008:1).

PMTCT begins with the routine offer of HIV testing as an integral part of Ante Natal Care (ANC) (Swaziland Government 2010:12). HIV testing is an entry point to primary prevention of HIV among young women of reproductive age, prevention of HIV transmission from an HIV infected mother to the child, and to treatment and care services for HIV infected mothers, families and children – including family planning to prevent unwanted pregnancy among HIV infected mothers. It has been reliably established that the PMTCT service is implemented by means of a four-pronged approach:

Prong 1: Primary prevention of HIV infection among women of child bearing age;

Prong 2: Prevention of unwanted pregnancies among HIV positive women;

Prong 3: Prevention of MTCT from HIV positive women to their children during pregnancy, labour and breast-feeding periods; and

Prong 4: Care, support and treatment for HIV positive women and their families.

1.1.2 The PMTCT Scenario in Swaziland

The Swaziland Government has called for the virtual elimination of MTCT by 2015 through the agency of PMTCT guidelines (Swaziland Government 2010:10). It is therefore imperative that all pregnant women in the country be in a position to access the full range of PMTCT services, whose implementation has resulted in tremendous progress being achieved in the country; beginning with only three (3) health facilities in 2003, increasing to 137 facilities by 2009, and an impressive 150 health facilities (88%) in 2010 (Swaziland Government 2011-2015:11). A complete course of PMTCT prophylaxis was made available to 67% of all HIV-infected pregnant women in Swaziland, while 33% of HIV-infected women who did not have access to the services contributes to the excessive infant HIV infections and deaths. In 2009, an estimated 2, 300 infants became HIV infected during pregnancy, delivery and breast-feeding – an indication that PMTCT interventions prevented nearly 59% of HIV infections of infants born to HIV positive mothers.

In 2003, a single dose of nevarapine (sd-NVP) was provided to mothers and infants as part of an MTC reduction effort in Swaziland. Since 2007, a dual Antiretroviral (ARV) regimen of (AZT) and (NVP) has been used with a seven-day ‘tail’ of AZT+3TC in order to minimize NVP resistance. The 2010 PMTCT guidelines in Swaziland include the use of ARV for breast-feeding HIV exposed infants as a means to safer breast-feeding for HIV infected women, in which case the ARV prophylaxis may begin as early as fourteen

weeks' gestation. ART eligible women are started on AZT and fast-tracked for ART initiation, while mother's intrapartum dose sd-NVP and AZT/3TC during labour plus one week of infant NVP prophylaxis are administered at the time of diagnosis in case the woman cannot reach the health facility for delivery. Infant prophylaxis is altered to daily NVP prophylaxis for or least six weeks or more, depending on whether the mother is on ART, ARV prophylaxis, breast-feeding or replacement feeding (Swaziland Government 2010:14).

In this study, the researcher has assessed the knowledge, explored attitudes, and determined practices which HIV positive breast-feeding mothers espouse with regard to the utilization of PMTCT services, especially the HIV positive women's approach to the prevention of MTCT during breast-feeding (Prong 3).

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Globally, there are approximately 1.4 million pregnant women living with HIV in low- and middle-income countries. Only 26% of pregnant women living in these countries received HIV tests (UNICEF 2012). About 2.3 million children below the age of 15 years live with HIV/AIDS, and 2.1 million of them are in Sub-Saharan Africa (Swaziland Government 2006:2). The most significant source of HIV infection in young children is through mother-to-child transmission. Without specific interventions, approximately 5-20% of infants may become infected post-natally during breastfeeding. Therefore, breastfeeding may thus be responsible for one third to one half of HIV infections in infants and young children in African settings (WHO 2007:9).

An estimated 53% of pregnant women living with HIV in the developing world received antiretroviral drugs to prevent them from transmitting the virus to their children. On the other hand, 68% of pregnant women living with HIV received antiretroviral treatment in Eastern and Southern Africa (UNICEF 2012). There are 16,000 children living with HIV/AIDS in Swaziland, and an estimated 65, 000 orphans of AIDS related deaths. The infant mortality rate (IMR) is 108 per 1000 live births. In addition, the mortality rate of children under the age of 5 (five) is 156 per 1000 live births. HIV related mortality contributes significantly to both the IMR and the under 5 mortality rate of prevalence. HIV can be transmitted through breast milk at any point during lactation, hence the rate of infection in breastfed infants increasing with the duration of breast-feeding (Swaziland Government 2007:219).

Mixed infant feeding in the first six months after birth is also associated with an increased MTCT rate. Under ideal conditions, comprehensive prevention programmes could reduce MTCT rates to about one to two percent. Antiretroviral therapy administered during pregnancy to medically eligible women living with HIV reduces transmission by at least seventy five percent. It is of critical significance to ensure that treatment eligible women receive PMTCT, in order to protect women's own health and survival as well (PEPFAR [S.a.]).

If the goal of childhood mortality reduction is to be significantly achieved, it then becomes even more imperative that efforts towards HIV prevention, treatment and care of children are accentuated. According to the Swaziland Government (2010:39 &43), all women – irrespective of HIV status – should attend postpartum visits at six weeks following the date of delivery. In addition to routine immunization, HIV exposed infants should be initiated on cotrimoxazole (CTX) prophylaxis and have dried blood spot (DBS) taken for HIV testing as part of early infant diagnosis. Health providers also ensure that the mother's contact information is recorded for follow-up of HIV test results and further HIV testing between 6 weeks and 12 months of the child's age.

1.3 RESEARCH PROBLEM

Despite some improvement in the outcome of children born to 59% of HIV positive mothers who received PMTCT services (AZT and NVP prophylaxis) in Swaziland, there is still a vertical mother-to-child transmission occurring during breast-feeding (Swaziland Government 2010:11). Available literature shows that at six weeks of age, two to four percent of infants tested for HIV were found to be positive. However, the total number of infants of mothers who tested HIV positive after birth in 2011 was 17%, suggesting significant rates of transmission during breast-feeding (Sibbald 2013). In the current study, the researcher has also observed that at King Sobhuza II Public Health Unit, there was an increase in the number of children testing HIV positive during their follow-up HIV testing between six weeks and twelve months; despite the fact that they still continued, or were still supplied with their Antiretroviral prophylaxis (Swaziland Government 2013).

1.4 RESEARCH PURPOSE AND OBJECTIVES

The purpose (general aim) and objectives (specific aims) of the study are intended to provide both the broader or general and narrower or more specific intentions of the study.

1.4.1 Research Purpose

According to Henning (2005:1) there is a mutual relationship between the purpose (general aim) and objectives (specific aims) of a study on the one hand; and the methods of data collection, the research problem, and the research questions on the other hand. On the whole, the purpose/aim of a study relates to the wider/general intentions of the study in relation to the research tasks to be accomplished, including the research methodology and accomplishment of results/findings of the study (Muller 2004:37).

In this study, the purpose is:

- to assess the knowledge, explore attitudes and determine the post-natal practices of HIV positive breast-feeding mothers regarding PMTCT interventions and services at the King Sobhuza II Public Health Unit in Manzini, Swaziland.

1.4.2 Research Objectives

Whereas the research purpose refers to the general aim of the study, the research objectives refer to the more specific or narrower intentions of the study in relation to the research tasks to be accomplished (Henning 2005:1; Muller 2004:37). In this study, the objectives have been articulated thus:

- to assess HIV positive mothers' knowledge of post-natal PMTCT interventions and services;
- to explore HIV positive mothers' attitudes towards post-natal PMTCT interventions and services;
- to determine HIV positive mothers' post-natal practices in relation to PMTCT interventions and services; and
- to investigate the association of socio-demographic factors, knowledge, and attitudes regarding PMTCT interventions on PMTCT practices.

1.5 THE RESEARCH QUESTIONS

The articulation of the research questions in this study is intended to highlight the inter-relatedness between the research problem and the research design and methods applied in order to resolve the problem. Accordingly the most significant research questions in this study have been articulated as follows:

- To what extent are HIV positive breast-feeding mothers knowledgeable on the prevention of mother-to-child HIV transmission?
- What kind of attitudes do HIV positive breast-feeding mothers display towards PMTCT interventions and services? and
- What kind of practices do HIV positive mothers embrace during their breast-feeding period which may negatively affect PMTCT interventions and services?

1.6 SIGNIFICANCE OF THE STUDY

In a broader context, the study's significance relates to the extent to which an investigation could yield either practical socio-economic benefit, institution-specific, or scientific/discipline-specific value. In the latter context, the value is symbiotically linked to PMTCT as a field of study within Health or Nursing Care.

In this study, the value, relevance, or justification for the study resides in the extent to which the proposed research evidence might contribute to the corpus of knowledge in nursing and healthcare as a scientific field of study. The knowledge derived would assist and add value in the review of health education strategies on PMTCT and follow-up care for the benefit of all breast-feeding mothers.

The study is also envisaged to also contribute to the development of policies and guidelines for the benefit of all breast-feeding mothers in the future. The development of policies and guidelines is envisaged to increase the levels of knowledge and practises regarding PMTCT among these women, translating into better access and utilization of PMTCT services in Swaziland. The long-term consequences are: the reduction of the vertical transmission of HIV, especially during the breast-feeding period; improved maternal and child health; and support to Swaziland's effort to attaining MDG (Millennium

Development Goal) 4 and 5 – which relate to the reduction of child mortality and improvement of maternal health, respectively.

1.7 ETHICAL CONSIDERATIONS

In any systematic and evidence-based undertaking, ethical considerations are attributed with engendering a scientific value to the particular evidence-based undertaking (Henning 2005:1). In addition, help to harmonise the researcher's professional conduct with the respondents' expectations (Gibbs 2007:7). In this regard then, the scientific worth of any systematic and evidence-based undertaking is configured into researcher-specific and research-specific 'behavioural protocol' or 'research etiquette'. Researcher-specific ethical considerations ensure that professionally and legally stipulated limits and requirements within research are unequivocally adhered to. Furthermore, the 'behavioural protocol' directs the researcher's expected conduct within the ambit of acceptable norms within the professional community of research practice, as well as the legal prescripts as encapsulated in the laws governing human rights and human dignity. The following ethical considerations compel that the researcher's dignified treatment of research participants be observed, respected and protected at all times.

Maintaining an Ethical Researcher-Participant Relationship

Maintaining an ethical researcher-participant relationship refers mainly to the researcher's treatment (including attitude and behaviour) of the research participants (Polit & Beck 2008:170). The researcher applied four broad principles of ethical conduct in research, namely: protecting the integrity of the institutions in, and through which the research is (to be) conducted; the principle of respect for human dignity; the principle of justice; and the principle of beneficence.

1.7.1 Protecting the Integrity of the Institutions in which Research is Conducted

The researcher could not arbitrarily commence the study without prior permission being granted by the relevant institutions and authorities, as that would be tantamount to denying the study a much-needed semblance of legal framework and protection.

Prior to the commencement of the study, ethical clearance was sought and obtained from the University of South Africa's Research Ethics Committee and the Department of Health Studies. Similarly, the Swaziland Scientific and Ethics Committee granted permission for the study to be undertaken at the selected research sites in Swaziland. Furthermore, the

Public Health Unit (of Swaziland) authorized the study to be conducted at the public health institutions under its jurisdiction.

1.7.2 The Principle of Respect for Human Dignity

In any credible research undertaking, respect for the human dignity of the research participants – whether or not the study is experimental or laboratory-based – cannot, and should not, be violated. As autonomous agents able to control and determine their own destinies, research participants have the right to self-determination. Similarly, the participants have the right to full disclosure (Polit & Hungler 1999:137). No aspect of the study should be concealed to the participants.

In this study, written informed consent was sought from the research participants, and they were assured further that they were at liberty to participate un-coerced, to ask questions, to refuse to give information, and to withdraw from the study at any stage without putting themselves at risk of penalty. The researcher fully explained the purposes to which the study would be used, with no prejudice to themselves. Additionally, they were reassured that they were still entitled to receive treatment despite their refusal to participate in the study.

1.7.3 The Principle of Justice

The principle of justice could be construed as serving a complementary role to the implementation of the right to fair treatment – which is an expression of a culture of human rights and human dignity. In addition to fair treatment and human dignity, the principle of justice guarantees that the research participants have the right to legal recourse in the event that any aspect of their human dignity is violated (unduly compromised or prejudiced) by any aspect of the research during the research process) (Polit & Hungler 1999:138).

In this study, fair treatment was accorded to all study participants irrespective of their race, gender, age, educational status, creed, or any other socio-economic variable or construct. The participants' right to privacy, confidentiality, and anonymity was explained to them and fully guaranteed. Participants were reassured that the study information given and results will be kept confidential, even in the event that they wished to withdraw from, or refused to participate in the study as such participation is voluntary.

1.7.4 The Principle of Beneficence

In terms of this principle, research subjects (respondents) are not to be exposed to harm and any undue risk. Instead, they should be assured that the benefits of participation in the study supersede any inherent or possible risks. That is to say, an acceptable risk-benefit ratio should be cautiously established by the researcher (Polit & Beck 2004). Serious measures are also undertaken to ensure that the participants are free from any form of manipulation or exploitation, such as enticed participation by means of promised financial reward or any other material gain to the participants.

In this study, the researcher did not subject the participants to any form of harm, and reassured them that their participation was voluntary, and that their involvement in the study would be treated anonymously. Furthermore, the information they provided would not be divulged to any unauthorised parties or be used against them, but would only be strictly used for the benefit of the improvement of health care outcomes.

1.8 RESEARCH DESIGN AND METHODOLOGY

1.8.1 Research Design

The research design of a study is regarded as the “management plan” of the particular study (Henning 2005:142). Furthermore, the research design relates to the broader course of action or plan of how the study was executed, in that it outlines the processes followed in resolving the research problem as articulated by the researcher (Mouton 2001:56, 114).

In this study, the approach was quantitative and descriptive in nature, utilising a retrospective cohort design. The researcher described the relationship between breastfeeding HIV+ mothers, their knowledge, attitude and practices on prevention of Mother-to-child transmission of HIV, adherence to HIV prophylaxis to examine factors contributing to HIV sero conversion of babies by twelve months.

1.8.2 Study Setting

The study was conducted in a King Sobhuza II Public Health Unit in Manzini, Swaziland. Manzini is centrally situated in ‘The Mountain Kingdom’, with a dense population of about 319,530 (Regions of Swaziland). The selected public health unit (research site) operates weekly from 08h00 to 16h00, and provides services such as child welfare; growth

monitoring; immunization; ante-natal services; PMTCT services; treatment of minor childhood ailments; as well as family planning.

1.8.3 Population

Population refers the entire set of individuals or objects that meet a certain criteria for inclusion in a given universe (Polit & Beck 2008:761; Kerlinger & Lee, 2000, cited in Burns & Grove 2009:42).

In this study, the population included breastfeeding HIV +mothers, who have received PMTCT services pre and postnatal with babies between 6weeks and 12 months of age, attending King Sobhuza II Public Health Unit for immunization and for growth monitoring and treatment of minor childhood ailments from April 2014 to May 2014.

1.8.4 Sampling and sample size

A sample is a subset of a population, selected to participate in a study and sampling defines the process for selecting a group of people, events, behaviours, or other elements with which to conduct a study (Polit & Beck 2008:765; Burns & Grove 2009:42).

A non-random sampling technique, convenience sampling, was utilised by the researcher, according to which the selection of 90 consecutive HIV positive breast-feeding mothers initiated on PMTCT services during the pre- and post-natal period, were selected for participation in the study. The aim was to obtain as much participants as possible as this was a difficult group of participants to catch. The 90 conveniently sampled participants with a 95% confidence interval with a significance of $\alpha=0.05$.

Sample size

In this study, a sample of 90 study participants were consecutively and conveniently selected following a formula of calculating a sample size when a study population is less than 10 000.

$n = \frac{N}{1 + (N/n)}$ (Araoye 2003:119).

Eligibility criteria

Eligibility criteria include or specify a list of characteristics essential for membership in the target population therefore, it determines the target population and the sample are

selected from the accessible population within the target population (Burns & Grove 2009:344).

Inclusion criteria

- HIV positive breastfeeding mothers
- Initiated on PMTCT services pre and postnatal.
- Mothers who have babies Between 6 weeks and twelve months of age
- Literate and illiterate mothers were included in the study.
- Mother had signed an informed consent form

Exclusion criteria

- HIV negative mothers
- Mothers who chose formula feeding were excluded in the study.
- Mother had not signed an informed consent form

1.8.5 Data collection

Data collection refers to the process of gathering information relevant to the research purpose, or the specific objectives, questions or hypotheses of a study in which values are obtained for the characteristics of individuals being studied. The information accruing from the collected data is used to address a research problem (Katzenellenbogen & Joubert 2007:106; Burns & Grove 2009:43; Polit & Beck 2008:725).

As the primary means by which quantitative data collection was advanced, a self-administered questionnaire with closed-ended questions (see Annexure F) was utilized by the researcher in this study.

Data was collected from April to May 2014. The questionnaire was in both English and SiSwati for better clarity and understanding. The researcher was at hand to constantly supervise and assist the respondents while answering the questionnaire, clarifying any misunderstanding and explaining any medical terms which the respondents did not understand (e.g. 'prophylaxis').

Mothers who brought their children for their routine immunization and growth monitoring, and consented to participate in the study, were given a questionnaire to answer and researcher was always at hand to clarify some concerns and misunderstanding. For non- or least-literate mothers, the questionnaire was administered by the researcher.

1.8.6 Data analysis

Data analysis reduces, organizes and gives meaning to the data (Burns & Grove 2009:44).

The collected raw data were reviewed by the researcher for completeness, accuracy and then carefully placed in a locked cupboard. Each respondent was allocated a code for confidentiality purposes. Raw data were processed using a data capturing software program, Statistical Package for the Social Science (SPSS version 20) and Pearson Chi-Square. Data-checking for accuracy was carefully done by the researcher before data analysis. The researcher used tabulation and frequency tables to present the data and finally, interpretation of the tables and percentages was done. The latter process was instrumental in the formulation of the study's findings/results and subsequent recommendations.

1.9 DEFINITION OF KEY CONCEPTS

The definition of key concepts allocates contextually relevant meaning to those terms deemed to be centripetally and thematically linked to the most profound nuances and concepts in the study. In this regard, the alphabetic sequencing of the conceptual and operational definitions does not necessarily depict their order of importance in the study; neither does that attenuate their pivotal significance in the study.

1.9.1 Conceptual Definitions

Conceptual definitions refer to those key discipline-specific concepts that are more thematically linked to the research topic, rather than to the researcher and the research process as a whole.

AIDS: (Acquired Immunodeficiency Syndrome); the most severe form of a continuum of illnesses associated with HIV infection (Smeltzer & Bare 2000:1350);

ARV: (Antiretroviral); a substance or drug that stops or suppresses the activity of retroviruses such as HIV (Mosby's Medical Dictionary, 2009);

HIV: (Human Immunodeficiency Virus); the virus that causes AIDS (UNFPA,2004);

PMTCT: (Prevention of Mother-to-Child Transmission); also known as prevention of vertical transmission, refers to interventions to prevent transmission of HIV from a mother living with HIV to her infant during pregnancy, labour and delivery, or during breast-feeding (UNICEF, 2012).

1.9.2 Operational Definitions

As opposed to the conceptual definitions, the operational definitions are those researcher-centric 'lexical tools' that enable the researcher to understand and guide the research process.

Attitude: Attitudes towards certain practises in the prevention of mother-to-child transmission of HIV were measured by means of Likert scale, according to which respondents were asked to indicate the degree to which they agree or disagree with the opinion expressed by a statement (Polit & Beck 2008:418).

Behaviour/Practices: Throughout the empirical phase, the researcher observed that the participants responded to certain related questions, after which their behaviour was categorised as either negative or positive. Negative behaviour was one where the respondent disagreed with more than half of the statements concerning PMTCT of HIV. Positive behaviour was one where the respondents agreed with more than half of the statements concerning PMTCT of HIV.

Knowledge: The researcher created a PMTCT knowledge score where knowledge was assessed by the researcher by means of questions concerning PMTCT of HIV. Each response was allocated a score, after which the researcher would add all the total number of correct answers to 16. The scores for the correct answer would range from nought (0) to ten. Respondents with a score of nought would then be operationally defined as having no PMTCT knowledge, while persons with a score of between 1 (one) and 8 (eight) were operationally defined as having low PMTCT knowledge; and persons with a score of between 9 (nine) and 16 (sixteen) were operationally defined as having a high level of knowledge concerning PMTCT of HIV (Adapted from Bradley & Herrin 2004).

A succinct configuration of Likert scale scores implies that the level of PMTCT of HIV knowledge is equal to the number of correct answers a respondent gives to ten questions on PMTCT.

1.10 ORGANISATION OF THE STUDY

The chapters in the study are organised and delineated according to the following main ideas or headings:

Chapter 1: Orientation to the Study

Chapter 2: Literature Review

Chapter 3: Research Design and Methodology

Chapter 4: Presentation, Analysis, and Discussion of Research Findings

Chapter 5: Conclusions, Limitations and Recommendations

1.11 CONCLUSION

Chapter 1 presented an introduction to the study, the purpose, significance, and setting of the study. The chapter has also outlined the research design and methodology, defined the key terms used in the study, and outlined the layout of the next chapters.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In Chapter 1, the researcher presented the introduction of the study, the background to the research problem, the research problem itself, the study purpose and objectives, the research questions, the significance of the study, the ethical considerations, as well as the research design and methodology. Further discussion also ensued based on a definition of the key terms or concepts used in the study, as well as a layout of all the subsequent chapters.

The nuance 'literature review' refers to a consultation process of the primary sources (for instance, hard copies and electronic texts) that provide an in depth knowledge or foundation on which to base new evidence needed to study a selected research problem (Polit & Beck 2008:65; Burns & Grove 2009:38).

In this chapter, the researcher presents a literature review based on the prevalence or background information on HIV/ AIDS globally, in the Sub-Saharan region, and in Swaziland. Other aspects addressed in the reviewed literature include the prevention of mother-to-child transmission as one of the preventive measures of vertical transmission of HIV; post-natal risks of HIV transmission – including infant feeding methods and knowledge; as well as attitudes towards, and practices of HIV prevention of mother-to-child transmission.

2.1.1 HIV in a Global Context

In 2010, there were approximately 34 million people living with HIV worldwide, with a number of AIDS-related deaths amounting to 1.8 million (UNAIDS Report 2011:6-7). The proportion of women living with HIV has remained stable at 50% globally. There are about 2.5 million new HIV infections, with an estimated 390,000 accounting for the prevalence among children. Whereas the total number of people eligible for HIV treatment is estimated at 14.8 million, 8 million are actually on HIV treatment.

In low and middle income countries, there are approximately 1.4 million pregnant women living with HIV, with only 26% of pregnant women living in these countries having undergone HIV testing (UNICEF 2012).

2.1.2 HIV in the Sub-Saharan African Context

With 68% of people living with HIV in 2010, Sub-Saharan Africa remains the region most heavily affected by HIV on the African continent. The region also accounted for 70% of new HIV infections, although there was a notable decline in the regional rate of new infections. The epidemic continues to be most severe in Southern Africa, where almost half of the deaths from AIDS-related illnesses occurred – claiming at least 1 million lives annually since 1998. Since then, AIDS-related causes of death began to gradually decrease, as a result of an increase in the availability of free antiretroviral therapy (UNAIDS Report 2011:7).

In 2011, approximately 330 000 children acquired HIV infection, where more than 90% of these children live in sub-Saharan Africa. Following the scaling-up initiatives of access to free antiretroviral therapy between 2009 and 2011, the number of newly HIV infected children dropped by 24%. As a result, antiretroviral prophylaxis prevented 409,000 children from acquiring HIV in low- and middle-income African countries (UNAIDS Global Report 2012:42).

About 2.3 million children below the age of 15 years are living with HIV/AIDS, 2.1 million of whom are in Sub-Saharan Africa (Swaziland Government 2006:2). In Eastern and Southern Africa – the regions mostly affected by the epidemic – only half of pregnant women were tested for HIV. In the same regions, 68% of pregnant women living with HIV received antiretroviral treatment to prevent them from transmitting the virus to their children (UNICEF, 2012).

2.1.3 HIV in the Swaziland Context

Swaziland has the highest rate of HIV prevalence than anywhere else in the world, with just over a quarter of adults between 15 and 49 years of age living with the virus. In the Sub-Saharan region, the country has a high HIV incidence of 3%, with a prevalence of 41.1% among pregnant women (UNAIDS Report 2013:5; Swaziland Government 2009-2014:19). The number of annual deliveries in Swaziland is estimated at about 40,000. By implication, approximately 17,000 children will be born to HIV-infected mothers and an estimated 6,800 of these will be HIV infected. Even HIV-negative infants born to HIV-

infected mothers have a two- to five-fold increased risk of mortality as a direct consequence of mothers' HIV infection resulting from either severe disease or early death (Swaziland Government 8, 2006:2).

There are 16,000 children living with HIV/AIDS in Swaziland, of whom an estimated 65,000 are AIDS orphans. Infant mortality rate (IMR) is 108 per 1000 live births, and the under 5 mortality is 156 per 1000 live births. HIV related mortality contributes significantly to both the IMR and under 5 mortality. The majority of children (more than 95% of whom are HIV infected) become HIV infected through mother-to-child transmission (MTCT). There is a 10% risk of transmission in utero, 20% intrapartum (labour and delivery), and 15-20% post-partum – that is, during breast-feeding (Swaziland Government 2006:2). It is of paramount importance that the HIV prevention, treatment and care of children initiatives are escalated in order to achieve the goal of reducing childhood mortality significantly.

The country has taken radical steps to reduce new HIV infections, and scaled-up access to treatment. By 2011, 84% of people in need of ART had access to it. In the same year, the country and its partners launched a plan to provide voluntary medical male circumcision to the 152,800 men between 15 and 49 years of age living in Swaziland (Swaziland Government 2009-2014:19). The introduction of PMTCT services helped reduce HIV transmission even from breast milk.

2.2 OVERVIEW OF MOTHER-TO-CHILD TRANSMISSION (MTCT)

Mother-to-child transmission (MTCT) accounts for the vast majority of the more than 700,000 estimated new infections in children worldwide annually, and is the route through which almost all paediatric infections occur. MTCT can occur during pregnancy, labour, and/or breast-feeding. Advanced maternal infections during pregnancy as well as lactation, and co-morbidity with sexually transmitted diseases, increase the risk of infection (PEPFAR 2008:1). Several studies suggest that the risk of MTCT through breast-feeding depends on a number of factors such as the following:

- The pattern of breast-feeding; children who are exclusively breastfed may have a lower risk of becoming infected than those who are also fed with other forms of liquid, milk, or solid food in the first months of life;
- Breast health; mastitis, cracked and bloody nipples, and other indications of breast inflammation are associated with higher risks of transmission;

- Duration of breast-feeding;
- Maternal immune status and maternal nutritional status (Adewole, Odotolu & Sagay [Sa]:353).

The above-cited authors mention further that other maternal factors associated with increased risk of MTCT include unprotected sex with multiple sexual partners and substance abuse.

MTCT is of major public health concern, especially in Sub-Saharan African countries, which have a high total fertility and high prevalence rate of HIV infections among women of child-bearing age. Without any form of intervention, HIV infected mothers have a 35% overall risk of transmitting HIV to their children during pregnancy, delivery, and/ or breast-feeding. More than 50% of global peri-natal infections occur in the 15 focus countries of the US President's Emergency Plan for AIDS Relief's (PEPFAR). In these countries, approximately 1.25 million of the 18 million women who deliver annually are HIV positive (PEPFAR 2008:1).

With continued breast-feeding in the absence of PMTCT interventions, 30 to 45% of HIV exposed infants (HEI) will be HIV positive. The latter situation may be obviated if ARVs for PMTCT are administered to pregnant women (Swaziland Government 2011:34).

2.3 PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT)

Mother-to-child transmission (vertical transmission) of HIV is almost completely preventable through a set of interventions referred to as prevention of mother-to-child transmission. PMTCT begins during ante-natal care (ANC) on the occasion of the woman being tested for HIV and subsequently obtaining the HIV positive results. The recommendation in Sub-Saharan Africa is for the woman to then take antiretroviral medication throughout pregnancy, during labour, and during the post-natal period while exclusively breast-feeding. The infant must also undergo periodic HIV testing and take antiretroviral medication to prevent transmission of the virus while he/ she is breastfed (Hampanda 2013:1).

In a study on knowledge and practices of women regarding PMTCT, the prevention of mother-to-child transmission (PMTCT) aims at reducing the risk of infecting the child with HIV, and starts with primary prevention of the infection in women of child-bearing age who

are the main vehicles of paediatric HIV transmission (Atwiine 2012:10). PMTCT can reduce the risk of vertical transmission of HIV to less than 1% (Hampana 2013:1). On the other hand, comprehensive prevention of mother-to-child transmission (PMTCT) programmes has nearly eliminated MTCT in developed countries. However, in resource-limited settings, progress on the implementation of similar prevention programmes has been slow. Only nine percent of all HIV positive pregnant women are benefiting from such services in these countries (PEPFAR 2008:1).

Moreover, PEPFAR also stated that Effective PMTCT interventions include the provision of the following:

- routinely recommended rapid HIV counselling and testing in ante-natal and maternity settings;
- combination of short course antiretroviral (ARV) prophylaxis for mother and infant and antiretroviral treatment (ART) for eligible mothers;
- counselling and support for infant feeding;
- link with wrap-around services such as nutrition, family planning services for women with HIV, and micro-economic activities; and
- strong links to care, treatment and support services.

Clinical trials have demonstrated that ARV prophylaxis can reduce the risk of MTCT by approximately 75%.

PMTCT begins with the routine offer of HIV testing as an integral part of ante-natal care (ANC) services (Swaziland Government 2010:12). HIV testing is an entry point to primary prevention of HIV among young women of reproductive age; prevention of HIV transmission from an HIV infected mother to the child; and to treatment and care services for HIV infected mothers, families and children – including family planning to prevent unwanted pregnancy among HIV infected mothers. This service is implemented through a four pronged approach, namely:

Prong 1: Primary prevention of HIV infection among women of child bearing age;

Prong 2: Prevention of unwanted pregnancies among HIV positive women;

Prong 3: Prevention of MTCT from HIV positive women to their children during pregnancy, labour and breast-feeding periods; and

Prong 4: Care, support and treatment for HIV positive women and their families.

The global health community's efforts to eliminate mother-to-child transmission have been primarily focused on the escalation of bio-medical services, with little examination of the social barriers that may be preventing women from utilizing and adhering to PMTCT. In order to eliminate mother-to-child transmission of HIV, the context in which HIV positive mothers make adherence to PMTCT decisions needs to be better understood and addressed (Hampanda 2013:2).

PMTCT in Swaziland

The government of Swaziland has called for the virtual elimination of MTCT by 2015, and it is critical that all pregnant women in the country are able to access the full range of PMTCT services (Swaziland Government 2010:10). The country has made remarkable progress in the implementation of PMTCT services, beginning with only three health facilities in 2003 and increasing to 137 (80%) facilities by 2009, and an impressive 150 (88%) in 2010 (Swaziland Government 2011-2015:11). Sixty seven percent of all HIV infected pregnant women in Swaziland received a complete course of PMTCT prophylaxis, and the thirty three percent of HIV-infected women with no access contributes to an excess of infant HIV infections and deaths. In 2009, an estimated 2, 300 infants became infected during pregnancy, delivery and breast-feeding, indicating that PMTCT interventions prevented nearly 59% of HIV infections of infants born to HIV positive mothers. The World Health Organisation (WHO) endorses two protocol options (Option A and Option B) for the prevention of mother-to-child transmission.

Swaziland currently uses Option A of the two WHO-endorsed protocols for the prevention of mother-to-child transmission. In terms of Option A, pregnant women with a CD4 count below 350 receive triple ART, and the child receives daily nevarapine syrup for six weeks (Sibbald 2013).

In 2003, single dose nevarapine (sd-NVP) was provided to mothers and infants in order to reduce MTCT in Swaziland. Since 2007, ARV regimen of AZT and NVP has been used with a seven-day 'tail' of AZT+3TC to minimize NVP resistance. The 2010 guidelines for PMTCT in Swaziland include the use of ARV for HIV exposed infants who are breast-feeding as a way to make breast-feeding safer for women with HIV, allowing the ARV prophylaxis to begin as early as 14 weeks' gestation. Women who are eligible for ART are started on AZT and fast-tracked for ART initiation and mother's intrapartum dose sd-NVP and AZT/3TC during labour-plus-one-week of infant NVP prophylaxis are administered at the time of diagnosis in case the woman cannot reach the facility for delivery. Infant

prophylaxis is changed to daily NVP prophylaxis for at least six weeks or more, depending on whether the mother is on ART or ARV prophylaxis and on breast-feeding or replacement feeding (Swaziland Government 2010:14). It is these guidelines that have provided regimes with very high efficacy to reduce MTCT below 5% (Swaziland Government 2011-15:12).

According to Sibbald (2013), Swaziland has had reasonable success with Option A of the WHO-endorsed PMTCT protocols. Coverage is remarkable, as attested to by 97% of women attending at least one ante-natal care appointment, and 91% of those accepting HIV testing. In 2011, 86% of HIV positive pregnant women received either ART or AZT prophylaxis. At six weeks of age, 2-4% of infants tested are found to be HIV positive. However, after birth the total proportion of infants of mothers who tested positive in 2011 was 17%, suggesting significant rates of transmission during breast-feeding. The latter situation may be attributed to children not receiving their nevarapine syrup after mothers return to work.

In April 2012, WHO endorsed a third option (B+) for HIV positive pregnant women in countries with inadequate access to CD4 testing. Option B+ allows for women to be put on ART for life as soon as they are HIV diagnosed, irrespective of their CD4. In addition to preventing vertical transmission, B+ will most likely benefit the women's health and help prevent sexual HIV transmission to un-infected partners. The B+ option is currently piloted at Nhlangano Health Zone, one of Swaziland's many health centres (Sibbald 2013).

Integrating Post-natal Care into PMTCT in Swaziland

Swaziland's PMTCT programme is linked to maternal and newborn health (MNH) services, but is mainly focussed on HIV/AIDS (Mazia, Narayanan, Warren, Mahdi, Chibuye, Walligo, Mabuza, Shongwe, & Hainsworth 2009:253). Existing MNH services are inadequate, especially post-natal care (PNC) of mothers and children, with delayed post-natal visits occurring at 4-6 weeks after delivery. Fifty-seven percent of staff in seven Swazi health facilities were trained in promoting and providing early PNC. A final evaluation showed a twenty-fold increase in the number of visits coming for an early post-natal visit (within the first three days after birth). A direct observation of the client-provider interaction showed a significant increase in the competence of the health workers related to post-natal examinations and care of mothers and children ($p < 0.05 < 0.01$).

The above-cited authors further state that the percentage of women breast-feeding within one hour of delivery increased by 41% among HIV positive mothers, and 52% among HIV negative mothers. Although health workers were observed providing counselling, maternal recall of massages was deficient, which suggests the need for additional strategies to promote healthy behaviours. High-quality integrated PMTCT programmes and MNH post-natal services are feasible and acceptable, and these could result in promoting early post-natal visits and improved care of both HIV positive and HIV negative mothers and their newly-born children.

2.4 BREAST-FEEDING WITHIN A PMTCT CONTEXT

Breast-feeding is the best way to satisfy the nutritional and psychological needs of the child. According to WHO (2002), cited in the Swaziland Government (2010:19), breast-feeding is an unequalled way of providing ideal food for the healthy growth and development of infants. As a global public health recommendation, infants should be exclusively breastfed for the first six months of life, in order to achieve optimal growth, development and health.

2.4.1 Exclusive Breast-feeding

Exclusive breast-feeding implies that the child is fed breast milk only – no other milk, food, drinks, and not even water except for a few drops of medicine, vitamins and minerals prescribed by a health worker (Swaziland Government 2010:22).

Exclusive breast-feeding carries a lower risk of HIV transmission than mixed breast-feeding. There is a substantially higher risk of mixing breast-feeding with formula milk or solids, than the risk from adding water or other non-food fluids. Three cohort studies conducted in Cote d'Ivoire, South Africa and Zimbabwe have shown that exclusive breast-feeding for up to six months was associated with a three- to four-fold decreased risk of transmission of HIV, compared to non-exclusive breast-feeding. Low CD4+ count, high viral load in breast milk and plasma, maternal sero-conversion during breast-feeding and breast-feeding duration were confirmed as important risk factors for post-natal HIV transmission and child mortality (Swaziland Government 2007:7, 15).

2.4.2 Duration of Breast-feeding

It is recommended that women should breast-feed exclusively for the first six months of their infant children's lives (WHO 2002; WHA 2001) cited in Swaziland Government (2007:7). This recommendation also applies to those HIV- infected women who choose to breast-feed if replacement feeding is not acceptable, feasible, affordable, sustainable and safe (AFASS). Any benefits of shortening the exclusive breast-feeding period are unlikely to overcome the risks of morbidity and mortality from early cessation before six months. The recommendations referred to above also recognise that for some infants, the risk of HIV transmission from mixed feeding after six months may be less than the risk of severe malnutrition from the cessation of breast-feeding completely.

2.4.3 Risk of HIV Transmission Through Breast-feeding

There is cogent evidence suggesting that the additional risk of HIV transmission through breast-feeding is between 5 and 20%. HIV can be transmitted through breast milk at any point during lactation, thus accelerating the rate of infection in breast-fed infants with the duration of breast-feeding (Swaziland Government 2007:219). On average, about 15% of children born to HIV positive mothers will become infected through prolonged breast-feeding (24months or more). This transmission risk is doubled when the mother becomes infected with the virus while breast-feeding (as the viral load tends to be highest during the early stages of infection). Seventy-five percent of infections among breast-fed infants occurred before six months of age (Adewole et al [S.a.]:353).

Without any form of intervention, exclusive breast-feeding from about six weeks to six months was found to carry a risk of between 4% and 1.3 % in South Africa and Zimbabwe respectively (Swaziland Government 2007:6). Since commonly practised breast-feeding carries a risk of transmission of between 0.8 and 1.2 per child-month (BHITS, 2004) cited in Swaziland Government (2007), breast-feeding for a shorter period than usual reduces the cumulative risk. Women with a high viral load or low CD4 count are most likely to transmit HIV through breast-feeding, necessitating that they receive antiretroviral therapy promptly.

Breast-feeding women living with HIV are advised to use antiretroviral medicines when breast-feeding their newly-born children. In 2012, antiretroviral coverage was substantially lower during the breast-feeding period (49%) than during pregnancy and delivery (62%). It is now estimated that half of all new episodes of HIV transmission to children occur during

the breast-feeding period when the majority of lactating women are not receiving the prophylaxis necessary to prevent HIV transmission (UNAIDS Global Report, 2013:40-42).

In 2010, only 47% of HIV-exposed infants received an HIV test at six to eight weeks of age in Swaziland, while 78% of exposed infants received co-trimoxazole. Exclusive breast-feeding rates are at 44% for these infants, less than six months old (Swaziland Government 2011-2015:16).

2.4.4 Timing of Post-natal Transmission Through Breast-feeding

HIV can be transmitted through breast milk at any point during lactation, therefore accelerating the rate of infection in breast-fed infants for the duration of breast-feeding. There is too little information to estimate the exact association between duration of breast-feeding and risk of transmission. There is strong evidence, however, that the longer the duration of breast-feeding, the greater the risk of transmission (WHO 2004:12).

2.4.5 Late Post-natal Transmission

The risk associated with breast-feeding could be estimated by beginning with infants who were born to infected mothers and had tested negative for HIV early in life. The risk should be followed-up until after cessation of breast-feeding, in order to determine the rate at which these infants become HIV-infected through breast-feeding. In a recent meta-analysis of a large number of individual data on breast-feeding and post-natal transmission of HIV from randomized controlled trials of peri-partum interventions in Sub-Saharan Africa, late post-natal transmission is defined by means of a negative diagnostic test at, or after four weeks of age, followed by a subsequent positive test result (WHO 2004:12).

2.5 KNOWLEDGE REGARDING PMTCT

For PMTCT to be successful, every individual woman of child-bearing age needs to be empowered with knowledge regarding HIV infection, the risks of transmission to her child (MTCT), and services available to reduce the risk. A number of studies have been carried out to find out the levels of knowledge regarding MTCT and PMTCT among women. These studies have engendered mixed results.

Improvements across key knowledge and behaviour indicators – including comprehensive knowledge, engagement in higher-risk sex and condom use among both males and

females aged 15-24 years – were associated with declines in HIV prevalence among young people, from slightly more than 10% in 2007 to about 5% in 2009 (UNAIDS Global Report 2010:65).

In a study conducted in India on PPTCT (Prevention of Parent-to-Child Transmission) services, interventions, coverage and utilization, it was concluded that an infected woman is at risk of transmitting the virus both horizontally and vertically throughout her reproductive age; and that the cornerstone of preventing vertical transmission is early ante-natal care registration with immediate HIV testing in the first trimester (Urvish, Patel, Shah, Oza & Modi 2011). The study found such early registered HIV + ANCs to be even less than 10%. The late detection of the sero-positive status eventually makes every step of PMTCT services difficult, including CD4 testing, ART initiation, nutrition advices, care, follow-up, and timely institutional admission for delivery. These PMTCT-related challenges require special attention from the authorities in terms of developing specific behavioural change communication (BCC) tools and implementation.

A study conducted by Mazia et al (2009:265) on the integration of post-natal care into PMTCT in Swaziland revealed that there was a significant increase in the proportion of both HIV negative or positive mothers' knowledge and practices within one hour of birth. The study further revealed that there was also a statistically significant increase (from 49 to 65%) in the proportion of mothers practising exclusive breast-feeding. The study results also revealed that there was a reduction (from 17 to 6%) in the proportion of HIV-positive women that were practised mixed feeding. A significant increase from 1 to 37% was found among the women who attested that the health care provider in the ante-natal clinic advised them to return for an early post-natal visit. Interestingly, even though there was an observed increase in counselling by providers, the mothers who attested to health care providers' advice on exclusive breast-feeding on demand showed no significant improvement (69% at baseline and 70% at end line).

A study on PMTCT knowledge and practices of women provided evidence that 19% of participants knew about MTCT, and 72% knew that MTCT could be prevented (Atwiine 2012:24). Similarly, another study cited by Atwiine (2012:16) conducted in 2008 in the rural areas of Moshi district in the Kilimanjaro region of Tanzania found that most mothers were aware of the possibility of MTCT during labour and delivery, and about 40% were not aware MTCT could occur during pregnancy. Mothers thought that children were fully protected from HIV and other infections while in the uterus. However, fewer mothers knew

about PMTCT modalities, and the rural and younger mothers were more likely to be less knowledgeable.

Katushabe (2006), cited in Atwiine (2013:16), also reported high and low levels of MTCT and PMTCT awareness. It was noted that 80.8% of women attending ante-natal care in Mbale Regional Referral Hospital, Uganda, knew about MTCT prevalence, and only 51.6% knew that it could be prevented. The author also found that the increase in the level of knowledge was closely associated with age, as well as marital and educational status.

In another study on knowledge, attitude and practice regarding HIV/AIDS conducted by Maimaiti (2010:56) among university students in Xinjiang, China, respondents rarely mentioned vertical transmission from an HIV-infected mother to an unborn infant; they only cited mother-to-child transmission but did not specify the precise transmission mechanism. However, none of the respondents specified post-natal breast-feeding as a potential mode of transmission.

In contra-distinction to the study mentioned above, another study conducted in Nigeria found that about two thirds of the population (69%) knew that HIV can be transmitted from mother-to-unborn child. A high proportion of adult respondents knew about the three routes of MTCT; 72% knew about transmission during pregnancy; 64% through breast-feeding; and 63% during delivery. In addition, about half of the adult respondents knew that HIV can be transmitted through breast-feeding (Oyewale 2008:21).

In another study on knowledge and practices of women regarding PMTCT, 91% knew that MTCT could occur, while only 72% were aware of PMTCT (Atwiine 2012:8). However, only 7% had adequate knowledge on HIV prevention and HIV transmission from mother-to-child. While 82% knew that MTCT can occur during labour and delivery, 54% knew about breast-feeding risks, and only 23% knew that HIV could be transmitted to the fetus during pregnancy. In addition, 68% of the respondents knew that delivery at a health facility could reduce the risk of MTCT as additional preventive measures would be taken. (Atwiine 2012:8) illuminates further that 70% of the respondents in the afore-mentioned study recalled hearing MTCT and PMTCT messages from a health worker, their major source of PMTCT information. Consequently, several women had practiced PMTCT interventions themselves or advised their friends to do so.

A behavioural surveillance survey conducted in Nigeria among pregnant women and health practitioners revealed that poor HIV/AIDS knowledge did exist as a matter of fact.

Paradoxically, many of the women who exhibited satisfactory levels of HIV/AIDS knowledge, simultaneously exhibited poor MTCT knowledge. There was evidently some incongruence between most HIV-positive pregnant women's desire to breast-feed, and the formula feeding option currently recommended by only fifty seven percent of health workers (Adewole et al [S.a.]:365). Contrary to the study cited above, another study conducted by Moses, Chama, Udo and Omotora (2008:1), revealed that women attending an ante-natal clinic exhibited a high degree of knowledge regarding modes of transmission, risky behaviours, and prevention of HIV and other STIs.

Increasing the level of knowledge concerning mother-to-child HIV transmission, and the knowledge that the use of antiretroviral drugs during pregnancy can reduce the risk of transmission, are critical to reducing mother-to-child transmission of HIV (Swaziland Government 2006-2007:189). A study conducted in Swaziland on knowledge of PMTCT of HIV showed that a relatively high proportion of women and men aged between 15 and 49 years of age were aware that HIV could be transmitted by breast-feeding, and that the risk of mother-to-child transmission could be reduced by taking special drugs during pregnancy. However, 24% of women and 36% of men were not aware of this mode of transmission. The level of awareness was lower among women and men aged 50 years or more. The fact that the risk of mother-to-child transmission of HIV could be reduced by the mother taking special drugs during pregnancy, is more widely known among those possessing higher education than it is among those possessing less education, although it is still known by the majority of the people.

According to the 12th Sero-Sentinel Surveillance (2010), cited in Panos Institute Southern Africa (2012:16), about 61% of women and 50% of men know all the three modes of MTCT; while 5% of women and 6% of men did not know of any specific mode. Approximately 73% of women and 66% of men know that HIV can be transmitted during pregnancy, while 88% of women and 83% of men know that HIV can be transmitted during delivery. In addition, 80% of women and 76% of men know that HIV can be transmitted by breast-feeding.

Swaziland faces challenges on the PMTCT programme due to lack of knowledge and information on HIV protective behaviours such as safe sex practice for primary prevention of new infections and family planning for prevention of unwanted pregnancies among HIV-positive women. Other challenges exist in the form of weak linkages and referral mechanisms between community and facility-based services to create demand, promote

uptake and facilitate follow-up of HIV-positive mothers and exposed children. It is the county's intended 2015 target outcomes to increase the proportion of HIV exposed infants who are exclusively breastfed at 6 months to 65%, coupled with an appropriate prophylaxis regimen for mother and infant (Swaziland Government 2011-2015:16).

2.6 ATTITUDES REGARDING PMTCT

The attitude(s) that women, family members (including the women's respective partners) have towards PMTCT could negatively or positively affect the outcome in the utilization of the service. Widespread stigma and discrimination in a population can adversely affect both people's willingness to be tested for HIV, and their adherence to antiretroviral therapy. Reduction of stigma and discrimination in a population is thus an important indicator of the success of programmes targeting HIV and AIDS prevention and control. To assess the level of stigma, survey respondents who had heard of AIDS were asked if they would be willing to care for a relative sick with AIDS in their own household, if they would be willing to buy fresh vegetables from a market vendor who had HIV, if they thought a female teacher who has HIV but is not sick should be allowed to continue teaching, and if they wished to keep a family member's status a secret.

The results showed that willingness to care for a family member with HIV in one's own household is almost universal; over 90% of women and men reported that they were willing to do so. Responses concerning a female teacher continuing to teach in spite of being HIV positive, were also high. However, when asked whether they would be willing to buy fresh vegetables from a person with HIV, the state of willingness varied substantially by educational level; while nearly nine in ten women and men with higher levels of education would prefer to do so (Nkambule 2008:188).

The latter author further states that the percentage of the population that would not want to keep the HIV-positive status of a family member secret, is generally between 60 and 70% across all categories irrespective of background characteristics or variables. The percentage of women and men aged 15 to 49 years of age, and who expressed a semblance of accepting attitudes is fairly low, with 43% for women and 47% for men. The above statistical information bears testimony to the view that the attitude women, family members (including the women's respective partners) have towards PMTCT can negatively or positively affect the outcome in the utilization of the PMTCT service.

Hampanda (2013:3) states that constructs of attitude, perceived norms, and personal agency are appropriate to an understanding of PMTCT utilization. Several studies in Sub-Saharan Africa have used qualitative methods to explore HIV positive mothers' attitudes regarding PMTCT. These constructs have been utilized to analyze pregnant women's acceptance of HIV testing during ANC. Various authors have found that the intention to be tested has been hampered due to, amongst other factors, the aversion to knowing one's status; fear of stigma and discrimination; as well as the cost of the service and confidentiality. Furthermore, the fear of a partner's reaction, or fears of violence/conflict with the woman's partner may also prevent women from utilizing these PMTCT services.

Moth, Ayayo and Kaseje (2005), cited in Hampanda (2013:3), found that the utilization of PMTCT services has been stagnated by factors such as pregnant women who did not disclose their HIV status to relatives for fear of stigma, discrimination, and family exclusion.

In Swaziland, high levels of stigmatization and discrimination driven by community norms, myths and misconceptions that do not support HIV prevention efforts – including uptake of practises such as HIV testing and counselling, male involvement or treatment adherence – adversely affect the women's attitude towards utilizing PMTCT services (Swaziland Government 2011-2015:16).

2.7 PRACTISES REGARDING PMTCT

For PMTCT to be effective, women need to translate MTCT and PMTCT knowledge into practice. In countries with generalised epidemics, a combination of behaviour changes – including reductions in numbers of sexual partners and increases in condom use – have reduced new infections in several countries. Important dimensions of social change have also reinforced measured changes in behaviour and incidence. For example, community-based participatory learning approaches can be effective in changing social gender norms, including violence, when HIV and violence prevention programming are paired with community mobilization and engaging men to challenge harmful gender norms. A landmark study in South Africa recently suggested that nearly one in seven cases of young women acquiring HIV could have been prevented if the women had not been subjected to intimate partner violence (UNAIDS 2011:14-17).

Furthermore, cultural factors, religious factors, stigma and discrimination may also affect practices related to PMTCT. Varga (2008), cited in Atwiine (2012:17), found that rural

South African adolescents were less likely than their urban counterparts to successfully implement most PMTCT-related practices. HIV stigma, family decision-making and cultural norms surrounding infant feeding, hampered mothers' efforts to implement practices that would decrease the risk of childhood infection.

Culture plays an important role in MTCT dynamics. In polygamous settings, one infection in a family can lead to another. According to a study conducted by the UNFPA and Swaziland's Ministry of Health (2010), AIDS cannot be stopped unless there is a change in people's sexual behaviour. Anecdotal evidence that entrenched cultural belief among Swazis actively encouraging the spread of HIV/AIDS has been confirmed by a joint government and UN report. Swazi men defended polygamy as a cultural necessity, a practice found to spread HIV. Widespread PMTCT campaigns are already in place, yet there is still poor utilization. For example, in Zambia, over 89% of women in 2007 knew that HIV can be transmitted by breast-feeding. However, only about 21% in 2009 took ARVs while breast-feeding (Hampanda 2013:2). Leroy (2005) cited in Atwiine (2012:17), found very high rates of mixed feeding among women of unknown HIV status in Abidjan, Cote d'Ivoire. The (mixed feeding) practice could increase MTCT rates.

In another study conducted by Moses et al (2008) among the ante-natal women attendees participating in the study, 60.5% discouraged breast-feeding among HIV infected nursing mothers, whereas 10.5% would encourage breast-feeding despite carrying the virus. Similarly, 51% of all the respondents would encourage the use of breast milk substitute by HIV positive nursing mothers, whereas 24.4% of the women would not encourage it even if advised to do so due to spouse dislike (42.9%), religious beliefs (14.3%), and 9.5% due to cultural reasons. The author further states that 33.7% of the women did not encourage condom use during sexual intercourse due to a plethora of reasons such as religious beliefs, spouse dislike, and lack of sexual pleasure. However, 4.7% believe that the use of lime wash on the vagina after sexual intercourse would prevent HIV infection. Other precautionary measures practiced by the women included avoidance of casual sex, avoiding sexual intercourse with thin-looking men, withdrawal before ejaculation, use of antibiotics after sex, and protection against mosquito bites.

Swaziland is developing strategies on guidelines, tools and standard operating procedures to guide and support human resources integration and strengthen healthcare capacity, thus increasing the availability of evidence-informed social behaviour change and communication reaching at least 90% of women of reproductive age and their partners by

2015. Such a strategic objective will help in the elimination of new infections among children by 2015. Targeted behaviour change communication interventions can lead to desirable changes in knowledge, attitudes and practices among a targeted population, and to adoption of norms that support PMTCT uptake and other HIV prevention measures (Swaziland Government 2011-2015:40).

2.8 CONCLUSION

Swaziland faces PMTCT related challenges due to lack of knowledge and information on HIV protective behaviours such as safe sex practice for primary prevention of new infections, and family planning for the prevention of unwanted pregnancies among HIV-positive women. There are also weak linkages and referral mechanisms between community and facility-based services to create demand, promote uptake and facilitate follow-up of HIV positive mothers and exposed children. It is in the county's 2015 targeted outcomes to increase the proportion of HIV exposed infants who are exclusively breastfed at 6 months to 65%, coupled with an appropriate prophylaxis regimen for mother and infant (Swaziland Government 2011-2015:16).

In order to lower the risk of HIV transmission during the breast-feeding period, it is important for breast-feeding mothers to change to a positive attitude towards PMTCT and to put the knowledge received into practice through behavioural change, including adherence to HIV prophylaxis, preventing re-infection and prevention and prompt treatment of breast problems. Male involvement could play a vital role in supporting their partners and children while taking HIV prophylaxis. Infant feeding counselling and support should be provided by health workers. Thus, less new HIV infections among breast-feeding children will be achieved by 2015 (UNAIDS Global Report 2013:45). The latter report also states that 2013 Cambodia launched the Boosted Linked Response strategy in 2013 to accelerate uptake of PMTCT services, reduction of loss across the HIV prevention cascade, improvement of service quality and health outcomes for women living with HIV and their children, and reduction of deaths among HIV-exposed children. The overarching goal of the Boosted Linked Response was to achieve the virtual elimination of new HIV infections among children, and lowering the MTCT rate to less than 5% in 2015 and to less than 2% by 2020.

Guided by the findings of the reviewed literature discussed in this chapter, the research design and methodology of the study is then discussed in the next chapter (Chapter 3), which also presents the study population, study sample, data collection techniques, and the analysis of the study results.

CHAPTER 3

RESEARCH METHODS AND DESIGN

3.1 INTRODUCTION

In the previous chapter, a more detailed review of the consulted literature was presented. The literature addressed critical aspects related to the research topic. These aspects included: the HIV scenario in a global context, in the Sub-Saharan Africa context, and in the context of Swaziland. The most critical aspect of the literature review relates to the discussion of PMTCT in relation to HIV/AIDS; as well as the criticality of breast-feeding in relation to knowledge, attitudes, and practices.

In the current chapter, the broader context of the research plan and its attendant research tools is presented in conjunction with the empirical aspects of the investigation.

3.2 RESEARCH PURPOSE AND OBJECTIVES

The research purpose (aim) and objectives of the study relate to both the general and the specific intentions of the study.

3.2.1 Purpose of the Study

The general intention of the study is:

- to assess the knowledge, explore attitudes and determine the post-natal practices of HIV positive breast-feeding mothers regarding PMTCT interventions and services at the King Sobhuza II Public Health Unit in Manzini, Swaziland.

3.2.2 Research Objectives

The research objectives refer to the more specific intentions of the study in relation to the research tasks to be accomplished. In this study therefore, the research objectives are:

- to assess HIV positive mothers' knowledge of post-natal PMTCT interventions and services;

- to explore HIV positive mothers' attitudes towards post-natal PMTCT interventions and services;
- to determine HIV positive mothers' post-natal practices in relation to PMTCT interventions and services; and
- to investigate the association of socio-demographic factors, knowledge, and attitudes regarding PMTCT interventions on PMTCT practices.

3.3 RESEARCH DESIGN

The research design of the study refers to the overall plan or blueprint for addressing a research question, including specifications for enhancing the study's integrity, obtaining answers to the questions being studied, and for handling some of the difficulties encountered during the research process (Polit & Beck 2008:764, Burns & Grove 2009:218; Chelsea & Landon 2009:77).

In this study, the researcher opted for a descriptive and quantitative approach, which is premised on the investigation of phenomena that lend themselves to precise measurement and quantification, often involving a rigorous and controlled design (Polit & Beck 2008:763). The researcher assumed that there was a reason or reasons underlying breast-feeding children testing HIV positive or sero converting by twelve months of age. Based on that assumption, the researcher sought to identify the underlying cause(s). In this study, evidence was obtained by means of deductive reasoning, according to which the researcher predicted that breast-feeding infants were prone to HIV infection due to their mothers' mixed feeding options, non-adherence to HIV prophylaxis, and re-infection caused by indulgence in unsafe sexual practises. The study results were analysed statistically and utilised as the basis for generalization.

The descriptive aspect of the study (which also encapsulated correlational aspects) explores and describes the phenomenon (PMTCT) in a real-life situation while the correlation component examines the inter-relationship or association between variables that are centripetally linked to the research topic and its attendant research processes (Burns & Grove 2009:45-6; Polit & Beck 2008:272).

In this study, the researcher described the relationship between breast-feeding HIV positive mothers' knowledge, attitudes and practices concerning the prevention of mother-

to-child transmission of HIV, including adherence to HIV prophylaxis as a means to examine factors contributing to HIV sero conversion of children by twelve months.

The KABP Survey

A survey is a data collection technique in which the researcher uses questionnaires (collected by mail or in person) or personal interviews to gather data about an identified population (Burns & Grove 2009:245). In a survey, the researcher selects a sample of respondents and administers a carefully constructed standardized questionnaire, which provides data in the same form from all respondents (Babbie 2013:229).

In this study, the KABP survey was employed in addition to the questionnaire. According to Kaliyaperumal (2004:7), the KABP (Knowledge, Attitude and Practice) study informs on people's knowledge, attitudes, and practices in respect of a particular topic or matter. The knowledge possessed by a community refers to their understanding of any given topic. Attitudes refer to the feelings the particular community have towards any given subject or topic, as well as any preconceived ideas that they may have towards it. Practices refer to the ways in which they demonstrate their knowledge and attitude through their actions.

The KABP approach is based on the theory that individuals' health-related behaviour (practice) is influenced by their knowledge of a disease and the necessary health-promoting actions associated with it, and by their attitudes and beliefs (positive or negative) regarding the disease and its prevention (Kimmie, Delany & Khumalo 2007:188).

In the study, a KABP survey approach was utilised by the researcher to meet the study's objectives, where the researcher assessed knowledge, explored attitudes, and determined beliefs and practices associated with post-natal PMTCT of HIV among HIV positive breast-feeding mothers which may contribute to the sero-conversion of their children by twelve months of age.

3.4 RESEARCH METHODOLOGY

3.4.1 The study setting

The study was conducted in a King Sobhuza II Public Health Unit in Manzini, Swaziland. Manzini is centrally situated in Swaziland, and has a dense population of around 319, 530 (Regions of Swaziland). The public health unit in Manzini operates weekly from 08h00 to

16h00, and provides services such as child welfare, growth monitoring, immunization, ante-natal services, PMTCT services, treatment of minor childhood ailments, as well as family planning. Access to the study setting, together with the negotiated entry, followed prior approval being sought and granted by the Higher Degrees Committee of the Department of Health Studies at the University of South Africa (see Annexure A). Approval was also granted by the Swaziland Scientific and Ethics Committee (see Annexure B), as well as the Management of King Sobhuza II Public Health Unit (see Annexure C).

That is to say, the study (and its exploratory piloting) could not commence at King Sobhuza II Public Health Unit in Manzini before ethical clearance had been obtained from the relevant institutional authorities.

The King Sobhuza II Public Health Unit in Manzini was selected for the empirical phase of the study due to its relevant idiosyncratic variables (suitability to participant observation and sampling feasibility).

3.4.2 Population

A population is the entire set of individuals or objects that meet a certain criteria for inclusion in a given universe (Polit & Beck 2008:761; Kerlinger & Lee, 2000, cited in Burns & Grove 2009:42).

A target population is the entire set of individuals or elements that are determined by a sampling or eligibility criteria (Burns & Grove 2009:344).

The study participants included breastfeeding HIV +mothers, who have received PMTCT services pre and postnatal with babies between 6weeks and 12 months of age, attending King Sobhuza II Public Health Unit for immunization and for growth monitoring and treatment of minor childhood ailments from April 2014 to May 2014.

3.4.3 Sampling methods and procedures

A sample is a sub-set of a population selected for participation in a study. Sampling refers to the process of selecting a group of people, events, behaviours, or other elements with which to conduct a study (Polit & Beck 2008:765; Burns & Grove 2009:42).

A non-random convenience sampling technique was opted for by the researcher. Accordingly, a sample size of 90 (ninety) HIV positive breast-feeding mothers who were initiated on pre- and post-PMTCT services were conveniently selected for participation in

the study. The intention was to obtain as many participants as possible, as this was a difficult group of participants to select. Participants were conveniently and consecutively selected and assigned codes for purposes of confidentiality and anonymity. The conveniently selected sample resulted in a 95% confidence interval and a significance $\alpha=0.05$, which was a cogent basis for the maximisation of representative participation and generalizability of the elicited responses and overall research findings.

Sampling criteria

The sampling criteria refers to the standard or norm according to which participants' profiles justified inclusion or exclusion in the study in accordance with its stated objectives and overall intentions. In this study, sampling criteria was implemented specifically in respect of the research topic. In this regard, it became necessary for the researcher to establish an inclusion and exclusion standard for the research participants.

3.4.3.1 Inclusion/Eligibility Criteria

In this study, the target population were those HIV positive pregnant women sampled for participation in the study. This standard is in consonance with the view by Burns and Grove (2009:344) that, "A target population is the entire set of individuals or elements that are determined by a sampling or eligibility criteria"; where a population refers to the entire set of individuals or objects that meet a certain criteria for inclusion in a given universe (Polit & Beck 2008:761; Burns & Grove 2009:42). The study participants were therefore, selected according to the following selection criteria:

- HIV positive breast-feeding mothers;
- Initiated in pre- and post-PMTCT services;
- HIV positive breast-feeding mothers with children aged between six weeks and twelve months;
- Attendance of the King Sobhuza II Public Health Unit for immunization and for growth monitoring and treatment of minor childhood ailments from April 2014 to May 2014;
- Literate and non-literate mothers meeting all of the above criteria will be included in the study; and
- HIV positive breastfeeding mothers who had signed consent form.

3.4.3.2 Exclusion Criteria

The exclusion criteria refers to those participant profiles that do not justify the particular participants' involvement in the study. It is the standard according to which judgement is made on the unsuitability of the participants' profiles to meet the fundamental reasons for exploring the "social reality" of the participants. In this study, the exclusion criteria were based on the following considerations:

- HIV negative mothers;
- HIV positive mothers who were not breast-feeding, opting for formula feeding; and
- Breast-feeding HIV positive mothers not attending pre- and post-PMTCT services at King Sobhuza II Public Health Unit;
- Mothers who had not signed consent form.

3.4.3.3 Sample Size Determination

The determination of a sample size occurs in the event of a study population being less than 10,000 members (Araoye 2003:119). In this study, the sample size was determined in accordance with the following calibration:

$n_f = n/1+(n)/(N)$, where n_f is the desired sample size when the population consists of less than 10,000 members;

n is the desired sample size when the population is more than 10 000;

N is the estimated population size;

The desired sample size in the event of the population exceeding 10,000 (n) is calculated by using the formula: $n = Z^2pq/d^2$;

Z is the standard normal deviate set at 1.96, which corresponds to the 95% confidence interval;

p is the proportion in the target population estimated to have particular characteristics, and is estimated to be 50% or 0.50;

q equals to $1-p$ equals to $(1-0.5)$ equals to 0.5; and

d is the desired degree of accuracy, usually set at 0.05.

Based on the calibrations above, $n = (1.96)^2 (0.5) (0.5) / (0.05)^2 = 384$ and therefore,

$nf = 384 / 1 + (384) / (60) = 384 / 1 + 6.4 = 51.9$ (52 to the nearest decimal point). In this study then, the standard sample size was 52 participants. In anticipation of a response rate of 80%, the sample size was then increased to 90 participants.

3.4.4 Data collection

Data collection refers to the process of gathering information relevant to the research purpose, or the specific objectives, questions or hypotheses of a study in which values are obtained for the characteristics of individuals being studied. The information accruing from the collected data is used to address a research problem (Katzenellenbogen & Joubert 2007:106; Burns & Grove 2009:43; Polit & Beck 2008:725).

In this study, data collection was conducted following the ethical approval by the Higher Degrees Committee of the Department of Health Studies at the University of South Africa (see Annexure A). Approval was also granted by the Swaziland Scientific and Ethics Committee (see Annexure B), as well as the Management of King Sobhuza II Public Health Unit (see Annexure C).

3.4.4.1 Questionnaire Development and Administration

As the primary means by which quantitative data collection was advanced, a self-administered questionnaire with closed-ended questions (see Annexure F) was utilized by the researcher in this study. The questionnaire itself was the final product accruing from the pre-testing exercise. Some researchers (proponents) question the development of questions prior to the undertaking of the actual study, while others (antagonists) justify the practice. The former school of thought (proponents) propounds the view that prior development of questions helps to avoid a preponderance of questions that may obfuscate the initial intention (Sarantakos 1998:168).

The formulation of questions was shaped by a plethora of factors – including pre-testing outcomes, the objectives of the study, and the dynamics of the research environment. On the other hand, it was pivotal that the totality of the questions focused on the knowledge, experiences, attitudes, and practices of HIV positive pregnant mothers in respect of PMTCT services or programmes at the selected research site. In the formulation of questionnaire items, the following factors were taken cognisance of:

- inclusion of close-ended questions – in order to obtain more direct responses;

- exclusion of participants' names – in order to maintain privacy and anonymity;
- inclusion of questions focusing on obtaining information on the social and demographic characteristics of the respondents, but excluding questions focusing on sensitive issues such as race or ethnicity;

Data was collected from April to May 2014. The questionnaire was in both English and SiSwati for better clarity and understanding. The researcher was at hand to constantly supervise and assist the respondents while answering the questionnaire, clarifying any misunderstanding and explaining any medical terms which the respondents did not understand (e.g. 'prophylaxis').

Mothers who brought their children for their routine immunization and growth monitoring, and consented to participate in the study, were given a questionnaire to answer and researcher was always at hand to clarify some concerns and misunderstanding. For non- or least-literate mothers, the questionnaire was administered by the researcher.

3.4.4.2 Pilot Testing

As a critical aspect of the empirical phase of the study, pilot testing refers to the "pre-trial" stage of the study (Mouton 2001:13). The latter author further motivates that pilot testing enhances the findings of a study in a logical manner by means of any, or a combination of the following approaches: empirical (based on lived experience); descriptive (explanation or description of trends/patterns of a phenomenon); causal (illustration of links between variables); evaluative (based on outcomes, interventions, or impact); or interpretive (based on researcher's views of observed phenomena).

Additionally, pilot testing facilitated the exploration of the preliminary investigation in a more structured manner (Burns & Grove 2009: 58); that is, configuring the research tools' efficacy and compatibility to the research environment. In order to maximise the participatory input of the respondents and confidence in the research instrumentation, negotiated entry to the research site was actualised by means of actual written and telephonic communication between the researcher and relevant officials of the King Sobhuza II Public Health Unit in Manzini. Negotiated entry into the research site was indispensable to the study, as it also addressed both ethical and professional research concerns, while accentuating the level of rapport between the researcher and the research participants.

A total of 10 study participants from the King Sobhuza II Public Health Unit were utilised to pre-test the primary research instrument (see Annexure E), which enabled the researcher to identify those aspects of the research tool that needed attention (re-articulation) prior to the actual commencement of the study. During the pre-testing phase, each study participant meeting the eligibility criteria took approximately 15 minutes to complete the questionnaire.

The study participants were asked to state (verbally or in written form) the aspects of the questionnaire in which they needed further clarity from the researcher. Language and other lexical problems encountered were thus corrected prior to the execution of the main study.

3.4.5 Data analysis

Data analysis reduces, organizes and allocates quantitative and qualitative meaning to the data (Burns & Grove 2009:44). The quantitative data analysis was mostly guided by the majority percentage of responses, as opposed to the minority percentage responses. It is on the basis of the majority percentage responses that conclusions and findings were arrived at on each individual questionnaire variable. It was sacrosanct for the researcher to produce creditable results, in agreement with the assertion by Babbie and Mouton (2001:563) that, "The worth of all scientific findings depends heavily on the manner in which the data was collected and analysed".

3.4.5.1 *The Data Analysis Process*

The data analysis process is not mutually exclusive to the data collection process, which was initiated by the review of primary, secondary, and electronic literature sources. The empirical (fieldwork) aspect of the study was facilitated by means of the questionnaire. Securing and translating narrative statements played a critical role in the collection of data to be analysed from personal accounts of the participants (Gibbs 2007:150).

The collected raw data were reviewed by the researcher for completeness, accuracy and then carefully placed in a locked cupboard. Each respondent was allocated a code for confidentiality purposes. Raw data were processed using a data capturing software program, Statistical Package for the Social Science (SPSS version 20) and Pearson Chi-Square. Data-checking for accuracy was carefully done by the researcher before data analysis. The researcher used tabulation and frequency tables to present the data and finally, interpretation of the tables and percentages was done. The latter process was

instrumental in the formulation of the study's findings/results and subsequent recommendations.

The assessment or 'measurement' of the participants' PMTCT-related knowledge was achieved by means of a scale created by the researcher adapted from (Bradley & Herrin 2004). Knowledge was assessed by means of questions focusing on PMTCT of HIV, and each correct answer was allocated a score of 1 (one). The total score of correct answers was 16 (sixteen). Respondents with a score of 1-8 were operationally defined as having low knowledge on PMTCT of HIV, while respondents with a total score of 9-16 were operationally defined as having a high level of knowledge on PMTCT of HIV.

For measuring the respondents' practices concerning PMTCT of HIV, the researcher observed the participants' response to certain specific questions in the questionnaire. Behaviour was categorised as either negative or positive, where negative behaviour was determined according to the respondent's degree of disagreement with more than half of the statements concerning PMTCT of HIV; and positive behaviour was determined in respect of the respondent's level of agreement with more than half of the PMTCT of HIV-related statements.

A Likert scale was used to measure HIV positive pregnant and breastfeeding women's attitudes towards certain practises in the prevention of mother- to- child transmission of HIV. Correlational analysis was utilized to identify relationships between the different questionnaire variables. A statistician's services were utilized for the data analysis, whose output was monitored by the researcher.

3.4.5.2 Data Quality Management

Management of the collected data was facilitated and enabled by the quality and design of both the research instrumentation and the data analysis process in its entirety. The quality and management of the collected and analysed data are on the basis of the nuances of validity and reliability.

3.4.5.2.1 Validity

The validity of a study is determined by the extent to which it accurately achieves its stated intentions (Gibbs 2007:93-94). Furthermore, validity accounts for the study's closeness to truth (Katzenellenbogen & Joubert 2007:9; Myer & Karim 2007:155).

In this study, validity was ensured by the researcher conducting a pilot study to test the accuracy of the measuring tool (instrument) in order to examine its appropriateness and improve the quality of the questionnaire prior to the actual execution of the study.

3.4.5.2.2 Reliability

Reliability refers to the degree of consistency or accuracy of the research instrument (Gibbs 2007:100). Furthermore, reliability implies that a degree of repeatability could be achieved in the event of the same study being conducted elsewhere under the same conditions that prevailed at the original research site (Katzenellenbogen & Joubert 2007:9).

In this study, the researcher prepared short close-ended questions in both English and SiSwati for accuracy and consistency of information gathered, as well as to ensure understanding by non-literate respondents who were not at ease with participating in English as the medium of communication and instruction in the questionnaires. Furthermore, the researcher was always available to provide clarity to respondents if required, as well as to increase participant's response rate. This also helped reduce researcher bias or prejudice.

3.5 ETHICAL CONSIDERATIONS

In this study, the researcher adhered to the following principles of ethical conduct:

3.5.1 Permission to Conduct the Study

Prior to the commencement of the study, ethical clearance was obtained from the Research Ethics Committee of the Department of Health Studies and Higher Degrees at the University of South Africa (see Annexure A) and the Swaziland Scientific and Ethics Committee (see Annexure B). Authorization to conduct the research was sought from the Public Health Unit's Senior Sister (see Annexure C).

3.5.2 Informed Consent

Written informed consent was sought from the study participants, and they were assured that their participation was voluntarily; that they could ask questions; that they were not obliged to give information in the event that they were not comfortable to do so; that they were at liberty to withdraw from the study without putting themselves at risk of penalty; and

that they would still benefit from the right to fair treatment notwithstanding their refusal to participate in the study (see Annexure D) – if they chose to.

3.5.3 The Principle of Beneficence

The researcher ensured that no physical harm was experienced by the participants. She further reassured the participants that their involvement in the study or the information they provided will not be used against them. Rather, the information was to be used towards the betterment and improvement of efficacious healthcare outcomes.

3.5.4 The Right to Privacy, Confidentiality and Anonymity

Participants were reassured that their information and the study results would be kept confidential, and no unauthorised persons would have access to the study and its questionnaire responses. Only the researcher would have access to such information and its appropriate documentation. Furthermore, the research participants were allocated codes instead of their names in order to protect their identity, which served as a quality assurance measure insofar as participants' privacy, anonymity, and confidentiality are concerned.

3.5.5 Open Withdrawal from the Study

Participants were allowed to exercise their right to withdraw at any point during the study in the event that they felt their human rights or dignity were violated by either the researcher or the research process (see Annexure D).

3.6 SIGNIFICANCE OF THE STUDY

The significance or relevance of a study involves the extent to which its importance is justified on the basis of the benefit of the produced evidence to the community and the research participants, as well as the applicability of the results to practical challenges experienced by society (Polit & Beck 2008:86).

It is envisaged that this study will contribute to the corpus of knowledge in nursing as a discipline, and assist in the review of health education strategies on PMTCT and follow-up care to all breast-feeding mothers. The study will further assist in the development of improved policies and guidelines on which future patients might benefit. This will increase the levels of knowledge and practices regarding PMTCT among these women, translating into better access and utilization of PMTCT services in Swaziland. The anticipated

reduction of post-MTCT (vertical transmission) and improved maternal and child health, support to the country's efforts in attaining MDG 4 and 5 (reducing child mortality and improving maternal health, respectively), will become cogent reality.

3.7 CONCLUSION

The chapter basically discussed the research process and its associated methods of data collection. In this regard, other critical factors discussed included the study's research purpose and objectives, the research design, the research, research methods, data collection, management, and analysis, ethical considerations, as well as highlighting the significance of the research study. The next chapter (Chapter 4) premises mainly on translation of the collected data into meaningful reality.

CHAPTER 4

PRESENTATION AND ANALYSIS OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

In the previous chapter, the purpose and objectives of the study, the research design, the study setting, research methods, validity and reliability, ethical considerations, and the significance of the research study were discussed.

In the current chapter, indicators are presented regarding *knowledge*, *attitudes* and *practices* associated with PMTCT among breast-feeding mothers living with HIV. Most importantly, the collected data is presented and analysed, while the findings are also presented and discussed. The study findings are presented in the form of tables illustrating the data background, the characteristics of the respondents, as well as the association between the variables and the socio-demographics. The discussions provides a scientific analysis of the study's findings in relation to existing information on *knowledge*, *attitudes* and *practices* associated with PMTCT among breasting mothers living with HIV.

4.2 FINDINGS OF THE STUDY

The study results are displayed in terms of the demographic data of participants, knowledge regarding PMTCT of HIV, attitudes towards PMTCT of HIV, as well as practices related to PMTCT of HIV. Correlation between variables was also undertaken.

4.2.1 Demographic Data

The participants' characteristics according to age, marital status, educational background, and employment status were computed. The details of these characteristics are illustrated in Table 1 below.

Table 1: Demographic Data of Participants (n=90)

Table 1 below is an illustration of the age percentages of breast-feeding women's enrolled in PMTCT services who brought their children to King Sobhuza II (KSII) for child welfare between April 2014 and May 2014.

Age Group (Year)	Number	Percentages
Below 20	1	1.1%
20–30	70	77.8%
31–45	19	21.1%
TOTAL	90	100.0%

4.2.1.1 Age Characteristics

The study results showed that the most represented age group distribution of respondents was 20-30 years (77.8%), followed by 31-45 years (21.1%), and only one respondent (1.1%) was below 20 years. None of the respondents was older than 45 years of age. This group is among the sexually active and falls in the reproductive population of 15-49 years of age. The study results concurred with the HIV Surveillance 2008 Report, cited in Swaziland UNGASS Report (2010:2) which states that the highest HIV prevalence rates among pregnant women attending ANC with variations were those in the age groups (15-19 years, (12%), 20-24 years (38%), and 25-29 years (49%).

Table 2: Participants' Marital Status

Marital Status	Number	Percentages
Single	53	58.9%
Married	31	34.4%
Cohabiting	6	6.7%
TOTAL	90	100.0%

4.2.1.2 Marital Status Characteristics

Marital status was categorised as: single, married, and cohabitation. More than half of the respondents (58.9%) were single, while (34.4%) were married, and (6.7%) were cohabiting. From those who were single, 75.5% belong to the age group 20-30 years of age, while 24.5% belong to the 31-45 years age group. Amongst the married group, 80.6% belong to the 20-30 years age group, while 19.4% belong to the 31-45 years age group, and the one participant belonging to the under 20 years age group was not married.

These results confirmed the findings of a survey by the SDHS (2006-7:xxiii), which states that many women in Swaziland bear children before entering a stable marital union. Marriage occurs comparatively very late, and only 23% of women marry before age 20. Around one-quarter of women aged 30-40 have not yet married.

Table 3: Participants' Educational Levels

Educational Level	Number	Percentages
Never attended school	3	3.3%
Primary school	27	30%
Secondary school	32	35.6%
High school	20	22.2%
Tertiary level	9	10.0%
TOTAL	90	100.0%

4.2.1.3 Educational Level Characteristics

The educational levels of the respondents were identified as: never attended school only 3 (3.3%), primary school 27 (30%), secondary school 32 (35.6%), high school 20 (22.2%), and tertiary level 9 (10%) education. The most literate group is those aged 20-30 years, with 2.8% of those who had never been to school at 27.1%, and 38.6% had secondary level education, 20% high school level, and 11.4% had tertiary level education.

These results concur with the Swaziland Multiple Indicator Cluster Survey (MICS) (2010:139), which states that the overall literacy rate for the 15-24 year-old age group is quite high as well across all background characteristics. It is interesting to note that literacy is slightly higher among women (94%). This could be attributed to the fact that Swaziland

is among the countries that signed the Education for All (EFA) and the Millennium Declaration, which aim to eradicate poverty through education, thus the introduction of free primary school education programme for all.

Table 4: Participants' Employment Status

Employment Status	Number	Percentages
Unemployed	63	70.0%
Employed	20	22.2%
Scholar	6	6.7%
Missing system	1	1.1%
TOTAL	90	100.0%

4.2.1.4 Employment Status Characteristics

The study results showed that Swaziland is one of the Sub-Saharan countries with the highest level of unemployment. According to the Swaziland National Health Sector Strategic Plan (NHSSP) (2008-2013:8) Swaziland is classified as a low middle-income country, due to its per capita income estimated at about US\$2,280, with an unemployment rate of about 22.8% of the economically active population. Among the youth, the unemployment rate is above 40%. The high unemployment rate is evidenced by Table 4 above, which shows that 70.0% of the study respondents were unemployed, followed by only 22.2% who are employed, and 6.7% were still at school.

Of those who were employed, the majority were self-employed, followed by those working in the firms, domestic workers, and lastly, the professionals. These study results are supported by the NHSSP (2008-2013:8), which states that the average growth rate for private and public sector employment is well below the 2.9% labour force annual growth rate. The informal sector has consequently become the key sector absorbing most of school leavers, as well as unskilled and disadvantaged members of society.

4.2.1.5 Knowledge Regarding PMTCT of HIV

Prior to questions enquiring about the respondents' knowledge, leading questions on the respondents' health-seeking behaviours were asked, and the study results revealed that 93% of the respondents had received health education on PMTCT; 65.6% received their

health education through the ante-natal clinic, 15.6% obtained the information in maternity during labour and delivery, while 6.7% obtained the information through both ANC and the media. Less than 5% obtained the information during both ANC and through friends.

Study respondents were asked to answer sixteen questions on prevention of mother-to-child transmission in a self-administered questionnaire, where a grading of 0 was allocated for no knowledge, 1-8 for low knowledge, and 9-16 for high knowledge. Illustrations of knowledge regarding PMTCT of HIV are shown in Table 5 below.

Table 5: Percentage of Respondents' Knowledge on PMTCT of HIV

Knowledge Rating Scale	Rating	Respondents	Percentage
Knowledge on PMTCT on scale 0	No knowledge	0	0%
Knowledge on PMTCT on a scale 1-8	Low knowledge	20	22.2%
Knowledge on PMTCT on a scale 9-16	High knowledge	70	77.8%
TOTAL		90	100%

Table 5 above assesses knowledge of respondents towards PMTCT of HIV. The findings revealed that (70) 77.8% of the respondents showed high levels of knowledge on PMTCT, compared to (20) 22.2% who showed low levels of knowledge on PMTCT of HIV. The majority of the respondents (95.6%) knew the importance of knowing their HIV status during pregnancy. When respondents were asked whether HIV could be transmitted during utero, delivery and through breast-feeding, the results showed knowledge levels of 61.1%, 90% and 87.8%, respectively. High knowledge was also observed when the participants were asked whether they knew about children's ARV (Nevarapine) prophylaxis, and how it should be administered; 88.9% knew about it, and 66.7% knew about its frequency.

The study results confirmed what the SDHS (2006-7:188) revealed in terms of a relatively high proportion of women aged 15-49 years of age, who were aware that HIV could be transmitted by breast-feeding. However, 24% of the women were not aware of this mode of transmission. Similar results were revealed by the study where 87.8% of breast-feeding mothers knew that HIV could be transmitted vertically through breast-feeding, while only 12.2% were not aware. Furthermore, 87.8% knew the breast problems which could put

their children at the risk of acquiring the HIV virus during the breast-feeding period, and at least 55.6% knew the meaning of exclusive breast-feeding for the first six months.

On the other hand, the overall study results showed that 22.2% of the study respondents showed low knowledge on PMTCT as they were struggling to recall what had been taught, especially when it comes to knowledge on NVP prophylaxis duration. Only 41.1% knew how long NVP prophylaxis should be administered. Low knowledge regarding prevention of mother-to-child transmission was also recorded when respondents were asked on the correct time an pregnant woman is expected to start ARV (AZT) prophylaxis and for how long AZT)prophylaxis should be taken, the results showed 4.4% and 41.1% respectively. The study results proved what Abajobir & Zeleke (2013:3) found in a study conducted in South Ethiopia on Knowledge, Attitude, Practice and factors associated with PMTCT of HIV/AIDS among pregnant mothers; where only 26.3% of the respondents described the time of ART prophylaxis initiation for HIV positive mother to be 14 weeks of pregnancy.

Low PMTCT knowledge was also recorded on questions concerning the frequency with which mothers should take AZT prophylaxis. Only 23.3% of the respondents actually knew about PMTCT, and only 24.4% were aware of the regularity with which the breast-feeding mother should take AZT prophylaxis.

4.2.1.6 PMTCT Knowledge in Relation to Age and Educational Status

Knowledge regarding PMTCT of HIV was also assessed in relation to the respondents' age and educational status. Table 6 and Table 7 below represent details of knowledge in relation to respondents' age and educational status, respectively.

Table 6: Knowledge Regarding PMTCT in Relation to Age

Age (Years)	Scale 1-8	Percentage	Scale 9-16	Percentage
Under 20	1	100%	-	-
Between 20-30	18	25.7%	52	74.3%
Between 31-45	1	5.3%	18	94.7%
Older than 45	-	-	-	-
Total	20	22.2%	70	77.8%

X^2 cal= 0.208342 and X^2 (0.05) (3) = 7.815

Table 6 above indicates that there is no association between age and level of knowledge at a 0.05 level of significance.

Generally, the study results showed that the majority of respondents in different age groups displayed high knowledge of PMTCT, as evidenced by the age group 31- 45 years (94.7%) which was the highest, followed by the 20-30 years age group at 74.6%. Only one respondent less than 20 years of age showed significantly low knowledge on PMTCT.

Table 7: Knowledge Regarding PMTCT in Relation to Educational Status

Education	Scale 1-8	Percentage	Scale 9-16	Percentage
Never attended school	-	-	3	100%
Primary	2	7.7%	24	92.3%
Secondary	8	24.2%	25	75.8%
High school	9	47.4%	10	52.6%
Tertiary	1	11.1%	8	88.9%
Total	20	22.2%	70	77.8%

X^2 cal= 5.08236 and X^2 (0.05) (4) = 9.488

In terms of Table 7 above, there is no association between educational status and level of knowledge at a 0.05 level of significance.

Table 4 illustrates knowledge regarding PMTCT in relation to the educational status of the respondents. The overall study results also showed high levels of knowledge on PMTCT according to respondents' educational status within different age groups. Levels of awareness were significantly high among respondents who had never attended school (100%), followed by those who attended primary education (92.3%), then tertiary education (88.9%), secondary education (75.8%) and lastly, high school education (52.6%).

Further analysis was undertaken, and respondents were assessed on specific questions relating to knowledge and educational status. More than 65% of the respondents with different educational backgrounds knew that HIV could be transmitted through breast-feeding, and they also knew which breast-feeding conditions could put their children at the risk of acquiring HIV. On enquiring if respondents knew about children's ARV (nevarapine) prophylaxis, 100% of the respondents who had never attended school knew, followed by those with primary education (96.3%), then secondary school education with 90.6%, high school education with 78.9% and lastly tertiary level with 77.8%. These study results showed a contradictory perspective to the findings of the SDHS (2006-7:189), which found that the risk of mother-to-child transmission of HIV could be reduced by the mother taking special drugs during pregnancy. This is more widely known among those with higher education.

On another note, very low knowledge was seen on specific questions where all the respondents, regardless of their educational status, scored less than 50%, including questions about practices which could expose their children to HIV post-delivery. When respondents were asked about the manner of administering NVP prophylaxis, the respondents with primary education scored the highest (77.8%), followed by high school level (68.4%), secondary level (65.6%), and tertiary level (44.4%); and the never-been-to-school category was (33.3%).

Where respondents were asked about how long NVP prophylaxis should be taken, the tertiary level respondents scored (55.6%), followed by secondary level respondents (50%), primary level respondents (44.4%), never-been-to-school (33.3%), and high school level respondents (25%).

Where respondents were asked about how long they should take AZT prophylaxis, 55.6% of the respondents were able to recall the duration and these were the tertiary level respondents, followed by the never-been-to-school level respondents (33.3%), primary level respondents (23.1%), high school level respondents (21.1%) and lastly, secondary level respondents (19.4%).

In conclusion to the above results, it became clear that educational status was not a factor in determining knowledge on PMTCT of HIV among breast-feeding mothers living with HIV, since variation of results on specific questions within each level of education was noted.

4.2.2 Attitude Towards PMTCT of HIV

In the study, attitude was measured by means of a Likert scale. Respondents were asked to indicate whether they agreed or disagreed with the statements provided. Two marks were allocated to each preferred answer chosen, and 1 (one) mark to each less preferred answer. A total of 16 marks was allocated.

The overall study results showed that 90 (100%) respondents showed a positive attitude towards prevention of mother-to-child transmission as they all scored more than half the marks allocated. These study results concur with Abajobir & Zeleke (2013:5) on a study on knowledge, attitude, practice and factors associated with PMTCT of HIV/AIDS among pregnant mothers attending ante-natal clinic, where 97.4% had a positive attitude towards PMTCT of HIV, and only 2.6% had a negative attitude.

All the study respondents preferred to deliver their children at the hospital, rather than at home, and 83.3% believed that HIV prophylaxis could prevent mother-to-child transmission.

On the other hand, from the remaining 16.7%, only 4.4% stopped giving HIV prophylaxis to their children as they believed it prevented them from future drug resistance, while 2.2% stopped treatment as they believed it caused their children to be ill. Furthermore, 11.1% believed that there was nothing wrong in giving a child breast milk and formula milk simultaneously (mixed-feed), especially when the mother is working, though the majority (80%) disagreed with the statement. More than 50% (53.3%) agreed with the statement that their relatives or in-laws believe that when a mother gives her child milk formula, it indicates she is HIV-positive.

The current study results are similar to a study conducted in Kenya by Ujji, Ekstrom, Ilako, Indalo, Wamalwa & Rubenson (2011:836-7), according to which the choice of reasoning and decision making on PMTCT adherence during pregnancy among women living with HIV accounted for the challenges of disclosure and non-disclosure in Kenya. That study revealed that pregnant women in Busia (Kenya) lived with the constant conflict of either adhering to the PMTCT instructions or following the advice of the mother-in-law to use traditional medicine, or accepting the constant supervision of family members. For these women, the decision to keep their HIV positive status secret was more important than PMTCT compliance, as such secrecy would not obstruct the stability of the traditional social order. It further stated that the women missed PMTCT appointments, delayed or missed taking HIV medicines, and planned to have home deliveries because of the fear of stigma originating from disclosure of the HIV infection.

As a result, the women avoided hospital delivery to maintain the social image as responsible women, since they were determined to fulfil their roles as mothers and home makers. Therefore, all the respondents preferred the services of the traditional birth attendant (TBA) for delivery because this enabled them to perform their duties at home and meet their perceived expectations in the community.

Furthermore, the study results showed that 28.9% of the respondents hide theirs and the child's status from their partners. As a result, 6.7% collect the HIV prophylaxis from the clinic but do not administer it to their children as they had not disclosed their status to their partners. The current findings are in contrast to the findings of a study undertaken by Ujji, et al (2011:83) which showed that all the women who participated in their study had

disclosed their HIV status to their partners and pointed out how they trusted their partners to help them follow PMTCT requirements.

In a study conducted in Addis Ababa, Ethiopia, by Sendo, Cherie & Erku (2013:4) on the experience of disclosing their status to their partners and its effect on intention to utilize PMTCT services among HIV-positive pregnant women, the authors found that 53.8% of the women reported that their partners were supportive, and only 15.4% reported any negative reaction from their partners

Further analysis on respondent's attitude was undertaken in relation to age, marital status and educational level in specific selected questions.

4.2.2.1 Attitude in Relation to Age

Evaluation of respondents' attitudes was related to specific questions directed to respondents. Respondents were asked whether they believed that HIV prophylaxis could prevent MTCT of HIV. Those in the 20-30 years age group (86.8%) agreed, and those in the 31-45 years age group (84.2%) agreed with the statement, while none of the under 20 years agreed with the statement.

Respondents were also asked whether they believed in the correctness of giving their children breast milk and formula milk. Only 11.5% of those in the 20-30 years age group agreed with the statement. This result could mean that this age group falls within the minority group which is still at tertiary level and /or the few that are working as they are not at home with their children and while they are away. Hence their preference to feed their children formula milk.

Respondents were further asked whether they kept their HIV status secret from their partners. Within the age 20-30 years age group, 30% agreed and only 26.3% of the 31-45 years age group agreed.

Respondents were also asked whether they had ever stopped administering children's HIV prophylaxis due to fear of future drug resistance, or due to illness which they think may be caused by the drugs, or due to failure to disclose their HIV status to their partners and therefore never obtained their consent. With a frequency of 4.3% and 5.3% respectively, the 20-30 and 31-45 years age groups agreed that they have stopped administering HIV prophylaxis to their children due to the fear of drug resistance. For the 20-30 years age group, only 2.9% agreed to have stopped their children' HIV prophylaxis under the

impression that it caused them illness. Within the very same age group (20-30 years), 8.7% mentioned that they did not administer the drugs to their children as their partners never consented to the treatment.

4.2.2.2 Attitudes in Relation to Marital Status

Table 8 below assesses respondents' attitudes in relation to marital status.

Table 8: Respondents' Attitudes in Relation to Marital Status

I hide my HIV status and child status from my partner	Marital status			Total
	Single	Married	Cohabiting	
Agree	17	6	3	26
Disagree	36	25	3	64
Total	53	31	6	90

$$X^2_{cal} = 0.715192 \text{ and } X^2(0.05)(2) = 5.991$$

There is no association between marital status and individual attitudes towards PMTCT of HIV at 0.05 level of significance.

Respondents were asked whether they kept their HIV status secret from their partners. Only 17 (32.1%) of the 53 single participants agreed to the statement (32.1%), and 6 (19.1%) of the 31 married participants also agreed, while only 3 (50%) of the participants agreed.

Respondents were then asked whether they took the HIV prophylaxis from the clinic but did not give to their children as they (mothers) did not obtain consent from their partners. Of the 53 single participants, 5 (9.4%) agreed, while 1 of the 30 married participants agreed with the statement.

4.2.2.3 Attitudes in Relation to Educational Level

Respondents were asked whether they agreed or disagreed with the statement that HIV prophylaxis could prevent MTCT of HIV. The never-been-to-school category (3 out of 3) agreed (100%), while 21 (77.8%) of the 27 with primary school education agreed; 28 (90.3%) of the 31 with secondary education agreed, and 16 (88.9%) of the 18 with high school education agreed, while 7 (77.8%) of the 9 with tertiary level education also agreed with the statement.

Respondents were further asked whether they believed it was correct to give their children breast milk and formula milk especially when the mother was at working. Of the 3 from the never-been-to-school group only 1 (33.3%) agreed with the statement, followed by the secondary level group with 5 out of 30 (16.7%), primary level group with 3 out of 27 (11.1%) and lastly, high school level group with 1 out of 18 (6.3%). None of the tertiary level respondents agreed with the statement.

When respondents were asked whether they stopped theirs and their children's HIV prophylaxis to prevent future drug resistance, the response was as follows: 1 (33.3%) of the never-been-to-school group agreed, only 1 of 31 secondary school level education participants agreed, and of the 19 with high school education agreed. None of the participants with primary school and tertiary level education agreed with the statement.

Regarding the taking of the HIV prophylaxis from the clinic and not administering it to their children as their partners never consented to the treatment, 2 of the 27 with primary level education agreed, and 4 of the 31 with secondary education agreed, while 4 of the 31 with secondary education agreed to the statement. None of the never-been-to-school category, the high school level category, and the tertiary level group agreed with the statement.

Generally, the above results on attitude in relation to educational status, those respondents at tertiary level showed a positive attitude as almost none of them scored on the negative attitude responses on the selected questions.

4.2.3 Practices Related to PMTCT of HIV

In the study, behaviour/ practices was assessed by the researcher in order to observe the manner in which certain questions were responded to. Behaviour was categorised as either negative or positive. Negative behaviour was one where the respondent disagreed with more than half of the statements concerning PMTCT of HIV. Positive behaviour was one where the respondent agreed with more than half of the statement made about PMTCT of HIV.

Most of the breast-feeding mothers (90%) showed positive behaviour on practices related to PMTCT of HIV, while 10% showed a negative behaviour. 88.9% of the mothers always breast-fed their infants, while 4.4% practiced mixed feeding (gave breast milk and bottle milk). Less than a quarter of the mothers (16.7%) were feeding their children with soft porridge as they believed that their children were not satisfied with breast milk only. 20% of

the respondents agreed that children needed water irrespective of breast-feeding, while 3.3% of the participants asked their relatives to breast-feed for them when they are away.

On another note, 48.9% of the breast-feeding mothers kept their HIV prophylaxis secret from their relatives, and 14.4% failed to use a condom during sexual intercourse, while 47.8% reported that their partners refused or complained about condom use. Lastly, 31.1% of the respondents experience financial problems to take their children to the clinic for immunization and HIV prophylaxis refill.

Further analysis on respondents' practices was undertaken in relation to age, marital status educational level and employment status in specific questions.

4.2.3.1 Practices in Relation to Age

The study results showed that only 5.7% of the 20-30 years age group practiced mixed feeding. The other age groups (under 20 and 31-45) always breast-feed, while 18.5% of the 20-30 years age group and 10.5% of the 31-45 years age group agreed that they gave soft porridge to their children before 6 months as they (infants) always wanted to be fed.

The only participant in the under-20 age group agreed to be facing difficulties when using the syringe for measuring infant medication, while 8 out of 69 within the age group 20-30 years, and 1 out of 19 within age group 31-45 years, also agreed to be facing difficulties.

When the participants were asked whether they did ask their relatives to breast-feed for them while they (participants) were away at work, only 4 (5.7%) of the 70 participants in the 20-30 years age group agreed with the statement.

The one respondent in the under-20 years age group, 33.3% of the 20-30 years age group, and 63.2% of the 31-45 years age group agreed that their partners refused or complained about the use of a condom.

4.2.3.2 Practices in Relation to Marital Status

With a score of 5.7% of the single participants and 16.7% of those cohabiting, they agreed that they breast-feed and bottle feed. None of the married participants agreed with the statement.

When respondents were asked if they kept their HIV prophylaxis secret to their relatives, 42.3% of the single participants, 54.8% of the married participants, and 66.7% of the cohabiting group, agreed that they kept their intake of HIV prophylaxis secret to their

relatives. Almost the same result was noted when the respondents agreed to be also hiding the fact that they were administering HIV prophylaxis to their children. On another note, 50% of single and cohabiting respondent agreed that their partners refuses or complains about condom use and 45.2% of those who are married agreed to the statement.

4.2.3.3 Practices in Relation to Educational Status

When respondents were asked whether they found it difficult to use a syringe for measuring their children's medication, the results showed that 11.5% of the primary school level education, 9.2% of those with secondary school education, and 21.1% of those with high school education actually faced the afore-cited difficulty. None of the never-been-to-school category and tertiary level group agreed with the statement.

4.2.3.4 Practices in Relation to Employment Status

The study results showed that 4.8% of the unemployed and 16.7% of the scholars agreed that they practised mixed feeding, while none of the employed group practiced it (mixed feeding).

The study results further showed that 32.8% of the unemployed, 50% of the scholars, and 20 % of the employed did sometimes encounter financial problems, which made it difficult to take their children for immunization and for HIV prophylaxis refill.

4.3 CONCLUSION

Chapter 4 presented the results of the study in relation to respondents' knowledge on PMTCT, as well as their attitudes and practices concerning PMTCT. The majority of the respondents exhibited high levels of knowledge regarding PMTCT. Positive attitudes and behaviour were seen to prevail in more than half of the respondents. The study results (26 out of 90 (28.9%)) further indicated that more attention was needed in specific questions that could put breast-feeding children at the risk of acquiring HIV, which include breast-feeding mothers living with HIV. By hiding their HIV status, the participants are inadvertently exposing their children to acquire HIV while breast-feeding, as they will sometimes either not take the drug or give their children prophylaxis on time or even not administer the drug to their children at all. Furthermore they fail to use a condom as they

had not disclosed their HIV status. As a result, re- infection will occur and viral load tends to be highest during the early stages of infection, further exposing their children to HIV.

Stigma and discrimination also played a major role in women failing to disclose their HIV status. With other women, they chose to conceal their status in order to leave the social order undisturbed. They believed such concealment would protect their relationship and secure their identity within the community to which they belonged. Their choices were therefore influenced and guided by social adjustment and community membership (Ujiji, et al 2011:836).

Based on the findings of this study, the next chapter focuses on conclusions regarding the PMTCT knowledge, attitudes and practices among breast-feeding mothers living with HIV at King Sobhuza II Public Health Unit in Swaziland. The study's limitations and recommendations are also presented and discussed.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

In Chapter 4, indicators of *knowledge*, *attitudes* and *practices* associated with PMTCT among breast-feeding mothers living with HIV were presented; the analysis of data and the findings were discussed. In the current chapter (Chapter 5), conclusions are drawn regarding *knowledge*, *attitudes* and *practices* on prevention of mother-to-child transmission among breast-feeding mothers living with HIV in King Sobhuza II Public Health Unit, Swaziland. The study's limitations and recommendations are also discussed.

5.2 SUMMARY AND INTERPRETATION OF RESEARCH FINDINGS

The summary and interpretation of the research findings is largely premised and contextualised in respect of the objectives of the study, which are:

- to assess HIV positive mothers' knowledge of post-natal PMTCT interventions and services;
- to explore HIV positive mothers' attitudes towards post-natal PMTCT interventions and services;
- to determine HIV positive mothers' post-natal practices in relation to PMTCT interventions and services; and
- to investigate the association of socio-demographic factors, knowledge, and attitudes regarding PMTCT interventions on PMTCT practices.

In tandem with the research objectives highlighted above, the interpretations of the findings and conclusions drawn from the study are presented below.

5.2.1 Demographic Data

A total of 90 HIV positive breast-feeding mothers participated in this study. Their ages ranged from 18 to 45 years. The median age was 20-30 years. More than half of the respondents (58.9%) were single, while 34.4% were married, and 6.7% were cohabiting. The educational levels of the respondents were identified as: never attended school 3 (3.3%); attended primary school only 27 (30%); attended secondary school 32 (35.6%); attended high school 20 (22.2%); and those with tertiary education 9 (10%). Additionally, 70% of the respondents were unemployed, while 22.2% were employed, and about 7% were scholars.

5.2.2 Conclusion on PMTCT of HIV Knowledge

Due to the expansive nature of PMTCT, knowledge questions were increased from 10 as initially stated in the proposal to 16. This was done in order to maximise insight of the problem statement. The first two questions were premised on health and behaviour, but entailed leading questions to knowledge levels.

More than 90% of the respondents who participated in this study stated they have received PMTCT health education from a variety of sources, including ANC, maternity department, mass media (television, newspapers and radio), and from their friends. The majority of the respondents showed high levels of knowledge on PMTCT. The high levels of knowledge were observed even within different age groups as most of them scored more than 70%, and only the one respondent from the under-20 age group demonstrated significantly low knowledge on PMTCT.

Variations in PMTCT knowledge among respondents with regard to educational status were also observed in the study. For instance, those who have never been to school scored more than those with primary school education or tertiary education. Therefore, educational status was not regarded as a cogent factor for determining knowledge on PMTCT of HIV among breast-feeding mothers living with HIV. However, this finding was not significant at 0.05 level of significance with the Pearson's chi-square coefficient $p > 0.005$.

Though the study's respondents showed significantly high levels of knowledge on their overall scoring, the remaining percentage remains critical too, as their lack of sufficient knowledge could be the leading cause of mother-to-child transmission in breast-feeding children after 6 weeks of testing HIV negative.

The study's results demonstrated very low knowledge on specific questions in which all the respondents scored less than 50%, regardless of their educational background. Questions also included practices which could expose children to HIV post-delivery. With regard to the above, a score of 34.4%, was recorded. On this specific question, respondents were expected to answer all five options to obtain a single point. Therefore, if a respondent picked 1 or 2 of the options, then the response was considered not worth a mark. This was because knowing 1 or 2 options and not follow the other options could greatly increase the chances of vertical transmission of HIV, thus exposing their breast-feeding children in danger of acquiring the HI virus.

Another area of concern arose with the study results revealing that in spite of 66.7% of the respondents knowing how often they should administer ARV (NVP) prophylaxis to their children, the remaining percentage could significantly expose their children on acquiring HIV during the breast-feeding period. It is worth noting that during the data collection period, all the selected respondents were breast-feeding.

5.2.3 Conclusion on PMTCT of HIV Attitudes

The knowledge an individual has on certain practices could greatly affect an individual's attitude towards those practices. As discussed in Chapter 4 of this study, respondents generally showed a positive attitude towards PMTCT of HIV.

As the overall study results showed, the respondents scored more than half of the allocated marks. On another note, there were instances where respondents stopped giving HIV prophylaxis to their children as they believed it prevented them from future drug resistance, while 2.2% stopped treatment as they believed it caused their children to be ill. In addition, 11.1% believed that there was nothing wrong in giving a child breast milk and formula milk simultaneously, especially when the mother is working. This could be an added reason why children sero-converted after 6 weeks following an HIV negative result.

5.2.4 Conclusion on PMTCT of HIV Practices

In every community, clinic, and hospital, exclusive breast-feeding for the first six months of life should be emphasized during follow-up visits. These could be done in individualized breast-feeding counselling sessions and should be on-going for the first six months following delivery.

According to the WHO Guidelines on HIV and infant feeding (2010), cited in Greeson et al (2011:19), where breast-feeding is the recommended infant feeding practice, countries should emphasize exclusive breast-feeding (EBF) for the first six months of life, because mixed feeding during this period has been proved to increase MTCT. The above-mentioned guidelines also recommend that mothers living with HIV should still receive counselling on EBF for the greater chance of HIV-free survival for their infant.

Based on the study results, it could be conclude that in the Swazi culture, it is still believed that breast milk alone (EBF) is insufficient for nutrition; hence mothers or women tend to introduce complementary foods early (before 6 months) as a way of supplementing the breast milk. This is evidenced by the 16.7% of respondents who gave their children soft porridge as a way of supplementing breast milk, and 21.1% of respondents who gave their children water as they believed that children needed water to complement breast-feeding; and a further 4.4% of respondents who gave their children breast milk and formula milk (mixed-feed). These results are further corroborated by the 44.4% of the respondents who didn't know the meaning of exclusive breast-feeding.

As much as the respondents received health education on the prevention of vertical transmission of HIV, some 4.4% of them still practice wet nursing, which might have a negative impact on the prevention of HIV infection during the breast-feeding period. From the 4.4% mentioned above, 2.2% are married, 1.1% are single, and another 1.1% is cohabiting.

On-going counselling by health care workers on the importance of exclusive breast-feeding and avoidance of wet nursing on subsequent clinic visits should be emphasised. In the community, the utilization of Rural Health Motivators (RHMs) and community health nurses should put emphasis on exclusive breast-feeding during their home visits.

The importance of partner involvement during ante-natal care, and post-natal care is vital as this could be the forum for discussing issues, including the importance of disclosure of an individual's HIV status and consistent condom use by partners. It is noted in the study that 28.9% of the breast-feeding mothers conceal their HIV status from their partners, and 46.7% reported that their partners refuse or complain about condom use. As a result, 14.4% fail to use a condom during sexual intercourse. The 31-45 age-group is the category most affected by partners refusing to, or complaining about the use of a condom, with a score of 43.5%.

Another factor perpetuating the condom use problem is the cultural belief that breast-feeding women cannot conceive, as most of them are not having their periods (lactation amenorrhea). This is evidenced by the study results which revealed that 12.2% of the respondents still believe that breast-feeding prevents conception and therefore, there is no need to use a condom. On the other hand, 4.4% are not sure of the statement (regarding condom use during breast-feeding).

It is worth noting that some respondents (11.1%) are facing difficulties when using the syringe for measuring their child's medication. Although the percentage is relatively small, it could still result in under-dosing of children. As a result, the child will not receive the correct amount of the HIV prophylaxis and may expose her/him to the HI virus during the breast-feeding period. Close monitoring, re-demonstration, and follow-up on the use of the syringes should always be undertaken by nurses at every visit to the clinic.

The study's findings also revealed that some women within the different sampled age groups, conceive children outside of marriage and are un-employed, causing them to be solely dependent on their partners for financial support. Dominant and skewed power relations then prevail, making it difficult for them to initiate use of condom in the family, especially when the partner does not support it. In such a situation, the chances of passing the HI virus to their children while breast-feeding become greatly increased.

Partner involvement during ANC and post-partum period is vital. After the birth of an infant, partners are counselled in the maternity department, and discussion ensues on the appropriate family planning method to be used as a means of prevention of re-infection during the breast-feeding period (e.g. condom use), and thus preventing vertical transmission of HIV. HIV care and family support are other issues of importance that are discussed. During these sessions, condom use appears to be the best family planning option to be used by the couple.

In many countries, fear of stigma keeps women living with HIV from disclosing their HIV status to their partners or to community members (Peacock (2010), cited in Greeson et al (2011:26). Furthermore, men often do not attend PMTCT services as they are either very busy, have no interest, fear HIV test results, or encounter negative provider attitudes. However, evidence shows that some men understand the importance of PMTCT services and are eager to participate, but often feel they lack skills and information.

Due to the fear of stigmatisation, the breast-feeding mothers living with HIV opted to hide their ARV and children's ARV prophylaxis from their relatives. This could lead to a serious failure to adhere to the drugs, especially when the mother is away or ill.

5.3 LIMITATIONS OF THE STUDY

Given the time and resource constraints, the researcher could have conducted the study in the other clinics around the Manzini region, in order to broaden more understanding of the research problem and the generalisability of the study's findings.

The researcher noted that some questions were unanswered, regardless of the researcher being with the respondents at all times. Rephrasing of the questions could have been undertaken more extensively during these times.

Low knowledge scores were recorded when respondents were asked about the period during which they took their ARV prophylaxis. The low scores were a reflection of the mothers not recalling the period of taking the medication, as it was several weeks prior to their participation in the study.

5.4 RECOMMENDATIONS

The recommendations offered below are premised on of Nursing Research, Nursing Practice, and Nursing Education in relation to the study findings.

5.4.1 Nursing Research

Recommendations pertaining to nursing research refer to those propositions whose implementation would greatly contribute to the advancement of evidence-based knowledge generation in the field of nursing as a science.

- Further research needs to be focused on reasons for breast-feeding women living with HIV who attained a tertiary level education, tend to have a positive attitude towards PMTCT of HIV;
- More research should be conducted on the effects of hiding a positive HIV status (to partner and relatives) on adherence to ART life-long therapy and children's ARV prophylaxis;

- Further research should assist on finding more cogent reasons for partners of women in the 31-45 years age group refuse to, or complain about condom use; and
- A phenomenological study needs to be conducted on breast-feeding women living with HIV on lived experiences and adaption to life-long ART and children' ARV prophylaxis.

5.4.2 Nursing Practice

Recommendations pertaining to nursing practice refer to those propositions whose implementation would greatly contribute to the advancement of nurses as professionally trained health care practitioners.

- There should be re-emphasis by health workers – especially nurses – at all clinic visits and follow-up sessions on the manner in which mothers administer ARV prophylaxis to their children, as well as the expected duration the drugs' administration or their (drugs') termination. This could be a constant reminder to the breast-feeding mothers with regard to the importance of giving the drugs in accordance with the frequency with which it should be given;
- Special care should be given to those mothers who have difficulties collecting their monthly medication due to financial constraints. Giving them two months' supply with close monitoring should be considered;
- Staff training and re-training, awareness creation and community mobilization should be maintained for the success of PMTCT programmes and the fight against stigma and discrimination; and
- Male involvement at the onset of PMTCT through couple counselling and partner support should be encouraged to strengthen women's adherence to PMTCT services.

5.4.3 Nursing Education

Recommendations pertaining to nursing education refer to those propositions whose implementation would greatly contribute to the advancement of the content of nursing as a science, for the benefit of nurses as health care practitioners.

- In developing the body of knowledge in nursing, the aspect of *knowledge, attitudes* and *practices* associated with PMTCT, as well as the impact of age, culture and socio-economic status on PMTCT should be integrated within the nursing curriculum; and
- Given the expansive nature of PMTCT, and that nurses working in public or private clinics are confronted with pregnant and lactating women living with HIV, a nursing course or module on HIV/AIDS with PMTCT should be developed and implemented by nursing colleges and universities in order to up-lift the standard of nursing practice.

5.4.4 Policy Change

Recommendations pertaining to policy change refer to those paradigmatic and governance changes whose implementation would greatly contribute to the development of health care related decisions for the improvement of pre- and post-natal PMTCT *knowledge, attitudes* and *practices* for the benefit of ‘consumers’ of health care services – particularly HIV positive breast-feeding women;

- Men play an important role in women accessing both ANC and PMTCT. Drafting of policies that stipulate the importance or the need for partner involvement on issues of PMTCT, including information sessions for men and key messaging. This would enhance buy-in from the male partners at national and regional levels;
- The public should be sensitised on PMTCT, specifically during the post-natal period of breast-feeding mothers, by means of targeted daily programmes on the mass media aimed at increasing public awareness on issues surrounding breast-feeding mothers living with HIV. These programmes should include topics on partner-involvement, status disclosure, stigma and discrimination. The purpose of these programmes should be to inculcate a culture of positive attitudes and desirable behavioural change within communities; and
- Awareness creation and community mobilization by government and partners should be intensified in order to successfully fight against stigma and discrimination.

5.5 CONCLUDING REMARKS

As state of the art developments are rapidly evolving, new evidence is emerging regarding the most effective methods of reducing the risk of transmission. Such developments are highly beneficial to preventing children from acquiring HIV infection. Similarly, countries

need to adapt existing systems and approaches as new evidence becomes available (UNAIDS 2012:44).

As a country, Swaziland is currently adopting WHO recommendations, which state that a country should choose between PMTCT Option B – providing ART (ARV drugs) for pregnant and breast-feeding women with HIV during the mother-to-child transmission risk period, and continuing lifelong ART for those women eligible for treatment. In terms of this option, the mother's regimen consists of continued lifelong after delivery or after breast-feeding. The regimen ends only if she meets the ART eligibility criteria for her own health based on CD4 count or clinical stage. Alternatively, the regimen could terminate under Option B+: providing lifelong ART (ARV drugs) for pregnant and breast-feeding women living with HIV regardless of CD4 count or clinical stage, both for their own health and to prevent vertical HIV transmission (WHO 2013:4).

Swaziland is moving towards Option B+, according to which all pregnant and lactating women, regardless of their CD4 count, will be enrolled in life-long ART therapy. This is currently piloted in some clinics in Swaziland. This exercise might help eliminate the other ways of exposure during breast-feeding – which include failure to use a condom during sexual intercourse. Notwithstanding the above, factors such as poverty and adherence to the ARV drugs will still be problematic if not addressed properly. This is evidenced by the current study's results revealing that breast-feeding mothers living with HIV fail to disclose their HIV status to their partners and family members. This will adversely hinder their adherence to the ARVs. Non-adherence due to poverty is demonstrated in the study by 2% of the unemployed women sometimes missing their appointments to the clinic due to lack of money.

LIST OF REFERENCES

- Abajobir, AA & Zeleke, AB. 2013. Knowledge, attitude, practice and factors associated with prevention of mother-to-child transmission of HIV/AIDS among pregnant mothers attending ante-natal clinic in Hawassa Referral Hospital, South Ethiopia. *Journal of AIDS and Clinical Research*, 2013; 4(6):2-7.
- Adewole, IF, Odutolu, O & Sagay, AT. [S.a.]. Prevention of Mother-to-Child Transmission, AIDS Prevention Initiative in Nigeria. [Online] From: www.apin.harvard.edu/chapter_16.pdf (accessed 17/09/13).
- Atwiine, B. 2012. Knowledge and practices of women regarding PMTCT. *World Family Medicine Journal* (10):1-47.
- Araoye, MO. 2003. Research methodology with statistics for health and social sciences. Ilorin: Nathadex Publishers.
- Babbie, E. 2013. The practice of social research. 13th edition. Wadsworth, Australia: Cengage Learning.
- Babbie, E. & Mouton, J. 2001. The practice of social research. Cape Town: Oxford University Press.
- Bradley, P. & Herrin, J. 2004. Development and validation of an instrument to measure knowledge of evidence-based practice and searching skills. *Med Edu* 2004(19):15
- Burns, N & Grove, SK. 2009. The practice of nursing research: appraisal, synthesis, and generation of evidence. 6th edition. St Louis: Saunders.
- Fraser, DM & Cooper MA. 2003. Myles textbook for midwives. 14th edition. London: Churchill Livingstone.
- Gibbs, G. 2007. Analyzing qualitative data. London: Sage Publications Ltd.
- Greeson, Dana, Preble, E, Jimenez, S & Blaze, C. 2011. Increasing access to prevention of mother-to-child transmission services. Arlington, VA: John Snow Inc.
- Hampananda, K. 2013. Vertical transmission of HIV in Sub-Saharan Africa: applying theoretical frameworks to understand social barriers to PMTCT. *ISRN Infectious Diseases*, 2013:1-6.

- Henning, E. 2005. Finding your way in academic writing. 2nd edition. Pretoria: Van Schaik Publishers.
- Joubert, G & Ehrlich, R. eds. 2009. Epidemiology: A research manual for South Africa. 2nd edition. Oxford Southern Africa.
- Kaliyaperumal, K. 2004. Guideline for conducting a Knowledge, Attitude and Practice (KAP) study. *AECS Illumination*, 4(1):7-9.
- Katzenellenbogen, J & Joubert, G. 2007. Data collection and measurement, Epidemiology: a research manual for South Africa. Edited by Joubert, G & Ehrlich, R. 2nd edition. Cape Town: Oxford University Press.
- Kerlinger, F.N & Lee, H.B. 2000. Foundations of behavioural research. 4th edition. Orlando, FL: Harcourt College Publishers.
- Kimmie, Z, Delany, A & Khumalo, B. 2007. Community surveys. Epidemiology: a research manual for South Africa. Edited by Joubert, G & Ehrlich, R. 2nd edition. Cape Town: Oxford University Press.
- Kutushabe, J. 2006. Knowledge and attitudes pregnant women have on the use of prevention of mother-to-child transmission of HIV (PMTCT) services in Mbale Regional Hospital- Ante-natal clinic. [Online]
From: <http://www.chdc.mak.ac.ug/publications/Kutushabe%202007%20Knowledge%29and%20attitude%20pregnant%20women%20have%20on%20use%20of%20PMTCT.pdf>
(accessed 20th February 2012).
- Maimaiti, N. 2010. Knowledge, attitude and practice regarding HIV/AIDS among university students in Xinjiang. *Global Journal of Health Science*, 2(2):51-60.
- Mazia, G, Narayanan, C, Warren, M, Mahdi, M, Chibuye, P, Walligo, A, Mabuza, P, Shongwe, R & Hainsworth, M. 2009. Integrating quality post-natal care into PMTCT in Swaziland, *Global Public Health*, 4(3):253-270.
- Moses, A, Chama, C, Udo, S & Omotora, B. 2008. Knowledge, attitude and practice of ante-natal attendees toward prevention of mother-to-child transmission (PMTCT) of HIV infection in a tertiary health facility, Northeast- Nigeria. *The Internet Journal of Third World Medicine* 8(1): 44-55.

- Moth, IA, Ayayo, AB & Kaseje, DO. 2005. Assessment of utilisation of PMTCT services at Nyanza Provincial Hospital, Kenya. *Journal of Social Aspects of HIV/AIDS Research Alliance*, (2):2.
- Mouton, J. 2001. How to succeed in your master's and doctoral studies: a South African guide and resource book. Pretoria: Van Schaik Publishers
- Muller, A. 2004. Resource pack for postgraduate students. Aucklandpark: University of Johannesburg Faculty of Management.
- Myer, L & Karim, SA. 2007. Precision and validity in epidemiological studies. *Epidemiology: A research manual for South Africa*. Edited by Joubert, G & Ehrlich, R. 2nd edition. Cape Town: Oxford University Press.
- Nkambule, R. 2008. HIV/AIDS-related knowledge, attitudes and behaviour: Swaziland demographic and health survey 2006-2007. Swaziland: Swaziland Ministry of Health.
- Oyewale, TO. 2008. HIV knowledge and attitude among teachers in Abuja, Nigeria. MPH dissertation. Pretoria: Unisa.
- Panos Institute Southern Africa. 2012. Media brief on Prevention of mother-to-child transmission of HIV in Swaziland. Lusaka: Southern Africa Project.
- PEPFAR: AIDSTAR-one. [S.a.]. Biomedical interventions: prevention of mother-to-child transmission of HIV. [Online]
 From: http://www.aidstarone.com/focus_areas/prevention/pkb/biomedical_interventions/prevention_mother_to_child_transmission_hiv_pmtct (accessed 8/9/13).
- PEPFAR. 2008. *PMTCT effectiveness in Africa_ pepfar*. [Online]
 from: www.pepfar.gov/documents/organization/118151.pdf (accessed 17/07/13).
- Peacock, D. 2010. Working with men to improve PMTCT outcomes. Sonke gender justice network. Presented at XVIII International AIDS Conference, Vienna Austria, July 18-23.
- Pocket book for hospital health care for children: Guidelines for the management of common illnesses with limited resources. 2007. Geneva: WHO.
- Polit, DF & Beck, CT. 2004. *Nursing research: generating and assessing evidence for nursing practice*. Philadelphia: Walters Kluwer.

- Polit, DF & Beck, CT. 2008. Nursing research: generating and assessing evidence for nursing practice. 8th edition. Philadelphia: Lippincott Williams & Wilkins.
- Polit, DF & Hungler, BP. 2001. Essentials of nursing research: methods, appraisal and utilization. Philadelphia: Lippincott.
- Polit, DF & Hungler, BP. 1999. Nursing research: principles and methods. 5th edition. Philadelphia: Lippincott.
- Regions of Swaziland. 2014. [Online] from: <http://www.wikipedia.org> (accessed 18/09/14).
- Sarantakos, S. 1998. Social research. 2nd edition. South Yarra, Australia: Macmillan Education Australia Pty Ltd.
- SAUVCA. (2002). A brief history. Pretoria: SAUVCA.
- Sendo, EG, Cherie, A. & Erku, TA. 2013. Disclosure experience to partner and its effect on intention to utilize prevention of mother-to-child transmission service among HIV positive pregnant women attending ante-natal care in Addis Ababa, Ethiopia. *BMC Public Health*, 2013.13(1):1-7.
- Sibbald, B. 2013. Swaziland HIV prevention: new pilots for beleaguered Swaziland. [Online] From: www.cabsa.org.za/book/export/html/2537 (accessed 07/03/14).
- Smeltzer, SC & Bare, BG. 2000. Brunner & Suddarth's textbook of medical-surgical nursing. 9th edition. Philadelphia: Lippincott.
- Swaziland Government 1. Swaziland demographic health survey 2006-2007. Mbabane: Swaziland Ministry of Health.
- Swaziland Government 2. Central statistical office and UNICEF. 2011. Swaziland multiple indicator cluster survey (MICS) 2010. Mbabane: Swaziland Ministry of Health.
- Swaziland Government 3. Ministry of Health. 2011-2015. Elimination of new infections among children by 2015 and keeping their mothers alive: national strategic framework for accelerated action. Mbabane: Swaziland Ministry of Health.
- Swaziland Government 4. Ministry of Health. 2010. Guidelines for PMTCT. 3rd edition. Mbabane: Swaziland Ministry of Health

Swaziland Government 5, Ministry of Health. 2007. HIV and infant feeding update for health workers and service providers. Mbabane: Swaziland Ministry of Health.

Swaziland Government 6, Ministry of Health. 2010. *National guidelines for infant and young child feeding*. Mbabane: Swaziland Ministry of Health.

Swaziland Government 7, Ministry of Health. National multisectoral strategic framework for HIV and AIDS (NSF). 2009-2014. Mbabane: Swaziland Ministry of Health.

Swaziland Government 8, Ministry of Health. Paediatric HIV treatment Guidelines. 2006. Mbabane: Swaziland Ministry of Health.

Swaziland Government 9, Ministry of Health. PMTCT registry. 2013. Mbabane: Swaziland Ministry of Health.

Swaziland Government 10, Swaziland 12 Round HIV Sentinel Surveillance Report. 2010. Mbabane: Swaziland Ministry of Health.

Swaziland Government 11, Ministry of Health. Impact assessment for ART, TB treatment and PMTCT. 2011.

Swaziland Government 12, Ministry of Health. Guidelines for the management of common illnesses. 2007. Mbabane: Swaziland Ministry of Health.

Swaziland Government, Ministry of Health. National health sector strategic plan 2008-2013. Mbabane: Swaziland Ministry of Health

Swaziland 11th round of national HIV sero-surveillance among women attending ante-natal services at health facilities in Swaziland. 2008. Mbabane: Swaziland Ministry of Health.

Swaziland UNGASS country report. 2010. Monitoring the declaration of the commitment on HIV and AIDS. Mbabane: Swaziland Ministry of Health.

Ujiji, OA, Ekstrom, AN, Ilako, F, Indalo, D, Wamalwa, D & Rubenson, B. 2011. Reasoning and deciding PMTCT-adherence during pregnancy among women living with HIV in Kenya. *Culture, Health and Sexuality*, Aug 2011; 13(7):829-840.

UNAIDS. 2011. World AIDS day report. Geneva: WHO.

UNAIDS. 2012. Report on the global AIDS epidemic. Lusaka: Southern Africa Project.

UNAIDS. 2013. Report on the global AIDS epidemic. Lusaka: Southern Africa Project.

UNFPA see United Nations population fund. Lusaka: Southern Africa Project.

UNFPA. 2004. HIV transmission through breast-feeding: a review of available evidence. [Online] Available

at: http://www.unfpa.org/webdav/site/global/shared/documents/publications/2004/hiv_transmission.pdf (accessed 17/9/13).

UNFPA and Swaziland's Ministry of Health. 2010. All-Africa 2010. A culture that encourages HIV/AIDS. [Online] From: www.cabsa.org.za (accessed 07/03/14).

UNICEF. 2012. Preventing mother-to-child transmission (PMTCT) of HIV. [Online] From: http://www.unicef.org/aids/index_preventionyoung.html (accessed 17/07/2013).

Urvish, J, Patel, S, Shah, K, Oza, U & Modi, H. 2011. PPTCT services, interventions, coverage and utilization. *Journal of Global Infectious Diseases*, 3(4):371-377.

Varga, C, 2008. Preventing mother-to-child HIV transmission among South African adolescents. *Journal of Adolescent Research*, (23):2 172-205.

Weller, BF. 2000. Bailliere's nurses' dictionary. 22nd edition. London: Bailliere Tindall.

World Health Assembly. 2001. Infant and young child feeding: Resolution 54.2. Geneva: WHO.

WHO. 2002. Global strategy on infant and young child feeding. Geneva: WHO.

WHO. 2004. HIV transmission through breast-feeding: A review of available evidence. Geneva: WHO.

WHO.2007. HIV transmission through breastfeeding: A review of available evidence from 2001 to 2007. Geneva: WHO.

WHO. 2010. Guidelines on HIV and infant feeding: principles and recommendations for infant feeding in the context of HIV and summary of evidence. Geneva/New York: WHO.

WHO.2013. HIV/AIDS: Definition of key terms. [Online] from: <http://www.who.int/pub/guidelines/arv2013/intro/keyterms/en/> (accessed 21/10/14).

LIST OF ANNEXURES

Annexure A: Letter of Permission by the Higher Degrees Committee of the Department of Health Studies at the University of South Africa



**UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE**

HS HDC/315/2014

Date: 19 February 2014 Student No: 4835-829-0
Project Title: Knowledge, attitudes and practices of HIV in positive breastfeeding on PMTCT.
Researcher: Phumzile Lucia Dlamini
Degree: MA in Nursing Science Code: MPCHS94
Supervisor: Dr ST Mokoboto-Zwane
Qualification: PhD
Joint Supervisor: -

DECISION OF COMMITTEE

Approved

Conditionally Approved

**Prof L Roets
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE**

**Prof MM Moleki
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES**

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES

Annexure B: Letter of Permission by the Swaziland Scientific and Ethics Committee

Telegrams:
Telex:
Telephone: (+268 404 2431)
Fax: (+268 404 2092)



MINISTRY OF HEALTH
P.O. BOX 5
MBABANE
SWAZILAND

THE KINGDOM OF SWAZILAND

FROM: The Chairman
Scientific and Ethics Committee
Ministry of Health
P. O. Box 5
Mbabane

TO: Ms Phumzile Dlamini
Principal Investigator

DATE: 12th March 2014

REF: MH/599C/ FWA 000 15267

RE: Knowledge, Attitudes and Practices Associated with PMTCT among Breastfeeding mothers living with HIV, in King Sobhuzall Public Health Unit, Swaziland

The committee thanks you for your submission to the Swaziland Scientific and Ethics Committee, an Expedited review was conducted.

In view of the importance of the study and the fact that the study is in accordance with ethical and scientific standards, the committee therefore grants you authority to conduct the study. You are requested to adhere to the specific topic and inform the committee through the chairperson of any changes that might occur in the duration of the study which are not in this present arrangement.

The committee requests that you ensure that you submit the findings of this study (**Electronic and hard copy**) and the data set to the Secretariat of the SEC committee.

The committee further requests that you add the SEC Secretariat as a point of contact if there are any questions about the study on 24047712/24045469.

The committee wishes you the best and is eagerly awaiting findings of the study to inform proper planning and programming to use for analysis

Sincerely,


Dr S.M. Zwane
DIRECTOR OF HEALTH SERVICES
(THE CHAIRMAN)
cc: SEC members

KING SOBHUZA II PUBLIC HEALTH UNIT

P. O. BOX 90

Tel : 5053902

Fax:

Date.....09/06/2014.....

Dear Student.....PHUMZILE DAMINI.....

Permission to undertake research study in your field of interest is granted. It is the Unit's vision and mission to assist aspiring professionals to realize their goals and objectives. If possible access to the findings of your study are welcome for planning purposes.

Thank you

[Handwritten Signature]

KING SOBHUZA II (UNIT SISTER)



Annexure D: Consent Form (English)

INFORMED CONSENT FORM

Title of Study: Knowledge, Attitudes and Practices Associated with PMTCT among Breast-feeding Mothers Living with HIV, in King Sobhuza II Public Health Unit.

Principal Investigator: Phumzile Lucia Dlamini

Institute: University of South Africa (UNISA)

Introduction

I cordially request for your voluntary participation in my research study on the above-mentioned topic. Please read the following information about the study. If you would like to participate, please sign at the end of the form.

Purpose of the Study: The aim of this study is to assess knowledge, explore attitudes and determine practices of HIV positive breast-feeding mothers regarding PMTCT interventions and services post-natally, at the King Sobhuza II Public Health Unit.

If you wish to participate in the study, you will be asked to: fill in the questionnaire given to you by the researcher.

Potential Risk of the Study: The participants may be emotionally disturbed, but on-going counselling will be conducted by the researcher, and participants will be allowed to ask questions regarding the study.

Benefits: The study results will contribute to the body of nursing knowledge and the review of health education strategies on PMTCT and follow-up care to all breast-feeding mothers. Furthermore, the study will help in the development of policies and guidelines from which future patients might benefit.

How Confidentiality will be Maintained: Anonymity of the respondent and confidentiality of the information will be maintained by the researcher by not revealing your name on the questionnaire form.

If you have any questions about this study, feel free to contact:

Researcher..... Phone/email.....

Voluntary Participation:

Participation in this study is completely voluntary. If you decide not to participate, there will not be any negative consequences. Please be aware that if you decide to participate, you may withdraw your participation at any time and you may decide not to answer any specific question. Please note that no monetary incentives will be made by the researcher.

If you are willing to participate, kindly fill in and sign the attached consent form as required by ethical research considerations.

I hereby consent to participate in the study:

Participant's signature..... **Date**.....

Researcher's signature..... **Date**.....

Adapted from: *International Rules: Guidelines for Science and Engineering Fairs 2013–2014:39*, www.societyforscience.org/isef (accessed 01/10/13).

Annexure E: Consent Form (SiSwati)

Sifakazelo

Title of Study: Lwati, indlela yekwenta nekubuka tintfo letihambelana neLuhlelo Lwekuvikela kwendlulisela ligciwane le HIV kubantfwana kubomake labamunyasako baphindze babe neligciwane le HIV

Umcwalingi: Phumzile Lucia Dlamini

Inyuvesi: University of South Africa (UNISA)

Singeniso

Ngicela imnvume yekutsi ungenele lucwaningo lolushiwo ngenhla. Fundzisisa kahle ngalelicwaningo, nawuvuma kungenela, ngicela usayine ngaphansi, bese uphendvula imibuto lelandzelako loniketwe yona ngumcwaningi. Abukho bungoti balolucwaningo futsi uvumelekile kuphuma nome kunini. Kute bungoti utochubeka usitakale lapha emfolamphilo. Imiphumela ingasetjentiswa kulungisa luhlelo lwe PMTCT ekwakheni imigomo lemisha lencono kutfutukisa loluhlelo.

Lifomu loligcwalisile litogcinwa endzaweni lephephile lapho kwati umcwaningi kuphela, kantsi futsi ngeke libhalwe ligama lakho kuleliphepha.

Nawunemibuto ngalolucwaningo tsintsana nemcwaningi kule nombolo

Umcwaningi.....

inombolo yelucingo.....

Ngiyavuma kungenela lolucwaningo, ngivisisile futsi ngichazekile kutsi lungani, buhle nebungoti balo:

Sayina lovumako.....Lusuku.....

Sayina Umcwaningi.....Lusuku.....

Annexure F: Research Instrument (Questionnaire)

Dear Participant

My name is Phumzile Dlamini. I am currently enrolled at the University of South Africa (UNISA), studying for the Master of Arts in Nursing Science degree. I am conducting this study in partial fulfilment of the requirements for the degree.

This study is totally anonymous and I will make no attempt to identify the persons who took part in it.

KABP Survey Questionnaire (English)

Section A: Socio-demographic Background

(Make a cross in the most appropriate block)

1. Age Group (years):

Under 20	Between 20-30	Between 31- 45	Older than 45

2. Marital status:

Single	Married	Cohabiting

3. Education Level:

Never been to school	Primary	Secondary	High school	Tertiary

4. Occupation:

Unemployed	Scholar	Other (specify)

Section B (i): Knowledge Regarding Prevention of Mother-to-child Transmission (MTCT) of HIV

(Make a cross in the most appropriate block)

5. Did you receive any health education about MTCT?

Yes	No

6. If yes, where?

ANC clinic/ PHU	Media (radio, TV, newspaper)	Maternity department	Through friends

7. Did you need to know your HIV status when pregnant?

Yes	No

8. When is the right time to start attending ANC clinic?

Any month you choose	Immediately you missed a period	The last month of pregnancy

9. Can HIV be transmitted in the womb (utero)?

Yes	No	Not sure

10. Can HIV be transmitted during delivery?

Yes	No	Not sure

11. Can HIV be transmitted through breast milk?

Yes	No	Not sure

12. Exclusive breast-feeding for the 1st 6 months means,

Giving breast milk only	Giving breast milk and medicines only	Giving breast milk, medicines and water

13. Which of the following breast problems can put your child at risk of acquiring HIV?

Cracked nipples	Breast engorgement	Mastitis/ Swollen breast	None mentioned

14. Which of the following can expose your child to HIV after delivery?

1. Mixed feeding	2. Non adherence to HIV prophylaxis	3. Re infection of HIV	4. 2 and 3	5. All of the mentioned

15. Children born of HIV+ mothers have a smaller chance of becoming HIV+ if mothers take Anti-retroviral (ARVs).

Yes	No	Not sure

16. Do you know about child's ARV (Nevarapine/ NVP) prophylaxis?

Yes	No

17. How should nevarapine (NVP) prophylaxis be given?

Immediately after birth	At birth then daily	Twice a day	Not sure

18. For how long should NVP prophylaxis be given?

Until 6 weeks of age if mother is on ART	Until 1 week after stopping breast-feeding, if mother on AZT prophylaxis	Until 2 years of breast-feeding	Not sure

19. When should the mother start ARV (AZT) prophylaxis?

At first ANC visit	When CD4 < 350	At 14 weeks gestation	Not sure

20. How often does the mother take ARV (AZT) prophylaxis?

Once a day	Twice a day	Not sure

21. For how long should she take ARV (AZT) prophylaxis?

7 days post delivery	Until breast-feeding cessation	Not sure

22. Breast-feeding prevents conception; therefore there is no need for condom use.

Yes	No	Not sure

Section C: Attitudes Towards PMTCT of HIV

(Make a cross in the appropriate block)

23. Where do you prefer to deliver your child?

Home delivery	Hospital delivery

24. I believe that HIV prophylaxis can prevent mother-to-child transmission of HIV

Agree	Neither Agree nor Disagree	Disagree

25. I believe that there is nothing wrong giving my child breast milk and formula milk especially when mother is working.

Agree	Neither Agree nor Disagree	Disagree

26. My in-laws or relatives believe that Formula feeding indicates mother is HIV+

Agree	Disagree

27. I hide my HIV status and child status from my partner.

Agree	Disagree

28. I stopped my child's HIV prophylaxis and my HIV prophylaxis to prevent future drug resistance.

Agree	Disagree	Never stopped

29. My child became ill and then I stopped his/her HIV prophylaxis (NVP).

Agree	Disagree	Never stopped

30. I took the HIV prophylaxis from clinic, but I do not give it to my child as I never got consent to test my child from my partner.

Agree	Disagree

Section D: Practices Related to PMTCT of HIV

(Make a cross in the appropriate block)

31. My culture promotes breast-feeding.

Agree	Neither Agree nor Disagree	Disagree

32. I always breast-feed.

Agree	Disagree

33. I breast-feed and bottle feed.

Agree	Disagree

34. I give my child soft porridge as she always wants to feed.

Agree	Disagree

35. Children need water even if they are breast-feeding.

Agree	Disagree

36. I'm facing difficulties when using the syringe for measuring my child's medication.

Agree	Disagree

37. When I am away I ask my relative to breast-feed for me.

Agree	Disagree

38. I always take my HIV prophylaxis, though I hide it from my relatives.

Agree	Disagree

39. I always give my child his/her HIV prophylaxis, though I hide it from my relatives.

Agree	Disagree

40. Sometimes I have problems with money to take my child for immunization and HIV prophylaxis refills.

Agree	Disagree

41. I always use a condom.

Agree	Disagree

42. My partner refuses or complains about condom use.

Agree	Disagree

END OF SURVEY

Thank you for your participation

KABP SURVEY QUESTIONNAIRE (SISWATI)

Section A: Imininingwane yaloyo lobutwako

(Faka siphambano kulovumelana nako)

1. Minakhi iminyaka yakho (years):

Ngaphansi kwa 20	Emkhatsini wa 20-30	Emkhatsini wa 31- 45	Ingetulu kwa 45

2. Kwendza/Kushada:

Angikashadi	Ngishadile	Nginamasihlalisane

3. Ugcine kabani esikolweni:

Angikafundzi	Primary	Secondary	High school	Tertiary

4. Umsebenti lowentako:

Angisebenti	Ngisafundza	Umsebenti lowentako (wusho)

Section B: Lwati lonalo ngekuvikela umtfwana kutsi atfole i HIV (Prevention of mother-to-child transmission/ PMTCT)

(Faka siphambano esikweleni kulovumelana nako)

5. Wake wafundziswa yini nge PMTCT?

Yebo	Chake

6. Nawuvuma kulolongetulu umbuto, bakufundzisa kuphi?

Emtfolaphilo wekupopolatisu	Kubatfwebuli betindzaba (wayilensi, kumabona kudze, kumaphephandzaba)	eMaternity	Kubangani bami

7. Simo sengati usati usesetifwele yini?

Yebo	Chake

8. Ngisiphi sikhatsi lesilungele kucala kupopola sisu?

Kunobe kunini	Nawushiywa yinyanga	Nasewuto beleka

9. Ligciwane le HIV umntfwana angalitfola yini esiswini?

Yebo	Chake	Angati

10. Ligciwane le HIV umntfwana angalitfola yini nakabelekwa?

Yebo	Chake	Angati

11. Ligciwane le HIV umntfwana angalitfola yini ebeleni?

Yebo	Chake	Angati

12. Kumunyisa kuphela tinyanga tekucala letisitfupha (6) kusho kutsi,

Munyisa lubisi lwelibele kuphela	Munyisa lubisi lwelibele kanye nemutsi lonikwe emtfolaphilo kuphela	Munyisa lubisi lwelibele, umutsi lonikwe emtfolamphilo kanye nemanti

13. Ngutiphi tifo telibele letingabeka umntfwanakho engotini yekutfole ligciwane le HIV?

Kuhlayeka kwetingono	Kuphakatsa kwemabele	Kuvuvuka kwemabele	Kute kulolokushito

14. Kulolokulandzelako ngikuphi lokubeka umntfwanakho engotini yekutfole ligciwane le HIV nasewubelekile?

1. kubhica lubisi lwelibele nalokunye	2. kunganatsi kahle emaphilisi noma ungamnatsisi kahle latsintsibalisa ligciwane le HIV	3. kuphindze utseleleke ligciwane le HIV	4. 2 na 3	5. ngikokonke lolokushitiwe

15. Bantwana labatelwe bomake labaneligciwane le HIV baphindze banatse emaphilisi ekutsintsibalisa leligciwane (ARVs) banematfuba lamancane kutsi batfole ligciwane le HIV.

Yebo	Chake	Angati

16. Uyati ngemutsi lovikela banfwana kutsi batfole ligciwane le HIV?

Yebo	Chake

17. Uniketwa njani?

Nawutsandza kubeleka	Nawubeleka bese onkhe emalanga	Kabili ngelilanga	Angati

18. Uniketwa sikhatsi lesinganani?

Kute kube maviki lasifupha nangabe make anatsa ema ARVs imphilo yakhe yonke	Kute kube liviki make alumule umntwana nangabe beka natsa i AZT prophylaxis	Kute kube minyaka lemibili make amunyisa	Angati

19. Ucala nini make kunatsa i AZT prophylaxis?

Nakacala kuyopopola sisu	Emasotja nasengaphansi kwa 350	Emavikini lalishumi nakune (14) atetfwele	Angati

20. Uyinatsa kangakhi i AZT prophylaxis?

Kanye ngelilanga	Kabili ngelilanga	Angati

21. Uyinatsa sikhatsi lesingakanani i AZT prophylaxis?

Kuze kube malanga lasikhombisa ubelekile	Uze ulumule umntfwana libele	Angati

21. Kumunyisa kuvikela kutsi ngitetfwale, ngakoke kute sizatfu lesingangenta ngisebentise lijazi lemkenyane (ikhondomu).

Yebo	Chake	Angati

Section C: Indlela lobuka ngayo tintfo ngekuvikela umntfwana kutsi atfole i HIV (PMTCT ye HIV)

(Faka siphambano esikweleni kulovumelana nako)

22. Unconota kubelekelaphi?

Ekhaya	Emtfolamphilo

23. Ngiyakholelwa kutsi i HIV prophylaxis ingavikela umntfwana kutsi atfole i HIV.

Ngiyavuma	Angivumi futsi angiphiki	Ngiyaphika

24. Ngiyakholelwa kutsi kute lokubi ngekunika umntfwanami lubisi lwelibele nelwesikotela uma ngivukela emsebentini.

Ngiyavuma	Angivumi futsi angiphiki	Ngiyaphika

25. Tihlobo tami tikholelwa kutsi make loniketa umntfwanakhe lubisi lwesikotela uneligciwane le HIV.

Ngiyavuma	Ngiyaphika

26. Ngimfihlele lona lengitsandzana naye simo sami nesemfwanami sengati.

Ngiyavuma	Ngiyaphika

27. Ngayekela kunatsa nekunatsisa umntfwanami emaphilisi lavikela i HIV ngibalekela kugwama kwemaphilisi emtimbeni nasekadzingeke ngicale kuwanatsa.

Ngiyavuma	Ngiyaphika	Angikawayekeli

28. Umntfwanami watsi kube acale kunatsa lamaphilisi amgulisa, ngase ngiyamuyekelisa.

Ngiyavuma	Ngiyaphika	Angikawayekeli

29. Ngiyawalandza emaphilisi emfolamphilo, kodwa angimnatsisi umntfwanami ngoba singazange sivumelane kupopola umntfwana ligciwane le HIV nalengitsandzana naye.

Ngiyavuma	Ngiyaphika

Section D: Indlela lowenta ngayo tintfo ngekuvikela umtfwana kutsi atfole i HIV (PMTCT ye HIV)

(Faka siphambano esikweleni kulovumelana nako)

30. Kumunyisa kuvumelekile ngelisiko lakitsi.

Ngiyavuma	Angivumi futsi angiphiki	Ngiyaphika

31. Ngimunyisa libele ngasosonkhe sikhatsi.

Ngiyavuma	Ngiyaphika

32. Ngimunyisa libele phindze ngelekele ngelubisi lwesikotela.

Ngiyavuma	Ngiyaphika

33. Umntfwanami ngimupha nendengane ngoba uyalamba.

Ngiyavuma	Ngiyaphika

34. Umntfwana uyawadzinga emanti ekunatsa ngisho umunyisa libele kuphela.

Ngiyavuma	Ngiyaphika

35. Ngihlangana nebulukhuni uma ngisebentisa lesyringe yekukala umutsi wemntfwana.

Ngiyavuma	Ngiyaphika

36. Umangingekho, ngiyaye ngicele sihlobo sami singimunyisele.

Ngiyavuma	Ngiyaphika

37. Ngiyawanatsa emaphilisi ami ngasosokhe sikhatsi, nane ngiyatifihlela tihlobo tami.

Ngiyavuma	Ngiyaphika

38. Ngiyamunatsisa umntfwanami emaphilisi akhe ngasosokhe sikhatsi, mane ngiyatifihlela tihlobo tami.

Ngiyavuma	Ngiyaphika

39. Ngalesinye sikhatsi ngibabete imali yekuyisa umntfwana emtfolamphilo kuyo vikela nekutsatsa emaphilisi akhe ekuvikela I HIV.

Ngiyavuma	Ngiyaphika

40. Ngisebentisa lijazi lemkhwenyane/ ikhondomu ngaso sokhe sikhatsi.

Ngiyavuma	Ngiyaphika

41. Lelengitsandzana naye uyakhonona noma akafuni sisebentise lijazi lemkhwenyane.

Ngiyavuma	Ngiyaphika

IMIBUTO IYAPHELA

Ngiyabonga