FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS IN THE SHISELWENI REGION OF SWAZILAND

by

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DECLARATION

I declare that **FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS IN THE SHISELWENI REGION OF SWAZILAND** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originality checking software and it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

Signature: J. Chokani **Date: 17 February 2021**

DEDICATION

I thank God the Almighty for giving me the strength and good health to conduct this study. I also dedicate this work to my lovely children Karren, Fadzai and David for their support and endurance during the years I undertook the studies.

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ABSTRACT

With a lack of human resources, such as skilled birth attendants in developing countries, institutional births must be increased as part of a global strategy to reduce maternal and newborn mortality rates.

This study aimed to identify and describe factors associated with non-institutional births in the Shiselweni region of Swaziland in an attempt to provide recommendations to increase institutional births, ultimately reducing maternal and neonatal mortality rates.

A quantitative, descriptive and cross-sectional design was employed. Multiple-stage sampling was done, and data were collected from 157 respondents between 14 to 49 years of age, who experienced a non-institutional birth in the year 2019, by means of questionnaires.

The Statistical Package for Social Sciences (SPSS) version 23 was used to analyse data. The findings revealed that level of education, being single, unemployed, residing in rural areas, unplanned pregnancies, inadequate antenatal care (ANC) visits, a lack of money for transport and hospital fees, and the unavailability of transport were factors mentioned by respondents as influencing non-institutional births.

The challenges reported were vaginal tears, postpartum haemorrhage, stillbirths, urine incontinence, and retained placenta. The non-institutional births were all conducted by

unskilled birth attendants using unsterile equipment as the woman lacked emergency delivery kits.

It is recommended that transport services for women in labour should be free, infrastructure should be improved, human resources should be adequate, men should be involved in maternal health matters, and women need to be empowered.

Motivating institutional births and providing support for women by a skilled birth attendant, such as a midwife or doctor, can contribute to the country reaching the Sustainable Development Goals.

KEY TERMS: non-institutional births, maternal health, skilled birth attendants

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ABM	Andersen & Newman Behavioral Model
AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
BBA	Birth Before Arrival
BEmONC	Basic Emergency Obstetric and Newborn care
CDC	Centre of Disease Control and Prevention
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CINAHL Plus	Comprehensive Journal Index and Additional Resources for Nursing and Allied Health Professionals
CSE	Comprehensive Sexual Education
CSO	Central Statistics Office
DHS	Demographic Health Survey
EBSCO	Elton Bryson Stephens Company
EPR	Emergency Preparedness Response
FaHSAR	Facility Health Semi-Annual Review
FANC	Focused Antenatal Care visits
FIGO	International Federation of Gynecology and Obstetrics'
HIMS	Health Information and Management System
HIV	Human Immunodeficiency Virus
HRH	Human Resource for Health
ICM	International Confederation of Midwives
ICN	International Council of Nurses
ICPD	International Conference on Population and Development
IDSR	Integrated Disease Surveillance and Response
IEC	Information, Education and Communication material
IPA	International Pediatric Association
ISI	Institute for Scientific Information
KoS	Kingdom of Eswatini
MCH	Maternal and Child Health
MDG	United Nations Millennium Development Goal
MDSR	Maternal Death Surveillance and Response
MEDLINE	Medical Literature Analysis and Retrieval System

MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MEPD	Ministry of Economic Planning and Development
MWH	Maternity Waiting Huts
NHRRB	National Health Research Review Board
NHSSP	National Health Sector Strategic Plan
PMTCT	Prevention of Mother to Child Transmission
RHMs	Rural Health Motivators
RHMT	Regional Health Management Team
RMNCH	Reproductive Maternal, newborn and child health
SAM	Service Availability Mapping
SARA	Service Availability and Readiness Assessment
SBA	Skilled Birth Attendant
SDG	United Nations Sustainable Development Goals
SODOV	Sexual Offenses and Domestic Violence
SPSS	Statistical Package for the Social Science
SRH	Sexual and Reproductive Health
TBA	Traditional Birth Attendant
UN	United Nations
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNISA	University of South Africa
USAID	United States Agency for International Development
WHO	World Health Organization

CHAPTER 1
ORIENTATION TO THE STUDY

1.1 INTRODUCTION

According to the World Health Organization (WHO), the global maternal mortality ratio dropped from 385 maternal deaths per 100,000 live births in 1990 to 239 deaths per 100,000 live births in 2015 (WHO 2015). The United Nations Population Fund for Population Services (UNFPA) revealed that the decline in maternal deaths in some countries such as Cuba, Egypt and Jamaica were attributed to better access to modern contraceptive methods and births supported by skilled birth attendance where backup emergency obstetric care is available (UNFPA 2016). Despite the significant progress achieved to date, maternal mortality remains unacceptably high in some developing countries; in Sub-Saharan Africa alone, maternal mortality accounted for roughly two-thirds (196,000) of the global maternal deaths, while southern Asia accounted for nearly one-fifth (58,000) of the global maternal deaths (Kardalkar & Sherkhane 2020:466-472).

The UNFPA (2015) identified that maternal deaths are caused by a lack of access to family planning, basic care around childbirth, skilled birth attendance, care and health education in pregnancy. In developed countries where maternal and child mortality are low, women with low-risk pregnancies plan for home births overseen by skilled birth attendants within a clean and well-prepared environment (Reitsma, Simioni, Brunton, Kaufman & Hutton 2020:100319). Conversely, in developing countries, including Swaziland, some women are still giving birth in their homes without the assistance of skilled birth attendants, despite having planned for institutionalised births (MoH Shiselweni Annual Health Performance report 2019:33).

1.2 BACKGROUND INFORMATION

The global maternal mortality rates are unacceptably high. Worldwide, 295, 000 women died during and following childbirth in 2017, with 84% of the maternal deaths occurring in low-income countries in sub-Saharan Africa and southern Asia (WHO

2019). The risk for maternal death is approximately 130 times higher in low-income countries compared to high-income countries as reported by the WHO (2019), reflecting inequalities between women from rich and poor countries. With a lack of human resources, such as skilled birth attendants in developing countries, institutional births must be promoted as part of a global strategy to reduce maternal and newborn mortality rates (Gebrehiwot, Sebastian & Goicolea 2014:1-10).

According to the WHO (2019), a total of 11–17% of maternal deaths occur during childbirth, and 50–71% occur in the postpartum period. Labour is a critical time in any woman's life, where a jubilant occasion can suddenly turn into a medical crisis. Therefore, the support of a skilled birth attendant or a health institution to monitor and care for both the mother and baby is needed.

The Sustainable Development Goals (SDGs), also known as the Global Goals, call for reducing the maternal mortality ratio to 70 deaths per 100,000 live births by 2030 (SDG 2016). According to UNFPA (2016), the best way to achieve this ambitious target is to, among others, provide all pregnant women with skilled and respectful care in a safe environment during delivery; and ensure that high-risk mothers with complications can receive timely access to quality emergency obstetric care.

According to the United Nations Development Programme (2020), globally, only 51% of countries have some data on the causes of maternal deaths. In developed countries, such data are primarily from civil registration (UNMDG Report 2015:43), but fewer than 20% of countries in sub-Saharan African, including Swaziland, have nationally representative data on the causes of maternal deaths (UN 2015). High-quality data on maternal and child mortality is particularly difficult to obtain as the global estimates are derived from multifaceted models such as vital registrations, confidential enquiries, household surveys, research reports, surveillance data and verbal autopsies (Bailey, Andualem, Brun, Freedman, Gbangbade, Kante, Keyes, Libamba, Moran, Mouniri & Joud 2017:295). Moreover, only those maternal deaths that occur at health institutions in the developing countries are reported, thus maternal deaths might not be appropriately reported and not accurate (WHO 2015). The 99 maternal deaths that were reported by health institutions over a two-year period in Swaziland, is assumed to be much lower than the actual deaths, as indicated by the estimated 389

per 100, 000 maternal deaths per live births reported by the WHO in 2013 (MoH: Confidential Maternal death Audit Report 2014:8). Traditional birth attendance training was found to be associated with significant increases in attributes such as knowledge, attitude, behaviour, advice for antenatal care, and pregnancy outcomes in Timor-Leste (Sarmento 2014:3). As a strategy to promote institutional births by SBAs, Swaziland is no longer training traditional birth attendants (TBAs) to provide birth services. Instead, they only train rural health motivators (RHMs) whose duties are mainly to provide health education and distribute condoms (Swaziland National SRH Policy 2013:17).

The magnitude of non-institutional births is also being underreported in the Shiselweni region. Data from maternity registers presented at the Hlatikhulu Facility Semi-Annual Health Review meeting (FaHSAR 2018) indicated that there was a total of 179 births before arrivals (BBAs) at the maternity unit for 2018, yet in the Health Management Information System (HMIS) database, only 107 BBAs were reported.

The upsurge of maternal mortality has been attributed largely to the declining health systems and high HIV prevalence among pregnant women in Swaziland. The primary causes of maternal deaths are severe postpartum haemorrhage, obstetric infections, hypertensive disorders, unsafe abortions, and obstructed labour (WHO 2020). According to the WHO (2015), all deaths caused by the mentioned complications are preventable through increased access to skilled birth attendants in a well-equipped health institution. The coverage of women who were assisted by a skilled birth attendant was 88%, and those who gave birth at health institutions was 87.7%, against the national target of 99%, each (Swaziland Sexual Health Report 2017:35). However, maternal mortality remains excessively high at 437 per 100,000 live births (UNFPA 2017). The Confidential Maternal Deaths Audit report (2014:17) indicated that about 67% of maternal deaths between the years 2011-2013 occurred when women were admitted in critical conditions, indicating that patient factors are significant contributors to maternal deaths in Swaziland.

According to the Integrated Disease Surveillance and Response (IDSR) data for 2018, the highest number of maternal and neonatal deaths was reported in the Shiselweni region, with 10 out of 28 (36%) maternal deaths and 66 of 102 (66%) perinatal deaths.

Moreover, non-institutional births have increased by 56% in the Shiselweni region from the 310 cases reported in 2015 to 549 cases in 2016 (MoH Shiselweni Annual Health Performance Report 2016:16). It is not the norm for skilled birth attendants to deliver babies in women's homes, and non-institutional births are often facilitated by unskilled birth attendants who cannot handle childbirth complications (MoH Shiselweni Health Performance Report 2016:33).

Unlike other regions, the Shiselweni region does not have private health facilities that offer childbirth services, as revealed by the Swaziland Service Availability Mapping [SAM] (2013:5). Moreover, the shortage of nurse-midwives in the Shiselweni region has resulted in the four clinics with maternal wings being deemed non-functional, as revealed by the Shiselweni Annual Health Performance Report (2018:71). According to the WHO Human Resources for Health (HRH) Survey (2017), Shiselweni has the lowest population per nursing and midwifery personnel ratio at 12.85 per 10,000 population (Hhohho 20.09, Manzini 10.74 and Lubombo 16.78). In addition, the government of the Kingdom of Swaziland, with the assistance of its development partners, built waiting huts for pregnant women, however, they are also not functional due to the shortage of midwives.

The factors contributing to non-institutional births should be identified, investigated and addressed to enhance women's access to an institution to give birth to possibly decrease maternal and child mortality rates in Swaziland. According to the WHO (2013), access to emergency obstetric care packages is a widely accepted intervention for reducing maternal deaths.

1.3 RESEARCH PROBLEM

Swaziland is a signatory to the 1994 International Conference on Population and Development (ICPD), which emphasised the importance of investing in women's sexual reproductive health to improve their quality of life (UNFPA 2020). Some of these interventions included the development of the Swaziland Sexual Reproductive Health (SRH) policy, supportive supervision and mentoring of quality maternal health services, and conducting maternal death audits (Swaziland Millennium Development Goal Report 2015:60). However, disparities in the utilisation of maternal health

services for childbirth, which reduces prospects of safe childbirth and child survival across regions, have been noted. Also, the ambitious targets of reducing global maternal and child mortality rates were not achieved during the Millennium Development Goal (MDG) era, particularly among the most vulnerable women (Swaziland MDG Report 2015:50). Emergency obstetric care is vital to reduce maternal mortality because all five major direct causes of maternal deaths (haemorrhage, sepsis, unsafe abortion, hypertensive disorders, and obstructed labour) can be treated at a well-staffed, well-equipped health institution (UNFPA 2017).

Factors that contribute to non-institutional births need to be identified in an attempt to recommend possible interventions to enhance institutional births, to ultimately reduce the maternal and neonatal mortality and morbidity rates.

1.4 RESEARCH AIM

This study aimed to identify and describe factors associated with non-institutional births in the Shiselweni region of Swaziland, to provide recommendations to increase institutional births in an attempt to ultimately reduce maternal and neonatal mortality rates.

1.5 RESEARCH OBJECTIVES

To achieve the aim of this study, the following objectives were met:

- Identify and describe the factors associated with non-institutional births in the Shiselweni region of Swaziland.
- Identify the challenges encountered by women who had non-institutional births.
- Provide evidence-based recommendations to the Swaziland reproductive health programme planners and policymakers to assist in enhancing institutional births, facilitated by skilled birth attendants.

1.5.1 Research questions

To meet the objectives, the following core research questions needed to be addressed:

1. What factors are associated with non-institutional births in the Shiselweni region of Swaziland?
2. What challenges are faced by women who had non-institutional births?
3. What interventions can be recommended to the Swaziland SRH programme planners and policymakers to enhance institutional birth rates?

1.6 DEFINITION OF KEY CONCEPTS

1.6.1 Skilled birth attendant

Skilled birth attendants are competent maternal and newborn health professionals who are educated, trained, and regulated by national and international standards. They are competent in providing and promoting evidence-based, human-rights-based, quality, socio-culturally sensitive and dignified care to women and newborn infants. They are competent in managing labour and delivery to ensure a positive childbirth experience for women. In addition, they are competent in identifying and managing or referring women and newborn infants with health complications to appropriate levels of care (WHO, UNFPA, UNICEF, ICM, ICN, FIGO and IPA: Joint statement 2018).

1.6.2 Institutional birth

An institutional birth is defined as giving birth to a child in a health institution under the overall supervision of trained and competent health personnel (skilled birth attendant). These institutions have amenities available to handle the childbirth situation and save the life of the mother and child, if complications arise (UNICEF 2012).

1.6.3 Non-institutional birth

A non-institutional birth is when a mother gives birth at home, where she is assisted by a traditional birth attendant, neighbour, relatives, or family member. The birth takes

place outside of a health institution, or on the way to a health institution (Healthphone 2018).

1.6.4 Heath institution

A health institution or health care institution means a public, private or non-profit organisation within a state that provides health care and related services. These services include, but are not limited to, the provision of inpatient and outpatient care, diagnostic or therapeutic services, laboratory services, medicinal drugs, nursing care, assisted living, elderly care and housing, including retirement communities. Moreover, adequate equipment is available for the provision of health care and related services (WHO 2018).

1.7 OPERATIONAL DEFINITIONS

1.7.1 Skilled birth attendant

In this study, a skilled birth attendant is a doctor, midwife, or a nurse who is trained, registered and accredited with a practising certificate from the Swaziland Medical and Dental Council or from the Swaziland Nurse's Council. They should be able to manage normal deliveries, identify complications, perform essential interventions and, where applicable, supervise the referral of a mother and baby for interventions that are beyond their competence, out of their scope, or not possible in their particular setting.

1.7.2 Institutional birth

In this study, an institutional birth is any birth that takes place at a health institution under the overall supervision of a skilled birth attendant.

1.7.3 Non-institutional birth

A baby's birth outside of a health institution is deemed a non-institutional birth in this study.

1.7.4 Heath institution

In this study, a health institution means a healthy facility, namely an accredited clinic or hospital where skilled birth attendants provide maternity care and where they have access to basic obstetric care equipment.

1.8 RESEARCH PARADIGM

The research paradigm applied in this research is positivism. Positivists value objectivity and attempt to hold personal beliefs and biases in check to avoid contaminating the phenomenon under study. According to Polit and Beck (2012:30), the positivists' scientific approach involves using orderly, disciplined procedures with tight controls of the research situation to test researchers' hunches about phenomena being studied and associations among them. The research activity is directed at understanding the underlying causes of a phenomenon. In this study's context, if a woman had a non-institutional birth, the researcher assumed there must be some reasons that can be theoretically linked to the phenomenon.

1.9 THEORETICAL FRAMEWORK

The Andersen and Newman Health Care Utilisation Model (2005:12), also known as the Behavioural Model of Health Services, was adopted as the theoretical framework applicable to this study's context. This model was originally developed in 1968 by Andersen, and has been used expansively in analysing factors and inequalities that impact the utilisation of health care services. It stresses the importance of the following characteristics in the utilisation of health care services:

- characteristics of the health service delivery system,
- changes in medical technology and social norms relating to the definition and treatment of illnesses, and
- individual determinants of utilisation.

Within the Behavioural Model of Health Services, an individual's determination to utilise health services is related to three characteristics, namely a) predisposing

factors, b) enabling factors, and c) need factors (also termed ‘illness level’) (see Figure 1.1). A further explanation of each of the three classes is presented in Chapter 2 (see Section 2.2).

1.9.1 Predisposing factors

Some people have a greater propensity to use health services than others. This tendency can be predicted by personal factors that occurred prior to the onset of specific occurrences of illness. The individual predisposing factors are not directly linked to health, and they include demographic factors, social structural factors, and attitudinal-belief variables (Andersen & Newman 2005:14-15).

1.9.2 Enabling factors

Enabling factors allow individuals to use services; for example, the availability of resources such as income and access to free services. They comprise of health care financing mechanisms and the availability of health resources at individual and community levels that are compulsory in order to access and afford the services rendered in health facilities. Government health policies also fall in this category (Andersen & Newman 2005:12, 14-16).

1.9.3 Need factors

The need factors, or experience of an illness level, represent the most immediate cause of health service utilisation (Andersen & Newman, 2005). In addition to the existence of predisposing and enabling conditions, a person or their family must also consider the illness or the possibility of its occurrence for them to use health services.

1.10 RESEARCH DESIGN AND METHOD

1.10.1 Research design

Gray, Grove and Sutherland (2016:106) refer to a research design as a general plan for implementing a study, which is selected to answer specific research questions or test specific hypotheses. A non-experimental design, namely a descriptive cross-

sectional design, was considered most suitable for this study because there was no manipulation of independent variables, no intervention, and the researcher did not control the setting.

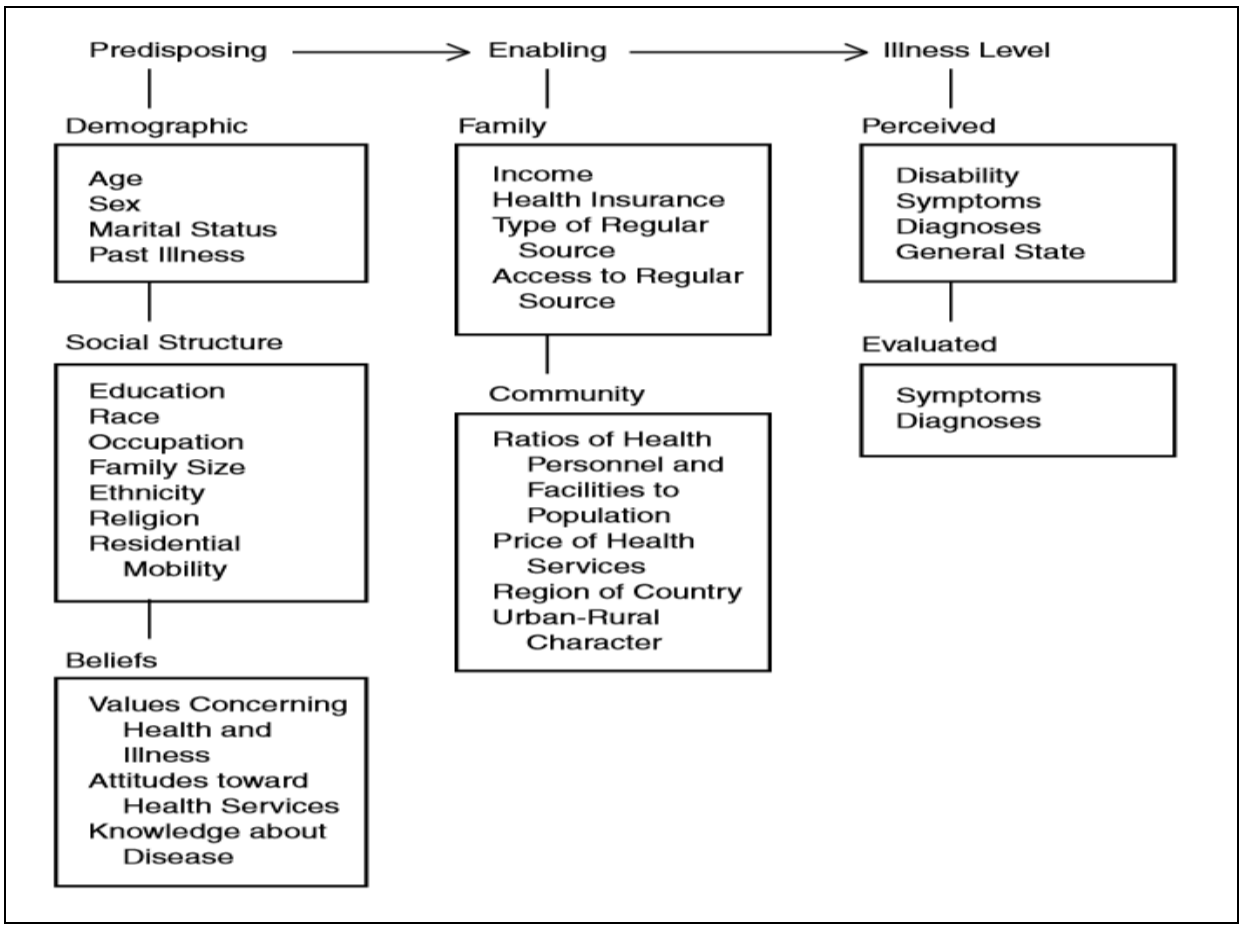

Figure 1.1: Andersen and Newman's Individual Determinants of Health Service Utilisation (2005:14)

1.10.1.1 Quantitative research

Quantitative research is defined by Gray et al. (2016:65) as a formal, objective, systematic process implemented to obtain numerical data in order to answer a research question. Statistical analyses are also conducted using controlled and precise measurements to describe variables and examine relationships or differences among people (Grove & Cipher 2019:16). The researcher incorporated logical and deductive reasoning to make generalisations about the women who experienced non-institutional births in the Shiselweni region.

1.10.1.2 Descriptive study design

Descriptive studies are usually undertaken to describe the characteristics of the group being investigated. The descriptive design is employed to discover new meaning, describe what exists, determine the frequency with which something occurs, and categorise information (Gray et al., 2016:237). The researcher implemented a descriptive approach to identify and describe factors associated with non-institutional births in the Shiselweni region.

1.10.1.3 Cross-sectional study design

According to Polit and Beck (2012:725), a cross-sectional design is a study design in which data are collected at one point in time; sometimes used to infer change over time when data are collected from different age or developmental groups. In a cross-sectional study, the researcher typically chooses the sample without reference to exposure or disease; often, the sample is drawn at random from a defined population. In this study, non-institutional births could be described with reference to younger and older, rural and urban, educated and uneducated pregnant, married and unmarried women.

1.10.1.4 Exploratory research

According to Polit and Beck (2012:18), exploratory research begins with a phenomenon of interest, but rather than simply observing and describing it, exploratory research investigates the full nature of the phenomenon, the manner in which it is manifested, and the other factors to which it is related. The researcher started with the phenomenon of interest, which is non-institutional births in the Shiselweni region of Swaziland, and investigated the associated factors.

1.10.2 Research settings

The Kingdom of Swaziland is a landlocked country in Southern Africa with a projected land area of 17,36km^2. Swaziland shares borders with Maputo Province (Mozambique) in the east, KwaZulu-Natal Province in the south and Mpumalanga

province in the north and west (Republic of South Africa). Swaziland is divided into four regions namely, Manzini, Hhohho, Lubombo, and Shiselweni. According to the National Population and Household Census (2017:13), Swaziland has a population of 1,093,238, which is made up of 531,111 males and 562,127 females. Swaziland is classified as a lower-middle-income country by the World Bank with a gross domestic product (GDP) per capita of about $3,000.

The Shiselweni region, the study's setting, is located in the southern part of Swaziland and covers an area of about 3,790km^2. Shiselweni region has a projected population of 110,876 women of childbearing age (between 14-49 years) (National Population and Household Census 2017:13). According to the MoH Shiselweni Annual Health Performance Report (2019:25), there were approximately 5,141 births, of which 429 (8%) were non-institutional. For the purpose of health management, the region is subdivided into three clusters, namely Nhlangano, Hlathikulu and Matsanjeni. The region has one regional hospital, two health centres, 36 clinics, and three public health units. According to the WHO HRH Survey (2017), Shiselweni has the lowest population per nursing and midwifery personnel ratio of 12.85 per 10,000 of the population (Hhohho 20.09, Manzini 10.74 and Lubombo 16.78).

1.10.3 Population

A population is the entire aggregation of cases in which a researcher is interested (Polit & Beck 2012: 219). The population were women aged between 14 to 49 years residing in the Shiselweni region who gave birth outside a health institution. The population for this study comprised 157 women aged between 14 to 49 years who did not deliver their babies in health institutions, in the Shiselweni region in the year 2019 (see Section 3.5).

1.10.4 Sampling and sample

Sampling is the process of selecting cases to represent an entire population so that inferences about the population can be made. Samples are sometimes selected in multiple stages, in what is called 'multistage sampling'. In the first stage, large units (such as hospitals or nursing homes) are selected. Then, in a later stage, individual

people are sampled. In staged sampling, it is possible to combine probability and nonprobability sampling (Polit & Beck 2012:275). Multistage sampling was employed for this study to identify a sample of 157 women who had non-institutional births in the Shiselweni region of Swaziland during 2019 (see Section 3.5.4).

1.10.5 Data collection

A questionnaire that included closed-ended questions and open-ended questions for qualitative enhancement was developed, after a thorough literature review was conducted to gather the data (see Section 3.6.4).

1.10.6 Data management and analysis

All completed questionnaires were checked by the researcher for completeness and the data were coded and entered into SPSS version 23 for analysis. A statistician (see Annexure 13) was recruited to assist in analysing the data. Frequencies and measures of variation were used to describe the study population in relation to socio-demographic and other relevant variables. The results for this study are presented in text form, tables, bar graphs and pie charts using Microsoft Excel. Inferential statistics, Pearson's r, chi-square and Fisher exact test were also adopted for a comparison of variables. The p-value of less than 0.05 was considered statistically significant.

The qualitative responses to open-ended questions were open coded (see Section 3.6.5).

1.10.7 Validity

Validity is concerned with the accuracy and truthfulness of scientific findings and confirms the suitability of the data collection instrument for the purpose for which it was intended (Grove, Burns & Grey 2013:394). The researcher extensively reviewed the literature and consulted with professional colleagues prior to designing the data collection instrument. A scientific committee reviewed the instrument, it was pre-tested, and suggested amendments were made (see Section 3.8).

1.10.8 Reliability

Reliability is related to the precision of data collection methods and measures the proportion of the true variance of the measured variance (Miller, Strang & Miller 2010:13). The statistician assessed the questionnaire for imprecisions, consistency and ambiguity, and recommendations were made to enable the researcher to attain information that would answer the research questions. The reliability measures undertaken are presented in Chapter 4 of this study.

1.10.9 Ethical considerations

Ethical approval for the study was obtained from the Health Studies Research Ethics Committee, University of South Africa (see Annexure 9). The Swaziland National Health Research and Review Board, Shiselweni principal health administrator, and the regional public health matron also gave their permission before the researcher embarked on the study (see Annexures 10 and 11). The ethical principles – respecting the right of institutions, informed consent from all human respondents, full disclosure, beneficence, non-maleficence, confidentiality, and anonymity – were adhered to as described in full in Chapter 3.

1.11 SIGNIFICANCE OF THE STUDY

The Kingdom of Swaziland continues to have an unacceptably high maternal mortality ratio of 437 per 10,000 live births (Swaziland National and Household Population Census 2017), despite the high rates of skilled birth attendance of 88.3% (MICS 2014). Maternal, infant and neonatal mortality rates are benchmarks for the quality of maternal and infant care of a country (Carlo & Travers 2016:543-545). Unfortunately, these are marked by extreme disparity, not only in terms of access but also in the quality of care. Research has revealed that inequalities in access to maternal health services start before a woman gives birth and continues into the critical early years of her child's life (UNICEF 2016).

The MDGs' targets of reducing maternal and infant mortality were not achieved in Swaziland (MDG Report 2015:60). Given the importance of integrating and

synchronising interventions to monitor progress towards the achievement of SDGs, which aim to improve maternal and child health, it is important to attain a set of priority actions to guide programme development and implementation procedures. The process of priority setting starts with an assessment of the circumstances women who had non-institutional births faced in their environment. The findings of this study are intended to provide recommendations to increase institutional births in an attempt to ultimately reduce maternal and neonatal mortality rates.

1.12 OUTLINE OF THE STUDY

This dissertation embraces the following five chapters:

Chapter 1: Orientation to the study
Chapter 2: Literature review
Chapter 3: Research design and methodology
Chapter 4: Data analysis and interpretation
Chapter 5: Conclusions, limitations and recommendations

1.13 CONCLUSION

Chapter 1 presented an overview of the study. This included the research methodology, study design, study population, sample selection procedures, research instrument, data collection procedures, ethical considerations, and the data analysis procedures that were utilised. Chapter 2 will provide a description of the reviewed literature relevant to factors that might be associated with non-institutional births. This review formed the background for the development and description of the questionnaire.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 provides an outline of the literature review relevant to the study objectives. A literature review, as defined by Polit and Beck (2012:732), is a synthesis of the literature that describes what is known or has been studied in relation to a particular research question or purpose. In the context of this study, the purpose of the literature review was to review the contemporary knowledge available of the non-utilisation of maternal health services, and non-institutional births.

2.1.1 Scope of the Literature review

The literature review focused on the factors associated with non-institutional births using Andersen and Newman's theoretical framework as a guide. Publications and research reports associated with non-utilisation of maternal health services for childbirth were searched using numerous databases in the Walden Library (MEDLINE, CINAHL Plus, ISI web of science, Nursing and Allied Health Source, Social Science Direct, SAGE), and websites of multilateral organisations of the United Nations' Systems (WHO, UNICEF, UNFPA) using Google scholar, PUBMED and EBSCO Host search engines. The keywords used to conduct the literature review were: 'institutional births', 'home delivery', 'determinants of home births', 'non-institutional births', 'out of facilities delivery', 'barriers of facility delivery', 'maternal and child mortality', and 'determinants of utilisation of skilled birth attendants'. Priority was given to articles and reports published between 2015 and 2020.

Peer-reviewed studies and multi-country surveys using both qualitative and quantitative methods, conducted particularly in developing countries and published in English, were included.

2.1.2 The importance of a literature review

A literature review forms the nucleus of all studies. It is a scientific investigation to scrutinise and validate existing information. According to Polit and Beck (2012:95), by doing a thorough review, researchers can determine how best to make a contribution to existing evidence. For this study, relevant literature was studied to generate a picture of what is known and not known about the factors associated with non-institutional births. To guide the literature review, a focus question was formulated.

2.1.3 Focus question

A focus question is required to effectively conduct a literature review (Gray et al., 2016:276). The formulated focus question for this research study was: *What factors are identified in the literature that can be associated with non-institutional births?*

2.1.4 Sources of literature review

The reviewed sources comprised mostly of primary sources and, to a limited extent, secondary sources. The relevant literature was obtained from various formats, including journals, books, reports, dissertations, conference proceedings and guidelines through electronic searches and the UNISA Library. The theoretical background of global, regional and national factors associated with non-institutional births was used to conduct the literature search.

2.2 FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS

A brief outline of Andersen and Newman's framework of health service utilisation was highlighted in Chapter 1 (see Section 1.9). The purpose of this framework was to determine conditions that either facilitate or impede health service utilisation. This chapter focuses more on the elucidation of the framework. Some of the factors associated with non-institutional births can be demonstrated using this framework as background because, according to Andersen and Newman (2005), the utilisation of health services is linked to three characteristics:

- Predisposing factors
- Enabling factors
- Need factors

2.2.1 Predisposing factors to institutional births

Some individuals have a greater propensity to utilise health services than others. This tendency can be predicted by individual characteristics which exist prior to the onset of a specific symptom (Andersen & Newman 2005:15). In the context of this study, they include demographic, social, structural, and attitudinal-belief characteristics which occur prior to the onset of pregnancy or childbirth. Although these characteristics are not directly associated with health service utilisation, people with these characteristics are motivated to use health services.

2.2.1.1 Demographic factors

According to Andersen and Newman's Health Care Utilisation Model (2005:12), demographic factors can be predisposing components influencing health care utilisation. Demographic factors such as maternal age, marital status, parity and gravidity, in the context of this study, can therefore motivate or hinder some women from using health institutions for childbirth.

2.2.1.1.1 Maternal age

Studies across sub-Saharan Africa have identified maternal age as a significant predictor of maternal health care utilisation (Abdella, Abraha, Gebre & Reddy 2017:36; Chamileke 2017:150; Tsawe & Susuman 2014:723), although the findings show some discrepancies between younger and older women. Pregnant adolescents (10-19 years) have a higher risk of obstetric complications due to their physical and psychological immaturity (WHO 2020). However, as they face social consequences such as stigma, rejection or violence by partners, parents, peers and health care workers (WHO 2020), they often opt for non-institutional births (Karkee, Lee & Pokharel 2014:45). A study conducted in the Kingdom of Swaziland also revealed that

adolescents were subjected to discrimination by health care workers, therefore they were less likely to use contraceptives leading to more unintended pregnancies (Hultstrand, Tyden, Jonsson & Malqvist 2019:1-6) and the non-utilisation of health institutions (Boah, Mahama & Ayamga 2018:125; Abdella et al., 2017:34).

Sialubanje Massar, Hamer and Ruiter (2015:216) reported that women older than 35 years are more likely to suffer from adverse pregnancy outcomes, consequently prompting them to give birth at health institutions where they can be assisted by skilled personnel (Adedokun & Uthman 2019:93). Older women have also accumulated more life experience and knowledge, also pertaining to the advantages of using maternal health services; therefore, they are more likely to choose an institution in which to give birth to their babies (Bayou 2014:35).

2.2.1.1.2 Marital status

Marital status may influence the choice of a planned place for childbirth (Ogolla 2014:3; Abeje, Azage & Setegn 2014:22). Divorced, married and widowed women are more likely to opt for institutional births compared to single women (Envuladu, Agbo, Lassa, Kigbu & Zoakah 2013:23-27; Kifle, Kesete, Gaim, Angosom & Araya 2018:22), possibly due to a lack of spousal support. Apart from providing emotional support, husbands play a critical role in facilitating institutional births by accompanying their wives, arranging transport, and providing financial support (Bohren, Hunter, Munthe-Kaas, Souza, Vogel & Gulmezoglu 2014:71; Karkee et al., 2014:3). Although male involvement is a crucial social factor for positive maternal and child health outcomes, patriarchy in some parts of developing countries has contributed to poor attitudes among men towards the utilisation of maternal health services (Craymah, Oppong & Tuoyire 2017:10).

Social norms require women to get married and bear children. Conversely, single women, experience stigma for having children (Oyewale & Mavundla 2015:11). High rates of unintended pregnancies, resulting in a lack of financial support from partners (Samba, Attia-Konan, Sangaré, Youan, Kouadio & Bakayoko-Ly 2020:1-8), can contribute to the non-utilisation of maternal health service.

2.2.1.1.3 Gravidity and Parity

Gravidity and parity have been reported in the literature to have a strong influence on maternal health-seeking behaviour for childbirth (Ndao-Brumblay, Mbaruku & Kruk 2013:651). Study findings in Tanzania and Kenya revealed that multi-gravida and multi-para women had a low tendency to access health institutions to give birth (Exavery, Kanté, Njozi, Tani, Doctor, Hingora & Phillips 2014:48; Kitui, Lewis & Davey 2013:6). The absence of an extended family and a lack of male involvement to assist with the care of siblings, also compelled Indian women to opt for non-institutionalised births (Devasenapathy, George, Jerath, Singh, Negandhi, Alagh, Shankar & Zodpey 2014:4). Moreover, women in low-income countries have more pregnancies than women from high-income countries, increasing the incidence of non-institutional births and the risk of maternal deaths (WHO 2019).

A significant number of primigravidas are adolescents or single women, who fear reprehension from parents for indulging in early sex, and they do not seek ANC and are thus unprepared and lack knowledge of the signs of labour. These are all contributing factors that prompt them to give birth at home (Abdella et al., 2017:36; Ogolla 2014:3; Mulugeta, Giru, Berhanu & Demelew 2020:15).

Other studies have reported that multigravida and multiparous women in Afghanistan, contradictory to what is expected and mentioned pertaining to a woman's age (Azimi, Najafizada, Khaing & Hamajima 2015:133), were more likely to opt for non-institutional births.

2.2.1.2 Social structural

Social structure variables reflect the social status individuals have in society and are measured by characteristics such as education, religion, employment status and health beliefs; these may influence maternal health care use (Mekonnen, Lerebo, Gebrehiwot & Abadura 2015:376; Karkee, Lee & Khanal 2014:5; Andersen & Newman 2005:15). Some households consist of extended family members where adult men and in-laws play a critical role in decision-making, including in terms of the use of maternal health services (Atuoye Barnes, Lee & Zhang 2020:1-14).

2.2.1.2.1 Education level

Education is one of the key determinants of maternal health care utilisation (Rutaremwa, Wandera, Jhamba, Akiror & Kiconco 2015:271). Several studies across and within developing countries, have verified that highly educated women are more likely to utilise institutional birth services (Ejeta & Nigusse 2015:36-42; Mekonnen et al., 2015:376; Rutaremwa et al., 2015:271). This finding is possibly related to the higher education level enhancing female empowerment and autonomy regarding the benefits of institutional births (UNFPA 2020). Educated women are likely to be aware of possible complications and can often afford quality maternal health care services, thus opting for institutional births more often than uneducated women (Abdella et al., 2017:36).

The partners' or husband's education level also positively influences institutional births (Sayih 2014:37; Tsegay, Aregay, Kidanu, Alemayehu & Yohannes 2017:289). Educated men may be knowledgeable about maternal and child health issues and can play a significant role in convincing women to opt for institutional births (Dixit & Dwivedi 2017:2).

2.2.1.2.2 Religion

Religious beliefs and practices have the potential to exert influence on women's behaviour and health-related practices, such as where to give birth and whether to utilise institutional birth services (Ganle, Obeng, Segbefia, Mwinyuri, Yeboah & Baatiema 2015:11-14). Unlawful bodily exposure or contact, insensitivity, and a lack of knowledge about Muslims' religious and cultural practices were reported as religious barriers for institutionalised births (Feyissa & Genemo 2014:5). Christian women have also been found to be more likely to choose to give birth in an institution due to less rigorous religious restrictions (Solanke, Oladosu, Akinlo & Olanisebe 2015:12).

2.2.1.2.3 Employment status

Large discrepancies have been reported in the literature in relation to institutionalised births between employed and unemployed individuals, as well as related economic

status (Yaya, Bishwajit, Uthman & Amouzou 2018:8; Bohren et al., 2014:15). Notwithstanding the fact that most women would prefer to give birth in health institutions, their inability to afford the related costs may prohibit them from giving birth in an institution (Geleto, Chojenta, Musa & Loxton 2018:183; Yaya et al., 2017:9). Resources, such as income and free service delivery, can be seen as an enabling factor (Andersen & Newman 2005:14-16) that would promote women's decision to give birth in a health institution.

2.2.1.2.4 Health belief

Health beliefs are people's attitudes, values and knowledge about their health and the quality of health services which can motivate them to use services (Andersen & Newman 2005:14). Different cultures have different perceptions, attitudes, and practices of what constitutes health and the causes of illness. Health belief is a direct reason for the utilisation of health services, and Andersen and Newman (2005:15) reported that health beliefs result in an inclination towards using health services. For example, women who recognise the benefits associated with institutional births might seek institutional birth services more readily than those lacking knowledge (Abdella et al., 2017:36; Grum, Seifu, Abay, Angesom & Tsegay 2017:1-7).

Knowledge is thus a significant factor in health-seeking behaviour, including in maternal health care, where birth preparedness has the potential to increase women's utilisation of health institutions for childbirth (Karkee et al., 2014:1041).

The Eswatini ANC Guidelines (2020:7) recommend at least eight comprehensive antenatal care (ANC) contacts, contributing to good relationships with health providers and improved knowledge about the advantages of institutional births. Knowledge about possible obstetric complications and early diagnosis of complications positively influence institutional births (Bohren et al., 2014:17; Grum et al., 2017:307).

2.2.2 Enabling factors to utilise maternal health services

Some factors enable women to utilise specific health services. These include financial resources, health insurance, maternity waiting huts, and community attributes, as discussed next (Andersen & Newman 2005:14).

2.2.2.1 Financial resources

The availability of financial resources, thus the wealth of women, directly impacts on their utilisation of maternal health services (Kitul et al., 2013:7; Abdella et al., 2017:35). Andersen and Newman (2005:15-16) also emphasise individual resources, such as financial resources, health insurance, and the availability of maternity waiting huts (Scott, Henry, Kaiser, Mataka, Rockers, Fong Ngoma, Hamer, Munro-Kramer & Lori 2018:589; Mekonnen et al., 2015:6) as promoting the utilisation of health services. Socio-economic barriers are thus preventing women from accessing health services.

Several studies cited economic status and financial resources as a significant determinant of institutionalised births (Ogolla 2014:3; Mekonnen, Ayichiluhm & Dejenu 2015:6; Atuoye et al., 2020:1-14). Women from rich households are more likely to give birth in an institution (Mekonnen, Ayichiluhm & Dejenu 2015:6). Travel costs and fear of unofficial payments are perceived as barriers to health institution births despite subsided or free maternal health services being available in most developing countries (Kifle et al., 2018:22; Kitul et al., 2013:9).

2.2.2.2 Health insurance

Having health insurance increased a woman's likelihood of giving birth in a health institution (Kitul et al., 2013:7; Ogolla 2015:3). Nigerian women who were members of a saving group were two times more likely to give birth in a health institution compared to non-members (Yahya & Pumpaibool 2019:7). Women's inability to pay for maternal health services is therefore a significant barrier for institutionalised births (Kitui, Lewis & Davey 2013:40).

2.2.2.3 Maternity waiting huts

According to UNFPA (2020), maternity or birth waiting homes have managed to address barriers and transport problems for women to access maternal health care services in remote and rural areas of developing countries. Health facilities with maternal waiting huts reported significantly improved institutional-birth numbers (Ruiz 2010:127). Despite the availability of waiting huts, if women have to travel long distances, have a lack of transport, and do not have adequate knowledge about the availability of maternity waiting facilities, they will not utilise the service (Ayele, Melku & Belda 2019:1501).

2.2.2.4 Community attributes

The attributes of the community, identified as enabling factors for the utilisation of health care services, include the availability of health personnel and the urban and rural characteristics of the community. Health policies also fall into the category of contextual enabling factors (Andersen & Newman 2005:14-16).

2.2.2.4.1 Availability of health personnel

The health care worker/client ratio has an impact on maternal health service utilisation. Notwithstanding that most women prefer to give birth in health institutions, health system factors such as understaffing and high patient loads were perceived barriers to institutionalised births (Bohren et al., 2014:6; Devasenapathy et al., 2014:5).

The WHO recommends a minimum staff-population ratio of 2.5 doctors, nurses and midwives per 1,000 people; however, the staff-population ratio in Swaziland is low at 1.69 per 1,000 in the public sector (WHO HRH Survey 2017:36). Rural areas are most affected by health care worker shortages due to their migration to urban areas for better opportunities.

2.2.2.4.2 Urban and rural characteristics

Various systematic reviews and analytical studies emphasised the disparities between women living in urban areas and rural areas, and the utilisation of maternal health services. These differences might be attributed to low education level, lower decision-making autonomy, and less access to information among rural women, compared to urban women (Kisiangani, Elmi, Bakibinga, Mohamed, Kisia, Kibe Otieno, Afeich, Nyaga, Njoroge & Noor 2020:1-12).

Also, despite efforts by some governments to offer free or subsided maternal health services, women living in rural areas still experience difficulties in travelling long distances and accessing timely and appropriate transport services (Kisiangani et al., 2020:10).

2.2.3 Need factors

2.2.3.1 Perceived need

When the predisposing and enabling factors for health service utilisation are met, an individual's motivation to seek health services is influenced by their perception and clinical judgement of their own health (Andersen & Newman 2005:16).

A person or their family must perceive illness (perceived need) or the possibility of its occurrence for them to experience a need to utilise health services. Need factors or the experience of an illness represents the most immediate cause of health service utilisation (Bayou 2014:35; Andersen & Newman 2005:14-16). According to Andersen and Newman (2005:14-16), a 1) perceived need is important for individuals to understand their own health, seek health services and adhere to medical treatment, while 2) an evaluated need is more closely related to the nature and amount of treatment required (Andersen 1995:14-16). In this study's context, a woman's need for health services may be influenced by previous pregnancies and childbirth experiences, or individual preferences.

2.2.3.1.1 Antenatal care visit and birth preparedness

According to the WHO (2020), antenatal care presents an important opportunity for pregnant women to interact with health care providers and familiarise themselves with the health institution environment. Each visit creates an opportunity for shaping women's perception and overall awareness of pregnancy complications and aids them in developing a birth-preparedness plan (Bayou 2014:37). Several studies revealed strong associations between ANC attendance and the use of health institutions for childbirth, with women who attended ANC being more likely to have institutional births (Kidanu et al., 2017:1-7; Ifa & Teferi 2019:38-43). Contrary to these findings, antenatal visits did not necessarily guarantee facility deliveries, as 52.2% of mothers gave birth at home in Ghana despite attending ANC (Amangbey, Akuu & Tabase 2018:34).

The WHO (2001) proposed the Focused ANC (FANC) approach for developing countries to improve pregnancy and childbirth outcomes (WHO 2001). Since 2001, Swaziland has been implementing this approach to reduce the number of ANC visits during pregnancy, placing more emphasis on birth preparedness and the identification, prevention and management of life-threatening complications during pregnancy, labour and childbirth (MoH SRH strategy 2012:36). A study by Mulima (2014:15) in Swaziland, revealed a poor compliance rate (0.87%) to the FANC visit schedules and late first ANC booking (only 23% at 14 weeks or earlier), despite the national target to achieve 75% target for both indicators.

2.2.3.1.2 Unintended pregnancies

Women's pregnancy intentions have a significant influence on health institution utilisation (Mwinyikione 2017:63). According to the WHO (2019), unintended pregnancies remain a critical obstacle to improve maternal and child health outcomes, including social and economic development, education, and women's empowerment. Globally, 74 million women living in low- and middle-income countries have unintended pregnancies, leading to 25 million unsafe abortions and 47,000 maternal deaths annually (WHO 2019). Unintended pregnancies have also been reported as barriers to institutionalised births; mothers whose index child was planned, were reported to be more likely to give birth at health institutions compared to those who had unintended

pregnancies (Arba, Darebo & Koyira 2016:9). According to the WHO (2019), high-quality modern contraceptives play a crucial role in averting unintended pregnancies and offers a wide range of potential positive outcomes for maternal and child health.

2.2.3.2 Evaluated need

The evaluated need component, as described by Kaplan, Friedman, Andersen and Davidson (2001:3), presents the professional assessments and objective measurements of patients' health status and the need for medical care. Several studies illustrated that women who experienced complicated pregnancies were more likely to give birth in health institutions (Abdella et al., 2017; Bayu, Fisseha, Mulat, Yitayih & Wolday 2015:8). However, this depends on the quality of maternal health care offered at the health institution.

Prior experience and the experience of friends, neighbours or a family member also played a significant role in women opting for institutional births. Positive experiences facilitated institutional births, whereas negative experiences were barriers to institutional births (Devasenapathy et al., 2014:7).

2.2.3.2.1 Quality of maternal health care

The perceived quality of maternal health care, including the attitudes of health care workers, is an important independent predictor of delivery setting. Respondents who reported higher satisfaction levels with regard to quality maternal health institutions were more likely to utilise them for childbirth (Kifle et al., 2018:13). Poor infrastructure, including the lack of a warm environment, unavailability of necessary equipment, incompetent health care workers, and lack of privacy have been cited as barriers to institutionalised childbirth (Bohren Berger Munthe-Kaas & Tunçalp 2019:6; Kifle et al., 2018:22).

The bed capacity, private spaces available to give birth in an institution, hours of waiting before being assessed, and a lack of skilled midwives are also factors influencing women's choice to give birth in an institution in Togo and South Sudan (Lawry, Canteli, Rabenzanahary & Pramana 2017:12; Mugo, Dibley, Damundu & Alam

2018:8). Moreover, in low-income countries, verbal and physical abuse during childbirth were highlighted as forms of abuse preventing women from choosing institutional births (Bohren et al., 2019:1750-1763).

2.3 GLOBAL INITIATIVES FOR IMPROVING MATERNAL HEALTH OUTCOMES

Reproductive, maternal, newborn and child health (RMNCH) has been a priority for both governments and civil society in low- and high-income countries. Various initiatives were launched to address maternal and child health, namely the Safe Motherhood initiative (1987), the MDGs (1990-2015) and SDGs (2016-2030). These were affirmed global targets established by world leaders over the years, and each is discussed next.

2.3.1 Safe Motherhood initiative

The International Conference on Safe Motherhood, held in Nairobi, Kenya, in February 1987, issued a Call to Action urging the Member States of the United Nations to improve health conditions for women in general, and to precisely reduce maternal mortality. Safe motherhood encompasses a series of initiatives, practices, protocols and service delivery guidelines designed to ensure women are provided with high-quality maternal health care services (Policyproject 2020).

The first global and regional maternal mortality estimates were calculated only after the formation of the Safe Motherhood initiative, revealing the most dramatic public health gaps between rich and poor countries (WHO 2019). The primary goal of Safe Motherhood – of reducing maternal deaths by half – did not yield expected rewards in women's reproductive health issues in developing countries. However, it contributed greatly in setting the stage for more current and rigorous efforts and policies to promote maternal and child health (Kyei-Nimakoh, Carolan-Olah & McCann 2016:7).

2.3.2 Millennium Development Goals (MDGs)

As stated, the Safe Motherhood initiative did not yield expected rewards in women's reproductive health issues in the developing world (Safe Motherhood Technical Consultation Report 1998:9). To address this concern, the United Nations' MDGs were launched in 2000. Eight goals were approved by 91 United Nation member states, and they all agreed to try to achieve these by the year 2015. These goals were dedicated to combating poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. They were also inter-dependent; all of them influenced health, and health influences all of the MDGs. According to the WHO (2019), MDG 5 was meant to improve maternal and child health by reducing maternal mortality by 75% (MDG 5a) and achieving universal access to reproductive health by 2015 (MDG 5b) (WHO 2019).

Significant progress was made in reducing global maternal deaths during the MDG period; maternal mortality declined by 37% and births attended by skilled birth attendants increased from 56% to 68% between 1990 and 2015 (UN MDG report 2014). Yet the targets for MDG 5 were not realised by many sub-Saharan African and southern Asian countries (WHO 2014). Although global maternal mortality in 2015 was 216 per 100,000 live births, in sub-Saharan Africa, the rate was more than double at 546 per 100,000 live births (UN MDG report 2014).

Despite focused efforts to achieve the MDGs, many countries lacked comprehensive health financing, leading to high out-of-pocket payments and financial catastrophes or impoverishment for families. There were also major inadequacies in the health care workforce and infrastructure (especially in the rural areas) (WHO 2015).

2.3.3 Sustainable Development Goals (SDGs)

Globally, despite a significant reduction in the number of maternal deaths from an estimated 523,000 in 1990 to 289,000 in 2013, the rate of decline was less than half of what is needed to achieve the MDG target of a three-quarter reduction by 2015. The proportion of births attended by a skilled birth attendant was crucial for reducing

perinatal, neonatal and maternal deaths, and was above 90% in other countries, while it remained at 51% in the African region (WHO 2018).

The SDGs were 17 goals established by world leaders to build on and complete what was not achieved by the MDGs for the period 2016 to 2030. The SDGs provides an ambitious, comprehensive plan of action, and aims to achieve universal health coverage (UNDP SDGs 2019).

SDG 3 aspires to ensure health and well-being for all at all ages and reaffirms a global commitment to reducing the maternal mortality ratio to less than 70 per 100,000 per live births. Reflecting its importance in reducing maternal morbidity and mortality, skilled birth attendance was also included as indicator 3.1.2 under the SDGs (UNICEF 2019). To function effectively, the skilled birth attendants need to be supported by appropriate policies, essential supplies (including medicines), and operate under appropriate regulatory frameworks (WHO 2019).

2.4 OVERVIEW OF MATERNAL HEALTH

2.4.1 Maternal health in developing countries

Globally 584,000 women are still dying each year due to complications related to pregnancy and childbirth; 90% of these deaths occur in sub-Saharan Africa and Asia, making maternal mortality the health statistic with the greatest discrepancy between developed and developing countries (Safe Motherhood Technical Consultation Report 1998:9).

In the developing world, a woman has a 1 in 76 lifetime risk of maternal death, compared with a probability of 1 in 8,000 for women in developed countries (UNICEF 2009). The vast majority of maternal deaths occur in developing countries (99%), where high fertility rates, a shortage of skilled birth attendants, and weak health systems spell tragedy for many young women. In developing countries, home births are unplanned and mostly conducted in the absence of skilled birth attendants, in an unclean environment, and using unsterilised equipment.

According to the WHO (2019), very few developed countries have accurate data on maternal and newborn deaths and morbidities, and less than one developing country in three reports national data on postpartum care. Since most developing countries have deficient civil registration systems, the maternal mortality rate tends to be estimated using population-based surveys, such as the Demographic and Health Surveys (DHS). These surveys tend to give imprecise estimates with wide confidence intervals, making them difficult to use in monitoring the implementation of maternal health programmes (Improving the quality of maternal and neonatal health services in Swaziland: A Situational Analysis report 2011:18).

Maternity waiting homes (MWHs) are residential facilities where women who live in remote areas can wait before giving birth at a hospital. According to the WHO (2020), the aim of implementing a MWH strategy in many developing countries, is to reduce maternal and perinatal mortality by improving access to skilled birth attendance and emergency obstetric care, particularly for women in rural and remote areas. However, MWHs differ in structure and provision of services, resulting in varying degrees of success. Although maternity homes had been constructed and introduced in rural Nepal, they were not effectively used by pregnant woman, possibly due to them being unaware of their availability, or the lack of adequate facilities (Karkee, Lee & Binns 2013:13). A national facility assessment in Ethiopia on all MWHs, discovered that most MWHs did not provide food, and health care workers were unavailable to clean and maintain them (Gaym, Pearson & Soe 2012:50). There was also a lack of space to accommodate relatives, and the absence of staff at night and during weekends were among the grievances raised. The quality of MWH facilities proved to affect institutional birth rates. Moreover, Zambian women expected health care workers to check on them while they were at the MWHs and assist with their transfer to delivery rooms at the onset of labour (Henry, Semrau, Hamer, Vian, Nambao, Mataka & Scott 2017:68).

In some developing countries, cash incentives are provided to encourage pregnant women to use health institutions for childbirth (Vellakkal, Reddy, Gupta, Chandran, Fledderjohhann & Stuckler 2017:55). Yet poor maternal infrastructure and quality of care also contributed to non-institutional births in India (Vellakkal et al., 2017:55-65).

2.4.2 Maternal health in Africa

Although pregnant women need basic access to maternal health services, there are a limited number of health institutions in Africa that are well-equipped to provide comprehensive emergency obstetric care (UNFPA 2013). Approximately 50% of the 123 million African women who give birth each year receive antenatal, delivery and newborn care (UNFPA 2013). The lifetime risk of a woman dying from pregnancy complications is 1 in 4,700 in the developed countries, but it is 1 in 39 in developing nations (WHO 2012). According to UNICEF (2019), sub-Saharan Africa has the highest burden of maternal deaths, with only 57% of births taking place at a health institution, assisted by a skilled birth attendant.

Maternal health in sub-Saharan Africa is also severely affected by HIV (Lathrop, Jamieson & Danel 2014:213-215), as HIV-infected pregnant women have a higher risk of dying during pregnancy and in the postpartum period compared to HIV-negative pregnant women (Calvert & Ronsmans 2014:1075-1076). Still, maternal mortality related to HIV/AIDS in sub-Saharan Africa has declined because of the increased availability and access to antiretroviral medication (Filippi, Chou, Ronsmans, Graham & Say 2016:53).

2.4.3 Maternal health in Swaziland

In 2000, the Kingdom of Swaziland signed the United Nations Millennium Declaration and in so doing, embraced the MDGs, thus pledging to achieve them by 2015. Although significant progress has been made towards the achievement of the universal access to reproductive health services in Swaziland (for example, the proportion of births assisted by a skilled birth attendant was at 88%, and institutional births was reportedly 87.7%), maternal death rates remained unacceptably high at 437 per 100,000 live births in 2017 (UNFPA 2017).

Swaziland also signed the United Nations Agenda of SDGs in 2016, which requires the country to reduce maternal deaths from the current rate of 437 per 100,000 live births to less than 70 per 100,000 live births by 2030. As reported by UNFPA (2020), maternal deaths in Swaziland are attributed to poor maternal health care, inadequate

access to skilled birth services, gender inequality, socio-cultural barriers, as well as HIV/AIDS. The country has a limited number of health facilities that provide maternity services (labour and delivery services), and most do not meet the full complement for emergency obstetric neonatal care (Swaziland MGD report 2015:60).

Some interventions to curb maternal mortality in Swaziland include supportive supervision visits to improve the quality of maternal health care. The Maternal Death Surveillance and Response (MDSR) system was also developed, and maternal death audits are conducted. However, the Shiselweni region has the fewest health institutions that provide basic emergency obstetric and newborn care packages (SAM 2013:92). Although waiting huts have been built by government and its stakeholders at the regional referral hospital, they have not been functional due to a shortage of midwives (Shiselweni Annual Health Performance Report 2018:63). As a result, the large number of unattended home births remains an important barrier to reducing maternal mortality worldwide, particularly for developing countries like Swaziland. A shortage of skilled (midwives and obstetric) health care workers, lack of retention in rural areas, children's education and perception of a better urban life (WHO HRH Survey 2017:38), are challenges in maintaining quality care related to institutional births in the Shiselweni region of Swaziland.

2.5 NON-INSTITUTIONAL BIRTHS AND MATERNAL AND CHILD HEALTH

In developed countries, planned home births are increasingly becoming more popular among women with a low-risk of obstetric complications, possibly due to a friendly home environment and the support of qualified midwives (Nygaard & Kesmodel 2018:1155-1156). However, with obstetric intervention (such as epidural analgesia, electronic foetal heart monitoring and episiotomy) rates being lower among women with planned home births than those with planned institutional births, the risks of perinatal death and other adverse neonatal outcomes are higher (Snowden, Tilden, Snyder, Quigley, Caughey & Cheng 2015:2642-2653).

Most maternal deaths can be preventable if all women have access to high-quality care during pregnancy and after childbirth (WHO 2019). According to the Centre for Disease Control and Prevention (CDC 2019), approximately a third of maternal deaths

(31%) happen during pregnancy, a third during childbirth (36%) itself, and a third (33%) in the postpartum period. Thus, institutional births are essential to ensure that women receive quality care and deliver a baby in an enabling environment that is prepared for an emergency (Tripathi, Srivastava, Memon, Nair, Bhamare & Srivastava 2019:8; Devkota, Clarke, Murray & Groce 2017:9). Institutional births increase women's access to appropriate equipment, and supplies are available when needed.

In developing countries (mostly in rural and community settings), non-institutional births frequently occur in an environment with unsterile equipment, overseen by unskilled birth attendants, leading to poor outcomes for both mother and baby. Moreover, infection is a leading cause of the annual global maternal and newborn morbidity and mortality rate, responsible for an estimated 10.7% of all maternal and 44% of all newborn deaths (Lassi, Fisher, Andraweera, Cummins & Roberts 2020:3; Morrison, Jacoby, Ghimire & Oyloe 2015:27). Puerperal sepsis can be eliminated if good hygiene is practised and if early signs of infection are recognised and treated in a timely manner by skilled birth attendants. Also, pre-eclampsia can be detected early in an institution or when a woman is attending ANC, thus lowering her risk of developing eclampsia (WHO 2011).

2.6 SKILLED BIRTH ATTENDANCE AND MATERNAL AND CHILD HEALTH

The advantages of giving birth with the assistance of a skilled birth attendant (Tripathi et al., 2019:9) must be understood to motivate women to access maternal health services and improve institutionalised births. Skilled birth attendants are professional health care workers (doctors, nurses or midwives), who are educated and professionally trained to competently manage pregnancies, childbirth, and the immediate postnatal period (WHO 2004). Within this study's context, a skilled birth attendant must be trained by an accredited nursing or medical college or university and registered with the Eswatini Nurses Council. Throughout pregnancy, skilled attendants monitor the progress of the pregnancy, identify complications, provide preventive measures, develop birth and emergency plans with the woman and her family, and advise them on health, lifestyle and nutrition during ANC visits.

During childbirth, from the first stage to the third stage of labour, skilled birth attendants monitor and assess the progress of labour, the maternal and foetal condition, support the women to comfort them, and plan timely interventions if needed (WHO 2008). Conversely, non-skilled birth attendants, including traditional birth attendants, can neither predict nor appropriately manage complications such as haemorrhaging or sepsis, which are the leading causes of death during and after childbirth (UNICEF 2019), because they are not trained to do so.

Unidentified poor progress of labour and obstructed labour is associated with a high burden of morbidity and disability (Black, Laxminarayan, Temmerman & Walker 2016:8). It is therefore vital that all births are attended by skilled birth attendants, as timely management and treatment of complications can reduce maternal and infant morbidity and mortality (State of the World Midwives' Report 2014).

Also, if oxytocic drugs are administered immediately after childbirth, it effectively reduces the risk of postpartum bleeding (World Health Report 2005). However, these drugs and can only be provided by skilled birth attendants who are registered or legally licenced nurses, midwives or doctors.

2.7 CONCLUSION

The reviewed literature covered factors pertaining to maternal non-institutional births across low-income countries and, to a lesser extent, it also included high-income countries. The literature was presented according to the major components of Andersen and Newman's Behavioural Model of Health Services. Global, regional and national initiatives for improving maternal health outcomes were also considered and the importance of institutional births, attended by skilled birth attendants, was highlighted. Women in developed countries with low-risk pregnancies may opt for home births assisted by a skilled birth attendant, whereas in the developing countries, non-institutional births frequently take place in rural areas, using unsterile equipment, overseen by unskilled birth attendants, leading to poor outcomes for both mother and baby.

Despite similarities in identified factors associated with non-institutional births across populations, findings demonstrated variations in the use of maternal health care for childbirth, both within and between developing countries, with most findings showing differences between the women's place of residence and socio-economic status (WHO 2021). It is difficult to draw conclusions on which to base policy recommendations, hence the need to conduct this study in the Kingdom of Swaziland. Country specific strategies should be developed to improve the health care systems and empower women to give birth in a health institution. Such strategies could enhance the outcome for women and their babies.

CHAPTER 3
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

In Chapter 3 the researcher discusses the research design and methodology, population, sampling method, sample size, data collection and data analysis methods. The validity and reliability of the instrument and ethical principles are also described.

3.2 RESEARCH DESIGN

According to Polit and Beck (2012:741), the research design is the overall plan for addressing a research question, including specifications to enhance a study's integrity. The researcher used a quantitative, descriptive, non-experimental and cross-sectional design to identify the factors associated with non-institutional births. This research design was deemed appropriate to answer the following research questions, thus addressing the aim and objectives of the study (see Chapter 1).

- What factors are associated with non-institutional births in the Shiselweni region of Swaziland?
- What challenges are faced by women who had non-institutional births?
- What interventions can be recommended to the Swaziland SRH programme planners and policymakers to enhance institutional birth rates?

3.2.1 Quantitative research

A quantitative research approach was undertaken to conduct this study. Gray et al. (2016:32) define a quantitative approach as the formal, objective, rigorous, systemic process for generating numerical information about the world. Quantitative research is conducted to examine relationships among variables and determine the effectiveness of treatments or interventions on selected health outcomes in the world. Quantitative researchers gather and analyse empirical evidence (evidence collected through the human senses) and strive for generalisability of their findings beyond the study's

setting (Polit & Beck 2012:22). Quantitative research designs can be used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. This data can, but do not always have to, include aspects such as attitudes, opinions, behaviours, and generalised results from a large sample population (Polit & Beck 2012:201).

In this study, a quantitative research design was applied to describe possible factors influencing the non-utilisation of health institutions for childbirth purposes. The quantitative findings, obtained from a large sample, can be generalised and inferences can be made beyond the study population as described by Bryman (2016:149).

3.2.2 Descriptive study design

Descriptive studies offer researchers a way to discover new meaning, describe what exists, determine the frequency with which something occurs, and categorise information (Gray et al., 2016:69). Descriptive research was adopted for this study to identify and describe the factors associated with or related to non-institutional births in the Shiselweni region.

3.2.3 Cross-sectional study design

Cross-sectional designs include the collection of data on a phenomenon, captured during a single data collection period (Polit & Beck 2012:202). This design was adopted to collect data at a single point in time to identify and describe factors associated with non-institutional births. A cross-sectional design was deemed appropriate in this study's context to allow for the analysis and identification of factors associated with non-institutional births. However, as described by Bhattacherjee (2012:39), the cause-effect relationship was not determined due to the non-sequential nature of cross-sectional studies. Data were collected from 1 January 2020 to 31 March 2020.

3.3 RESEARCH SETTING

The Kingdom of Swaziland is a landlocked country in Southern Africa with an estimated land area of 17,364km^2. Swaziland shares borders with Maputo Province (Mozambique) in the east, KwaZulu-Natal Province in the south and Mpumalanga province in the north and west (Republic of South Africa). Swaziland is divided into four regions, namely Manzini, Hhohho, Lubombo and Shiselweni (see Figure 3.1). According to the Swaziland National Population and Household Census (2017:7), Swaziland has a population total of 1,093,238 (531,111 males and 562,127 females) and is classified as a lower-middle-income country by the World Bank due to its GDP per capita of about $3,000.

According to Gray et al. (2016:552), the research setting is the location where a study is conducted. This study was conducted in Shiselweni region in Swaziland, which is located in the southern part of Swaziland and covers an area of about 3,790km^2. According to the Shiselweni Annual Health Performance Report (2019:28), there were approximately 5,141 births in the region in 2019. For the purpose of health service management, the region is subdivided into three clusters: Nhlangano, Hlathikulu and Matsanjeni. The region has one regional hospital, two health centres, 36 clinics, and three public health units. Notably, the Shiselweni region has the lowest population per nursing and midwifery personnel ratio of 12.85 per 10,000 population (Hhohho 20.09, Manzini 10.74 and Lubombo 16.78) as reported in the WHO HRH Survey (2017:10).

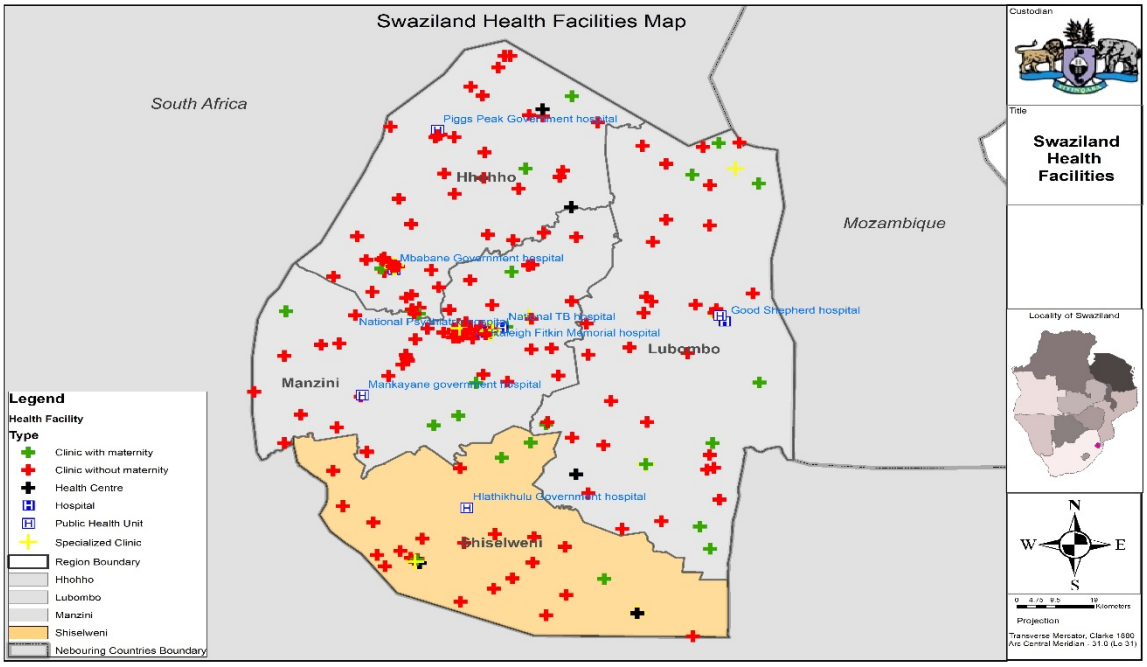

Figure 3.1: Swaziland Map

3.4 RESEARCH PARADIGM

According to Polit and Beck (2017:14), a paradigm is a framework containing the basic assumptions, ways of thinking, and methodology commonly accepted by scientific community members. In the context of this study, a positivist paradigm was adopted because positivists believe that phenomena (observable facts and events) are not haphazard or random, but rather have antecedent causes (Polit & Beck 2017:14). Positivists normally employ a deductive approach to research using predominantly quantitative data, starting with a theory and testing theoretical postulates using empirical data (Bhattacherjee 2012:44). The researcher assumed that there must have been specific reasons for Shiselweni women to give birth outside health institutions. Within the positivist paradigm, therefore, the research activity is directed at understanding the underlying causes of phenomena (Polit & Beck 2017:14), as was the case in this study.

3.5 POPULATION

The accessible population represents the cases that conform to the inclusion criteria and are reachable for the study, while the target population is the aggregate of cases

to which the researcher would like to generalise the research findings (Polit & Beck 2012:274). It is also all elements (people, objects, events or substance) that meet the sample criteria for possible inclusion in a study (Gray et al., 2016:516). According to the Swaziland National Population Household Census (2017:13), Shiselweni had a population of 204,111 adults: 108,111 were females, and 96,000 were males. There were also reportedly approximately 5,141 births in 2019 (Shiselweni Annual Health Performance Report 2019:28).

3.5.1 Target population

The target population is the entire set of individuals or elements meeting the sampling criteria (Gray et al., 2016:516). The target population for the study included 429 women aged between 14 to 49 years with a history of non-institutional births in the last 12 months preceding data collection, which was between 1 January to 31 March 2020.

3.5.2 Sampling

Sampling involves selecting a group of people, events, behaviours, or other elements with which to conduct a study (Gray et al., 2016:135). In this study, probability sampling was applied because every woman who experienced a non-institutional birth (1 January 2019 to 31 December 2019) had an equal chance of being selected to participate in the study. Multiple-stage sampling, which is a combination of cluster sampling and simple random sampling, was applied to get a representative study sample. Multistage sampling was more practical than other types of probability sampling because the study population was widely spread across the Shiselweni region. The study area was divided into three clusters (Matsanjeni, Hlatikhulu and Nhlangano) for administrative purposes, and the cluster sampling method was employed to select the three clusters. All the women's names from the three clusters who experienced a non-institutional birth in 2019 were extracted from the maternity and PNC registers and entered into an Excel file (see Table 3.1). A larger proportion of non-institutional births was from the Nhlangano cluster (n=209: f=49%), Matsanjeni (n=110; f=26%) and Hlatikhulu (n=110; f=25%). The sample size of 157 women was determined by calculating the sample size using with a finite population in Excel

formula (see Section 3.5.4). Since the population size was known, a simple random sample was generated from each cluster using a computer (see Table 3.1).

Cluster sampling is a type of multistage sampling. The initial stage consists of selecting groups of subjects rather than individual subjects, with individual subjects subsequently being sampled within each cluster (Powers, Knapp & Knapp 2010:255). The probability cluster sampling method that was used had the potential to provide a representative sample from all three clusters in the Shiselweni region.

3.5.3 Sampling criteria

According to Gray et al. (2016:251), eligibility criteria include a list of characteristics that are essential for an individual to be deemed eligible for a study, or to belong in the target population. The exclusion criteria are those characteristics that can cause an element to be excluded from the target population. This study's sampling criteria were developed based on the research phenomenon, the research purpose, a review of literature, the conceptual and operational definition of the study variables, and the research design.

3.5.3.1 Inclusion criteria

Inclusion criteria are characteristics that a subject or element must possess to be part of the sample (Gray et al., 2016:518). The inclusion criteria were:

- Women aged between 14-49 years and residing in the Shiselweni region.
- Women who gave birth in the Shiselweni region, at home or on their way to hospital, within the 12 months (1 January 2019 to 31 December 2019) preceding the data collection phase.
- Women who volunteered to participate in the study.

3.5.3.2 Exclusion criteria

The exclusion criteria were:

- Women younger than 14 years or older than 49 years and not residing in the Shiselweni region.
- Women who gave birth outside Shiselweni region.
- Women who did not give birth in 2019.
- Women who refused to participate in the study.
- Women who were mentally ill.

3.5.4 Sample size

The sample size for this study was 157 women, determined by calculating the sample size with a finite population in Excel formula, according to Grande (2016).

1) Confidence level = 95% standard value of 1.96.
2) Population who had non-institutional births = 429.
3) Margin error = 0.05.
4) Population size based on Shiselweni regional report of 2019 for all births = 5,141.

$$\frac{\frac{Z^2 \cdot p(1-p)}{\mathrm{e}^2}}{1+\left(\frac{Z^2 \cdot p(1-p)}{\mathrm{e}^2 N}\right)}$$

5) Z= Confidence level.
6) P= proportion of women who had non-institutional births in Shiselweni region.
7) e = Level of precision at 5% (standard value of 0.05).
8) N=Population size of all births that occurred in Shiselweni region in 2019.

Sample size = (1.96^2)*(0.12)*(1-0.12)/ (0.05^2)
1+(1.96^2) *(0.12) *(1-0.12)/ (0.05^2*5130)

= 162.26
1.03
= 157

9) The total respondents selected for the study were 157, as illustrated in Table 3.1.

Table 3.1: Sample size

Cluster	Number of non-institutional births	Proportion of non-institutional births	Total sample size per cluster
Cluster 1	110	25%	39
Cluster 2	110	26%	41
Cluster 3	209	49%	77
Total	429	100%	157

3.6 RESEARCH TECHNIQUE

3.6.1 Development of the research instrument

The initial data collection instrument, namely the questionnaire, was developed after reviewing literature related to the research topic, the problem and the objectives of the study (see Chapter 2). The developed questionnaire was then submitted to the research supervisor, a panel of experts, and a scientific committee in the Department of Health Studies at UNISA for analysis and comments, before the pre-test was conducted to enhance validity and reliability (see Sections 3.7 and 3.8).

3.6.2 Characteristics of the data collection instrument

According to Gray et al. (2016:304), a questionnaire is a self-report form designed to elicit information through written, verbal, or electronic responses to the question. The questionnaire comprised 16 open-ended and 34 close-ended questions. Although the structured questionnaire took considerable effort to develop and refine, it yielded data that were relatively easy to analyse because the data could be readily quantified (Gray et al., 2016:322). The open-ended questions were open coded for qualitative enhancement. The structured analysis method was ideal for an in-depth investigation of factors associated with non-institutional births.

Questionnaires were administered by the researcher and the research assistants since some of the respondents had lower literacy levels and would not have been able to complete the questionnaires on their own. As mentioned by Polit and Beck (2012:305), the questionnaire had the following advantages:

- The questionnaire did not require the identity of individual participant (a unique identifier was used), so the information obtained from women were kept private and confidential.
- It was relatively cost-effective to use questionnaires to gather and scientifically analyse a large amount of data from 157 women who experienced non-institutional births in a short period of three months.
- A fair degree of reliability was maintained by using a pre-tested, structured and predetermined questionnaires that were completed in a face-to-face manner.

The study questionnaire comprised of six sections:

- **Section 1:** Questions related to respondents' demographic information, including their age, place of residence, occupation, marital status and educational status.
- **Section 2:** Outlined the economic, social and geographical factors that include the availability of transport, distance to the nearest hospital, cost of transport and maternal health services, which might be barriers to institutional births.
- **Section 3:** Focused on the respondents' obstetric history, number of pregnancies and children, history of premature neonatal deaths or miscarriages, and whether the baby was planned or not. It also measured the unmet family planning needs among women who had non-institutional births.
- **Section 4:** Embedded in this section were the respondents' knowledge, attitude and perception towards maternal health service usage.
- **Section 5:** Involved acquiring information about the respondents' knowledge, attitude and perception towards maternal health services, knowledge about safe assisted deliveries, obstetric danger signs, ability to identify potential complications during labour, and the possession of an emergency home birth kit.

- **Section 6:** Comprised of an open-ended question, where the women provided their recommendations on what can potentially promote institutional births, assisted by skilled birth attendants.

3.6.3 Pre-test

According to Gray and Grove (2020:607), conducting a pre-test with a small group of subjects will greatly strengthen a study because, in this way, a new instrument can be rigorously tested. It can be evaluated and refined to ensure questions are clearly understood by all respondents to reveal information relevant to the study objectives. The research assistants who were involved in data collection were trained (see Section 3.6.4) during a one-day training workshop prior to the pre-test to ensure that all possible challenges were addressed before the actual data gathering commenced.

The departmental nurses (gatekeepers) randomly selected six women from the postnatal and maternity registers at one of the health institutions and invited them to participate in the study. Pre-testing was conducted after informed written consent was obtained from the six women who were willing and volunteered to participate. The completed questionnaires were analysed and compared to identify problematic areas, reduce measurement error, reduce respondent burden, determine whether or not respondents were interpreting questions correctly, and ensure that the order of questions did not influence the way women responded. After all the necessary modifications were implemented (see Table 3.2), the amended questionnaire (see Annexure 7 & 8) was presented to the research supervisor for final input and was then used for data collection.

Table 3.2: Amendments to the questionnaire

Question number	Question	Previous response requested	Amended Response requested
Q.1.1	How old are you?	DD…MM…YY…	Age in years……
Q.1.3	Whom do you stay with?	1. Parents	1. Parents or guardian
Q.1.10	Who owns the house you are staying in?	1. Own house 2. Rented house	1. Own house 2. Rented house

Question number	Question	Previous response requested	Amended Response requested
			3. Parents or guardian 4. Partner or husband house 5. Other specify…….
Q.4.7	Did attending the antenatal clinic influenced your choice to where you had planned to give birth?	1. Yes 2. No	1. Yes 2. No 3. Not sure

3.6.4 Data collection process

Data collection involves the precise and systematic gathering of information relevant to the research purpose or objectives, questions or hypothesis of a study (Gray et al., 2016:63). In this study, data were collected using self-developed questionnaires (see Annexure 7 & 8). Five steps were followed to collect the data.

Step 1: Obtaining permission to collect data

Approval was granted by the Health Studies Research Ethics Committee, University of South Africa (UNISA) (see Annexure 9) and the Swaziland National Health Research Review Board (NHRRB) (see Annexure 10). Permission to collect the data from the respondents was received from the Shiselweni regional public health matron (see Annexure 11), before data collection commenced.

Step 2: Recruitment of research team

Three midwives were recruited as research assistants (see Annexure 12). The research assistants' responsibilities were to assist the researcher in recruiting potential respondents and facilitating the data collection process (see Annexure 12). A statistician was also recruited to assist the researcher with data analysis (see Annexure 13).

Step 3: Training of research assistants

The researcher conducted a one-day training workshop to explain the study's purpose, objective, and significance to the research assistants. The importance of the ethical principles of data collection and the respondents' safety were explained and emphasised. They were also given the opportunity to discuss – with the researcher and with one another – any possible concerns or misunderstandings concerning the study. Each research assistant received the questionnaire, information letters, consent forms, assent forms, research proposal, ethical approval letters, approval letter from the regional public health matron, to ensure that they were well informed. They also signed the confidentiality forms as part of the ethical principles to protect the respondents' rights to confidentiality and anonymity (see Annexure 12).

Step 4: Recruitment of respondents

After ethical approval was received from the various stakeholders (see Annexure 9 and 10), permission was granted by the matrons (see Annexure 11) to access the maternity and postnatal records of 157 women, and to conduct interviews at the venues convenient to the women, which included some public health institutions. Maternity and postnatal records were used by the departmental nurses (gatekeepers) to retrieve the phone numbers and names of all women reported to have had a non-institutional birth in 2019. They were all entered into an Excel file by the researcher, and a simple random sampling method was used to select the sample from each cluster (see Table 3.1). The research assistants called potential respondents after their cell phone numbers were obtained from the maternity and postnatal register. They were then invited to voluntarily participate in the study, at a venue, date and time which was convenient to them after the study information, according to the information letter (see Annexure 1, 2, 3 and 4) was shared with them. Written consent was requested from the guardians or parents of minors who volunteered to participate and who had signed accent forms. Written consent was also obtained from the women who were 18 years and older who volunteered to participate. They were also all assured that their names would be kept confidential and would not be published in any report (see Annexures 1 to 6).

Step 5: Questionnaire administration

Interviews to complete questionnaires on behalf of the respondents were scheduled with all who volunteered to participate. The completion of the questionnaires was arranged to be done at venues chosen by the respondents (i.e. public health units, clinics and their houses). The information leaflet was used to fully explain the study to every individual respondent, whereafter written informed consent was sought from respondents over 18 years, and written assent was obtained from those below the age 18 who agreed to participate. They were assured of anonymity and confidentiality by the researcher or the research assistant, depending who was to complete the questionnaire. The pre-tested questionnaires were then administered by trained research assistants and the researcher using face-to-face interviews.

To ensure accuracy and provide an opportunity to explain a question if needed, the researcher or research assistant completed the questionnaire by conducting 'interviews', thus asking every question in the questionnaire. The researcher conducted interviews herself and rendered technical assistance to research assistants before, during, and after the interviews. The completed questionnaires were collected from the research assistants and checked by the researcher for consistency and completeness.

3.6.5 Data analysis

The data from all checked questionnaires (checked for completeness) were coded. Qualitative responses to open-ended questions were open coded and classified into categories, which were then coded to meet the minimum requirements for a binary or nominal measure. After the coding, they were then also analysed using SPSS version 23.

Frequencies and measures of variation were used to describe the study population in relation to socio-demographic and other relevant variables. Descriptive analysis was used to describe the respondents according to their demographic characteristics. Study findings were presented in frequencies, percentages, tables, bar graphs and pie charts (see details in Chapter 4) using Microsoft Excel. The researcher also used

inferential statistics, Pearson's r and Chi-square test for a comparison of variables. The p-value of less than 0.5 was considered statistically significant.

3.7 RELIABILITY

A quantitative instrument's reliability refers to the consistency or accuracy of the research instrument in yielding consistent numerical results each time it is applied (Burns & Grove 2011:332).

In the context of this study, pre-testing was conducted by administering the questionnaire to six respondents who were not part of the main study (see Section 3.6.3). The research statistician used Cronbach Alpha correlation calculations to measure the internal consistency reliability by comparing the results from the completed questionnaires; 34 variables in the form of questions were considered. The Cronbach's alpha coefficient results of 0.813 (see Table 3.3) were higher than the recommended 0.7, which meant the instrument was reliable.

Table 3.3: Reliability statistics

Cronbach's Alpha	N of items
0.813	34

3.8 VALIDITY

Validity is the degree to which an instrument measures what it is supposed to measure (Polit & Beck 2012:336). Different concepts of validity include internal, external, content and construct validity.

3.8.1 Internal validity

According to Polit and Beck (2017:406), internal validity refers to the extent to which it is possible to make an inference that the independent variable, rather than another

factor, is truly causing variation in the dependent variable. Internal validity was enhanced by using an applicable research design, a representative sample size, and by collecting sufficient information about the respondents. The questionnaire was designed using expert knowledge from the supervisor, SRH mentors, and a statistician. The researcher recruited respondents who gave births 12 months prior to data collection, thereby minimising the risk of recall bias.

3.8.2 External validity

According to Bhattacherjee (2012:36), external validity or generalisability refers to whether the observed associations can be generalised from the sample to the population (population validity), or to other people, organisations, contexts, or times. To enhance external validity, multiple-stage sampling was applied, and respondents were randomly selected to ensure representation of the population to which the researcher wished to generalise the results (see Section 3.5.2). Experienced and skilled midwives were employed as research assistants to maximise data quality and response rate.

3.8.3 Content validity

According to Gray et al. (2016:578), content validity examines the extent to which a measurement method includes all the major elements relevant to the construct being measured. To enhance validity, the data collection instrument was critically reviewed by the research supervisor, SRH mentor, as well as a scientific committee within the Department of Health Studies, UNISA, to ensure that it captures the objectives and theoretical framework on which this study was based. The instrument was also pre-tested (see Section 3.6.3) to remove ambiguity and ensure that it measures what it was intended to measure.

3.8.4 Construct validity

Construct validity focuses on determining whether the instrument actually measures the theoretical construct that it purports to measure, which involves examining the fit between the conceptual and operational definitions of a variable (Gray et al.,

2016:578). Guided by the Health Utilisation Model, the researcher observed construct validity by conducting a thorough literature review to construct the questionnaire. The research supervisor also assisted the researcher with the formulation of the questionnaire, checking for conceptual appropriateness and investigative bias.

3.9 ETHICAL CONSIDERATIONS

Polit and Beck (2012:727) define ethics as a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study participants. The ethical consideration section explains the procedures undertaken by the researcher to obtain ethical clearance and approval to conduct this study, to protect the respondents, and to maintain the scientific integrity of the research. As this study involved an intrusion into the respondents' personal lives, the researcher maintained the ethical principles relating to the protection of the rights of institutions, respondents, and the research itself.

3.9.1 Permission from institutions

To ensure that ethical considerations were adhered to, the research proposal was submitted for approval to the Health Studies Research Ethics Committee, UNISA (see Annexure 9) and the Swaziland NHRRB (see Annexure 10), prior to the commencement of data collection. Permission to conduct the research was also received from the Shiselweni regional public health matron (see Annexure 11).

3.9.2 Informed consent

Informed consent means that participants have adequate information about the research, understand the information, and have the ability to consent or decline participation voluntarily (Polit & Beck 2017:268). Information about the study was contained in the respondents' information sheet attached to the consent form, and was explained to the respondents aged 18 years and older (see Annexures 1 & 2). The researcher also invited women younger than 18 years to participate in the study at a venue of their choice after permission was obtained from their parents or guardians.

The respondents' autonomy was ensured through informed consent and assent letters. For the respondents aged between 14-17 years, the information letter and assent forms were shared (see Annexures 3 & 4). In the case of minors, their guardian or parents received information letters (see Annexure 5) as well as a consent letter (see Annexure 6) to ensure the researcher described the study fully. The respondents were also verbally informed about their right to ask questions and withdraw from the study at any point without fear of losing any benefit. Thereafter, they were asked to sign the written consent form or assent form, as applicable.

3.9.3 Full disclosure

According to Polit and Beck (2017:26), full disclosure means that the researcher has fully described the nature of the study, the person's right to refuse participation, the researcher's responsibilities, and likely risks and benefits. In this study, the purpose and the significance of the research were clearly elucidated in the information and consent letter (see Annexure 1, 2, 3 & 4) related to participation. The research assistants and the researcher further verbally described the study's aims, benefits, costs and risks, and answered all respondents' questions about the research before the respondents were asked to sign the consent letter. Respondents were also informed to contact the researcher in the event of further questions, comments or complaints.

3.9.4 Beneficence

Polit and Beck (2017:258) define beneficence as a fundamental ethical principle that seeks to maximise benefits for study respondents and prevent harm. Human research should be envisioned to minimise harm and maximise benefits. In the context of this study, the risk of harm was minimal because participation was non-invasive, involving only the completion of a questionnaire. The respondents who experienced any emotional or psychological distress (i.e. who lost their babies or their index pregnancy was a result of rape) were referred for counselling to the psychosocial officers and social worker without any cost. Although there were no direct benefits to the study respondents, the study assisted the researcher in identifying possible interventions to

increase institutional births in an attempt to ultimately reduce maternal and neonatal mortality rates.

3.9.5 Non-maleficence

Researchers have an obligation to avoid, prevent, or minimise harm (non-maleficence) in studies with humans (Polit & Beck 2017:258). To minimise economic and physical burden, respondents who stayed far from the health institutions were interviewed at a place of their choice or nearest clinic. Travelling costs (+ or -R100) incurred by the respondents to attend the interview site were reimbursed by the researcher. Some respondents younger than 18 denied ever giving birth despite health records and guardians confirming they did, probably because it is a criminal offence in Swaziland under the Sexual Offences and Domestic Violence Act (SODOV 2018) to engage in sex with minors. They feared that their partner would get arrested and there was stigma associated with having a child while still going to school.

The right to protection from exploitation was observed and respected by interviewing respondents within the agreed 30 minutes. Since some of the questions were sensitive and related to sexual and reproductive health behaviour, private rooms were used to conduct interviews. Two respondents conceived as a result of sexual abuse and were emotional during the course of the interview. They decided not to withdraw participation but to continue with the interview; however, they were referred for counselling free of charge.

3.9.6 Confidentiality and anonymity

According to lumenmearning.com (2017), confidentiality refers to the researcher's agreement to handle, store and share research data in a way that ensures the information obtained from the research respondents is not improperly divulged. Electronic data were stored on a password-protected computer which is only accessible to the researcher and statistician. Information and consent sheets were stored separately from the completed questionnaires and in a separate locked cabinet. The names of the respondents were replaced by a unique identification number in the electronic data set, and names were not included in the study report. The research

assistants and statistician were trained in managing and storing data, and also signed the confidentiality forms (see Annexure 12 & 13).

3.10 CONCLUSION

In this chapter, the researcher discussed the research methodology used in this study, which included the research design, sampling, data collection, validity and reliability, data analysis and ethical considerations. The study employed an explanatory, quantitative, cross-sectional descriptive design to identify factors associated with non-institutional births in the Shiselweni region. Chapter 4 presents the data analysis, the interpretation of the findings, as well as an integrated discussion.

CHAPTER 4
DATA ANALYSIS AND INTERPRETATION

Chapter 3 described the research design and methodology employed to identify and describe factors associated with non-institutional births in the Shiselweni region of Swaziland to provide recommendations to increase institutional births in an attempt to reduce maternal and neonatal mortality rates. A cross-sectional, non-experimental and quantitative research design was employed for this study. This chapter discusses the data analysis and interpretation of the findings.

4.1 RESPONSE RATE

A total of 157 randomly selected respondents, who met the inclusion criteria (see Section 3.5) were interviewed, using the developed questionnaire, representing a response rate of 100%. Attaining the 100% response rate was sufficient to generalise conclusions from the study to the population of respondents who experienced non-institutional births in the Shiselweni region.

In the discussion of the findings, the following was applied:

N: Capital letter (N) will illustrate the total number of responses
n: In situations where fewer than 157 respondents responded to a specific variable, such total numbers of responses are specified by small letter (n)
F: The capital letter (F) stands for a number/ frequency of an event
f: The small letter (f) stands for percentage

4.2 DATA ANALYSIS AND RESEARCH FINDINGS

The questionnaire comprised of sections that were completed, analysed and discussed as research findings. The results are presented under subheadings that correlate with the various sections in the questionnaire.

Section 1: Socio-demographic information (see Section 4.3.1).

Section 2: Economic, geographical and social factors (see Section 4.3.2).

Section 3: Obstetric and reproductive history (see Section 4.3.3).

Section 4: Knowledge, attitude and perception towards ANC (see Section 4.3.4).

Section 5: Knowledge, attitude and perception towards maternal health services (see Section 4.3.5).

Section 6: Recommendation by respondents for safe motherhood (see Section 4.3.6).

The results from the bivariate analysis of variables associated with non-institutional births, which were based on the 95% confidence interval, are also presented in Section 4.4. The researcher employed the chi-square test and p-values to present the study's findings.

4.3 RESEARCH FINDINGS

4.3.1 Respondents' socio-demographic characteristics

The variables that were categorised as socio-demographic were age, area of residence, educational level, marital status, employment status, region, living arrangement and house ownership. These characteristics are illustrated in Table 4.1.

Table 4.1: Socio-demographic characteristics

Variable	Response	(N= 157)	Frequency (f=%)
Age of the respondents	14-19	17	10.8
	20-24	45	28.7
	25-29	42	26.8
	30-34	28	17.8
	35-39	20	12.7
	40 and above	5	3.2
Area of residence	Urban	21	13.4
	Rural	136	86.6
Education level	No Education	5	3.2
	Primary Education	34	21.7

Variable	Response	(N= 157)	Frequency (f=%)
	Secondary Education	54	34.4
	High School	53	33.8
	Certificate	5	3.2
	Diploma	6	3.8
Employment status	Self-employed	8	5.1
	Unemployed	108	68.8
	Employed	41	26.1
Marital status	Single	98	62.4
	Cohabiting	16	10.2
	Married	42	26.8
	Divorced	1	0.6
Living arrangements	Parents/Guardian	73	46.5
	Friends	-4	2.5
	Partner or husband	42	26.8
	Children	31	19.7
	Alone	7	4.5
House ownership	Own house	57	36.3
	Rented house	27	17.2
	Parents or Guardian	57	36.3
	In-laws' house	3	1.9
Religion	Christians	152	96.8
	Islamic	2	1.3
	Traditionalists	1	0.6
	No religion	2	1.3

4.3.1.1 Age distribution (N=157)

Among the 157 respondents who had non-institutional births, 17 (f=10.8%) were adolescents aged between 14 to 19 years, 45 (f=28.7%) were between 20 to 24 years, 42 (f=26.8%) were 25 to 29 years, 28 (f=17.8%) were 30 to 34, 20 (f=12.7%) were aged 35 to 39, and 5 (f=3.2%) were older than 40 years. The youngest respondents were 14 years old, while the oldest was 43 years. The median age was 27, the mean 27.07, mode was 24 years, and standard deviation was 6.508. Prior studies conducted in Ethiopia suggest that younger respondents aged between 15 to 24 years are more

likely to give birth at home, compared to respondents older than 25 years (Abdella et al., 2017:50). This finding was also evident in this study.

4.3.1.2 Area of residence (N=157)

As demonstrated in Table 4.1, the utilisation of health institutions for childbirth varied according to area of residence. The majority of respondents (n=136; f=86.6%) resided in rural areas. Respondents who resided in urban areas had easier access to health institutions, according to Kisiangani et al. (2020:10). However, several urban respondents in this study (n=2; f=13.4%) experienced non-institutional births.

4.3.1.3 Religion (N=157)

The majority of the respondents (n=152; f=96.8%) were Christians, 2 (f=1.3%) were Moslems, 1 (f=0.6%) was a traditionalist, and 2 (f=1.3%) had no religion. Christianity is considered the dominant religion in the Kingdom of Swaziland, as revealed by the Worldatlas (2018), thus the high number of Christians in the current study was expected.

4.3.1.4 Marital Status (N=157)

The majority of the respondents (n=98; f=62.4%) were single, 42 (f=26.8%) were married, while 16 (f=10.2%) were cohabiting and 1 (f=0.6%) was divorced. It can be concluded that single respondents lacked financial support. Women need psychosocial and financial support from their partners when they are pregnant, thus male involvement contributes to maternal health outcomes in developing countries. There are reduced odds of postpartum depression and improved overall utilisation of maternal health services among married women (Yargawa & Leonardi-Bee 2015:605-612; Aborigo, Reidpath, Oduro & Allotey 2018:1-10).

4.3.1.5 Educational level (N=157)

Researchers have reported that education enhances a woman's decision-making power, and increases self-esteem and self-confidence pertaining to their own health (Rutaremwa et al., 2015:271; Mekonnen et al., 2015:376; Abdella et al., 2017:36). The

study findings revealed that only 11 (f=7%) respondents had tertiary education, whereas the majority of the respondents (n=54; f=34.4%) attended secondary school, while 53 (f=33.8%) attained a high school level education. Five respondents (f=3.2%) never attended school, and 34 (f=21.7%) only attained primary education, as demonstrated in Table 4.1. Teenage pregnancy is the leading cause of school dropout, followed by early marriage, peer influence, and parental negligence (Birchall 2018:4; Morara & Chemwei 2013:6).

Fifty-eighty (f=39.0%) respondents were either married or cohabiting. Not one of the respondents' partners or husband were in possession of a university diploma or degree. However, 2 (f=2.4%) respondents had a diploma and 14 (f=41.4%) respondents attained high school level education (Form five), compared to 24 men (see Figure 4.1). Twenty-three (f=41.3%) respondents had secondary education (up to Form three) compared to 21 (f=36.2%) male partners, 15 (f=25.9%) respondents had primary education, as opposed to 8 (f=13.8%) male partners. Two respondents (f=2.4%) and their partners (n=3; f=3.2%) had certificates, while an equal number (f=2.4%) of respondents and partners never attained any level of education. Lower education levels among women and their partners were associated with home births (Kifle et al., 2018:37; Machira & Palamuleni 2017:35). Congruently, the same trend was observed in this study (see Figure 4.1 & 4.2).

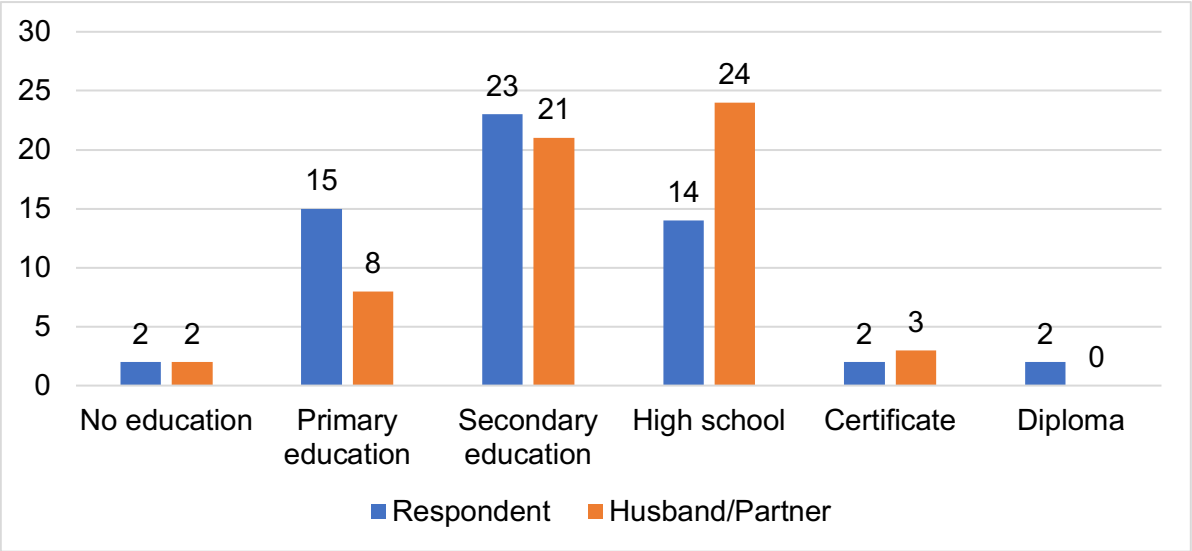

Figure 4.1: Educational level (n=58)

4.3.1.6 Employment status (N=157)

Respondents' employment status is illustrated in Table 4.1. Forty-one (f=26.1%) respondents were employed and 8 (f=5.1%) were self-employed, thus 48 (f=31.2%) respondents were working. All the respondents in possession of a certificate were employed. Mothers who are employed or self-employed can pay for maternal services and other associated costs (Yaya et al., 2017:9). Thus, respondents' employment status in this study possibly affected their choice not to access a health institution for childbirth purposes.

Figure 4.2 illustrates a comparative analysis of the employment status of the 58 respondents and their husband or partners. Thirty-four husbands or partners (f=58.6%) were employed, 8 (f=13.8%) were self-employed (in total 72.4% were working), and 16 (f=27.6%) were unemployed. A socio-economic status associated with a lack of income contributes to low utilisation of health institutions because poor households lack the ability to pay for the cost of transportation and hospital fees (WHO 2020). This could possibly be one of the reasons why respondents from the Shiselweni region gave birth outside health institutions. A study by Mumtaz, Bahk and Khang (2015:10) revealed that respondents who had autonomy due to their husbands' earnings, attended not only ANC services but also gave birth with the assistance of a skilled birth attendant. The majority of home births (n=37; f=63.8%) were reported from respondents whose husbands were unemployed, highlighting the importance of household income as a possible enabling factor for institutional births in this study.

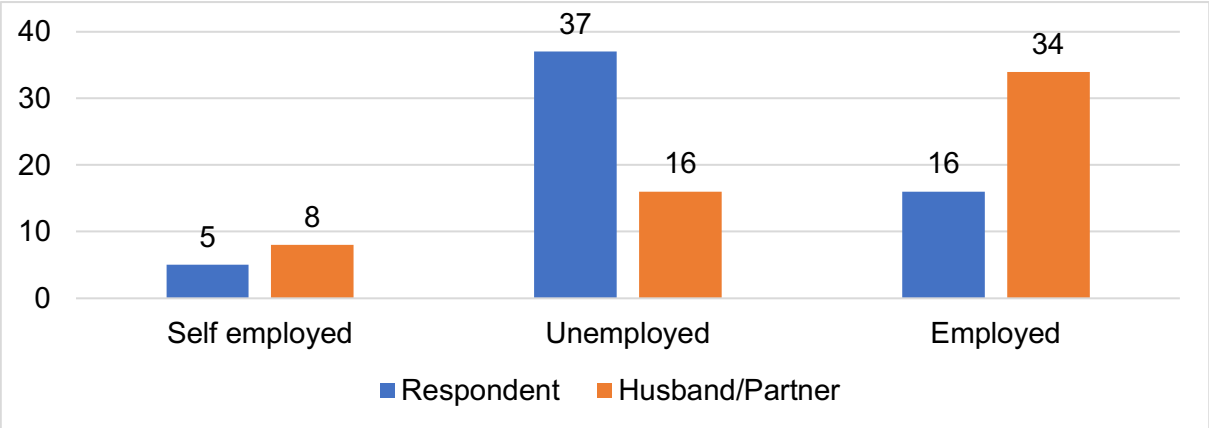

Figure 4.2: Employment status

4.3.1.7 Living arrangements (N=157)

The study findings revealed that the majority of the respondents (n=73; f=46.5%) were staying with their parents or guardians, 42 (f=26.8%) with their partners or husbands, 31 (f=19.7%) with their children, 7 (f=4.5%) lived alone, and 4 (f=2.5%) were living with friends, as depicted in Table 4.1.

4.3.1.8 Homeownership (N=157)

In terms of homeownership, 57 (f=36.3%) respondents owned the house in which they were living, 57 (f=36.3%) lived in a house owned by their parents or guardian, 3 (f=1.0%) lived in a home owned by their in-laws, 8 (f=5.1%) lived at a friend's house, and 5 (f=3.2%) lived with their partners. Twenty-seven (f=17.2%) respondents lived in rented houses.

4.3.2 Economical, geographical and social factors

Economic, geographical and social factors can either be barriers to or can facilitate institutional births. Poor socio-economic status can contribute to home births (Hamal, Dieleman, De Brouwere & de Cock Buning 2020:1-24), but the unavailability of accessible health institutions where births can be supported by skilled birth attendants is also a significant contributing factor.

4.3.2.1 Availability of health institutions (N=157)

The respondents were asked whether there was a health institution available near them which offers childbirth services. Seventy-eight (f=49.7%) respondents reported that they were not aware of a health institution within the proximity of their homes, 75 (f=47.8%) said that there are health institutions in their area of residence, and 4 (f=2.5%) were not sure (see Figure 4.3). The utilisation of any service is dependent on the community knowing about the different services offered, thus it is of concern that the respondents were not aware of the available health service or institutions (see Figure 4.3).

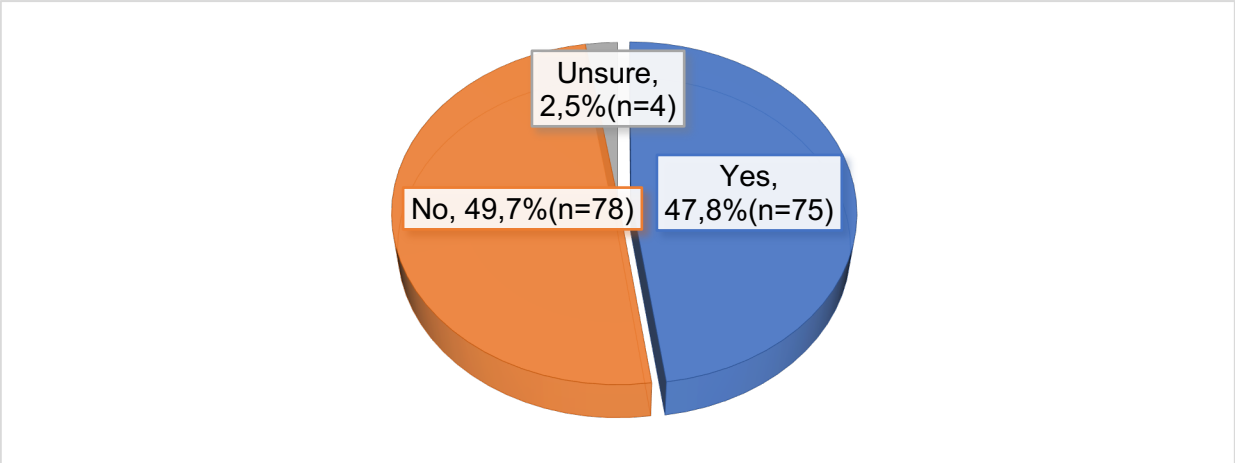

Figure 4.3: Availability of health institutions

4.3.2.2 Maternal health services (n=75)

Responses to an open-ended question (see Annexure 7 question 2.2) were categorised to BEmONC and CEmONC services. Ideally, individuals should have the opportunity to utilise health care services whenever the need arises (Kyei-Nimakoh et al., 2016:16). According to the WHO (2019), not only should the service be available, it should also be within a 5km radius from their homes. In this study, 125 (f=79.6%) respondents were staying a distance of more than 5km from the nearest health institution (see Figure 4.4). Tegegne, Chojenta, Loxton, Smith and Kibret (2018:8), revealed that the greater the distance and or travel time to obstetric care institutions, the greater the barrier and the lesser the service uptake of maternal health services for childbirth; a similar trend is evident in this study.

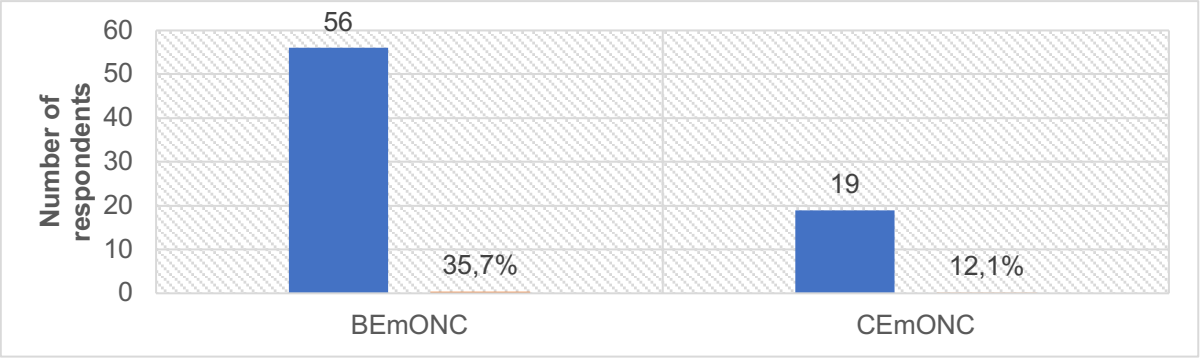

Figure 4.4: Available maternal health services

4.3.2.3 Planned place for birth (N=157)

Although 147 (f=93.6%) respondents planned to give birth at a health institution, they ended up having a non-institutional birth. Only 10 respondents (f=6.4%) had planned on giving birth at home.

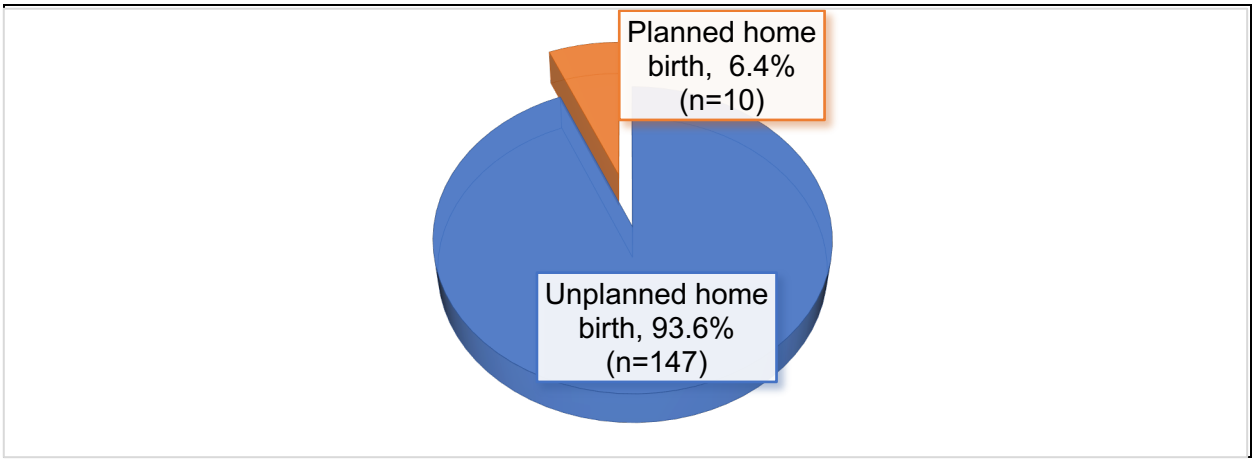

Figure 4.5: Choice of place for birth

4.3.2.4 Reasons for planned home births (n=10)

Respondents indicated that they planned to give birth at home because of the unavailability of transport (F=4; f=40%), a previous encounter with unfriendly health care workers in the maternity ward (F=2; f=20.0%), and a lack of money for transport and hospital fees (F=4; f=40,0%) (see Figure 4.6). The reasons for planned home births can also be related to a fear of surgical procedures, unfamiliarity with hospital surroundings, lack of help for childcare, and loss of wages (Devesenopathy et al., 2014:7).

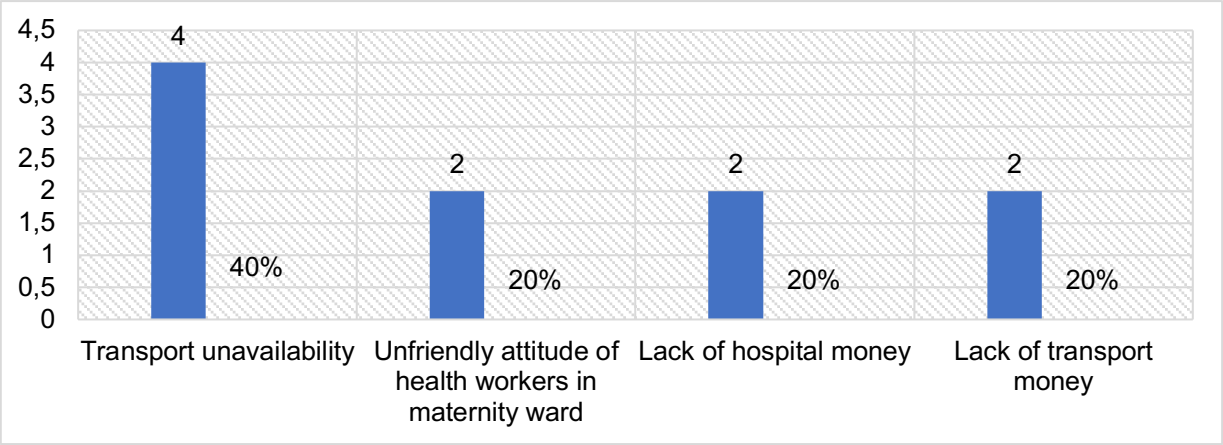

Figure 4.6: Reasons for planned home births

4.3.2.5 Reasons for unplanned non-institutional births (n=147)

The first objective of this study was to identify and describe the factors associated with non-institutional births. Based on Andersen and Newman's theoretical framework (see Section 1.9), the assumption was that predisposing, enabling, and illness factors might be associated with the non-utilisation of health institutions for childbirth. As revealed in Table 4.2, geographical factors beyond the control of the health institutions, such as bad roads and lack of regular public transportation, negatively affected women's access to health institutions for childbirth. Transport unavailability (F=89; f=56.7%) and the long distances to a facility (F=39; f=24.8%) were indicated as a deterring factor by the majority of respondents. Financial barriers, such as a lack of transport money (F=61; f=38.9%) and hospital fees (F=29; f=18.5%) were also among the reasons for unplanned home births (see Table 4.2).

Table 4.2: Reasons for unplanned non-institutional births (n=147)

Reasons for unplanned home birth	Frequency (F=)	Percentage (f=%)
Lack of transport money	61	38.9
Transport unavailability	89	56.7
Lack of hospital fees	29	18.5
Unfriendly attitude of health care workers	8	5.5
Distance to health institution too long	39	24.8
Transit in ambulance	3	1.9

Reasons for unplanned home birth	Frequency (F=)	Percentage (f=%)
Not aware of labour signs	6	3.8
Hired car developed mechanical problems	3	1.9
Bad roads	1	0.6
No one to look after children	1	0.6
Preterm labour	1	0.6
Total	**147**	**100**

4.3.2.6 Places where respondents gave birth (N=157)

The majority of respondents (n=55; f=35.1%) gave birth in their own homes, 45 (f=28.7%) at their parents' homes, 9 (f=5.7%) at their in-laws' home, and 5 (f=3.2%) at the traditional birth attendant's home. Forty-three (f=27.4%) respondents gave birth on their way to the health institution. These findings are substantially higher than a similar study conducted in Zimbabwe in 2013, where only 6.3% of non-institutional births were reported to have occurred on the way to the health institution (Muranda 2013:47).

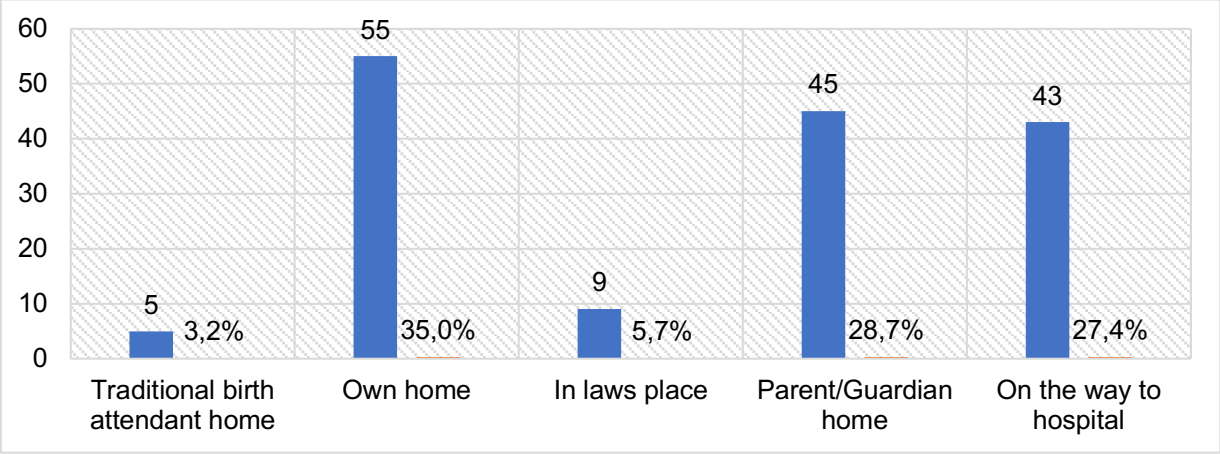

Figure 4.7: Places where respondents gave birth

4.3.2.7 Distance to a maternal health facility (N=157)

Despite the recommendations from the WHO (2019) that health institutions should be within a 5km radius from individuals' homes, the research findings revealed that 125 (f=79.6%) respondents lived more than 5km away from the nearest maternal health

services. Tegegne et al. (2018:8) and Kisiangani et al. (2020:1-12) reported higher proportions of home births among their respondents who resided far from health institutions. However, in this study, respondents provided other reasons than the distance to the facility as a challenge. The 32 (f=20.4%) respondents who lived within the 5km recommended radius indicated that their challenges were precipitated labour and a lack of financial resources for hospital fees. A lack of reliable transport to health institutions, and poor road conditions were other impeding factors mentioned by respondents (see Section 4.3.5.2).

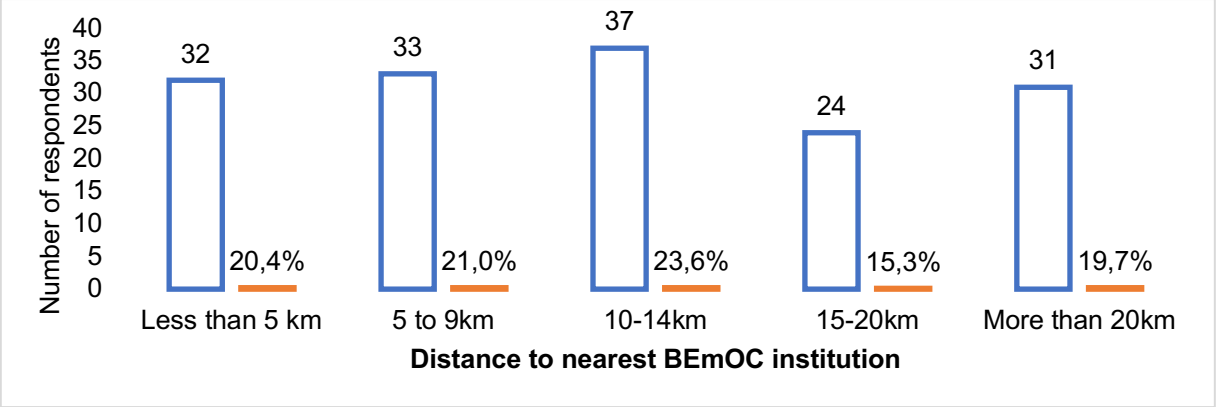

Figure 4.8: Distance to the nearest health institution

4.3.2.8 Assistance during childbirth (N=157)

As illustrated in Figure 4.9, all 157 non-institutional births were conducted by unskilled birth attendants or the respondents themselves. Eighty-one (f=51.6%) were assisted by family members, while 17 (f=10.8%) by rural motivators, 6 (f=3.8%) by traditional birth attendants, 8 (5.0%) by friends, 5 (f=3.2%) by neighbours, and 3 (f=1.9%) by the paramedics. Thirty-seven respondents (f=23.6%) gave birth without any support.

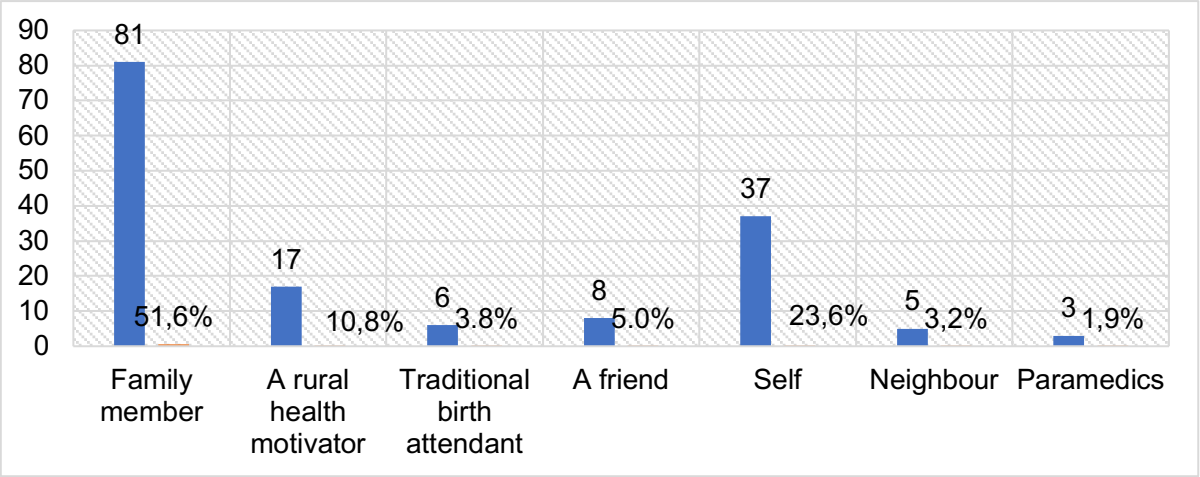

Figure 4.9: Assistance during child birth

4.3.2.9 "Decision maker" concerning birth place of choice (n=17)

Figure 4.12 presents who the respondents indicated were responsible for their decision to choose a specific place to give birth. The majority (n=139; f=85.5%) reported that they themselves decided where to give birth, 11 (f=7.0%) were influenced by their own family members, 1 (f=0.6%) was influenced by her in-laws, and 2 (f=1.3%) reported that the paramedics influenced them. Interestingly, only 2 (f=2.5%) respondents reported that their husbands or partners influenced them; this is different from the findings reported in a study in Uganda, where home births were prevalent among married respondents whose partners influenced their decision related to birthplace (Atuhaire 2019:8). Another possibility for the difference in findings might be that 62.4% of the respondents were single, hence they were less likely to consult their partners on where to give birth.

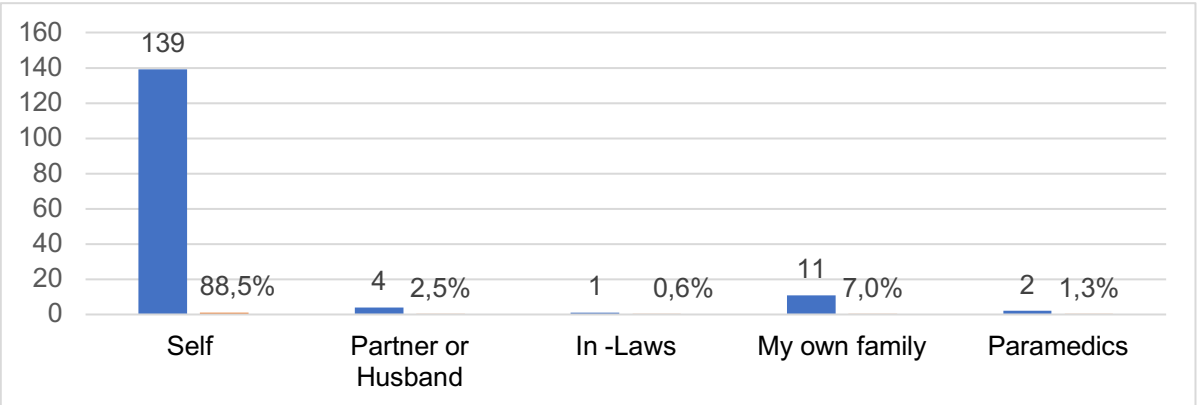

Figure 4.10 Decision on the place of birth

4.3.2.10 Mode of transport (N=157)

As indicated in Table 4.3, less than half of the respondents (n=78; f=49.7%) could access the health institution by their planned mode of transport. Although only one ambulance was functional and available from the Emergency Preparedness Response (EPR) to cater for the whole of Shiselweni region, a total of 43 (f=27.3%) respondents planned to use the government transport to access the health institutions. It is also a cause of concern that though 2 (f=0.1%) respondents only needed to walk to get to the nearest health institution, they still gave birth at home, a possible indication that they actually preferred to give birth at home.

In response to an open-ended question on why they failed to use their planned mode of transport, 33 (f=41.7%) respondents reported a lack of transport money, 33 (f=41.7%) reported transport unavailability, and 2 (f=1.6%) complained about the long distance and bad roads that worsened during bad weather conditions.

Table 4.3: Planned mode of transport (N=157)

Planned mode of transport	Yes (n=)	No (n=)
Government ambulance	9	34
Own car	2	1
Hire private car	30	32
Public transport	33	7
Family car	1	4
Partners car	1	1
Walking	2	0
Total	**78**	**79**

4.3.2.11 Transport costs (N=157)

Ten (f=6.4%) respondents lived within walking distance from the health institution and did not have to pay any money to reach the nearest health institution. Sixty-two respondents (f=39.5%) paid between E21 and E50, 31 (F=31; f=19.7%) between E59 to E100, and 7 (F=7; f=5.2%) paid E301 and more for transport. Public transport is very scarce in rural areas, where more than 85% of the respondents resided (see Table 4.2), prompting respondents to hire private cars which are expensive; beyond

the reach of the majority of the respondents who were predominantly unemployed and single (see Table 4.2).

Even in countries where maternity services are free of charge, poverty is a major impeding factor for the utilisation of a health institution for childbirth. Women still have to pay for indirect costs such as transport to give birth in health institutions (Kifle et al., 2018; Tegegne et al., 2018).

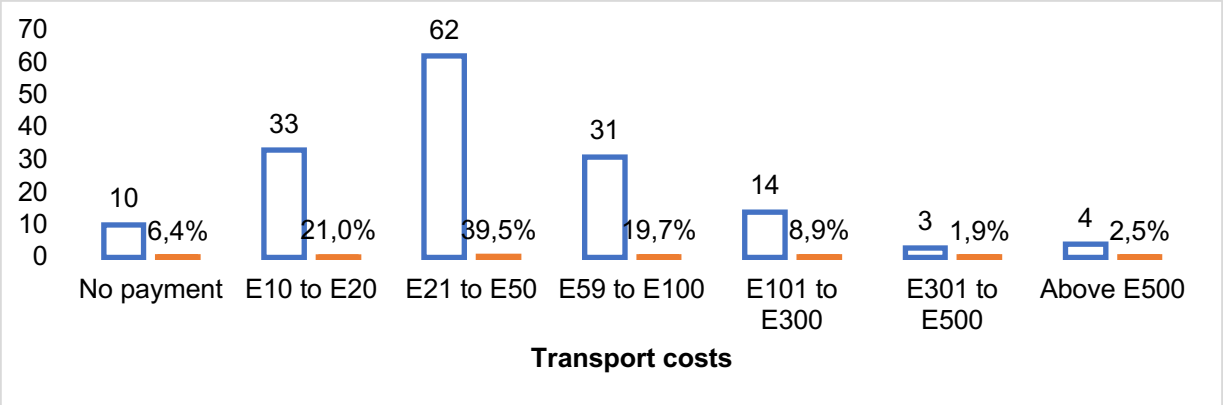

Figure 4.11: Transport costs

4.3.2.12 Maternal services - costs (N=157)

Maternal services in the Shiselweni region of Swaziland are offered at a minimal fee ranging between E20 to E59, as demonstrated in Figure 4.12. Despite the minimal charges for these services, a significant number of respondents (n=61; f=38.9%) reported a lack of money to pay the hospital fees as a barrier to an institutional birth. A significant number of respondents were not employed, which may have contributed to this challenge.

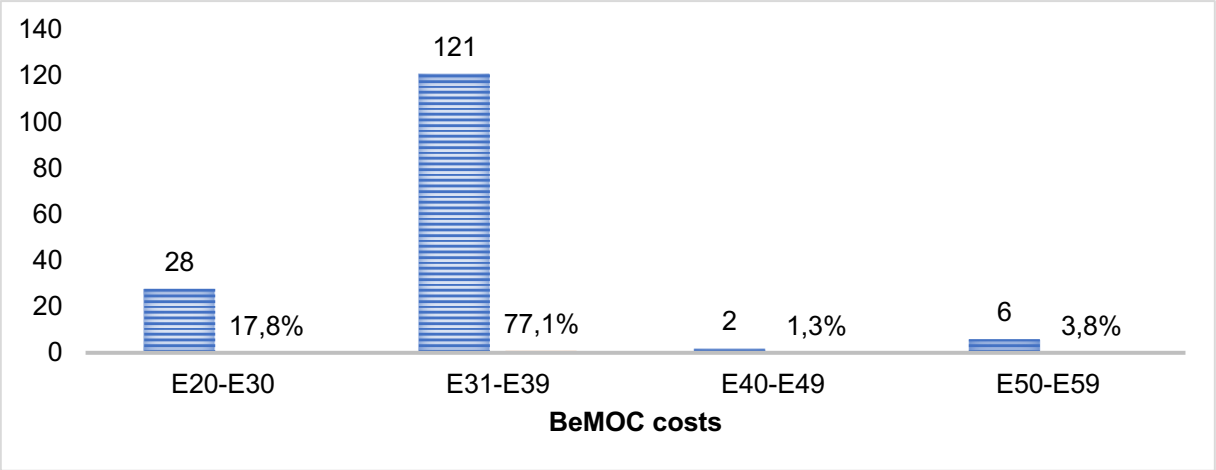

Figure 4.12: Maternal services costs

4.3.3 Obstetric and reproductive history

This section describes the respondents' reproductive history, as it might have influenced where they chose to give birth. The variables included parity, gravida, stillbirth, miscarriages, pregnancy intentions, and reasons for unplanned pregnancy, if any.

4.3.3.1 Gravida (N=157)

Figure 4.13 illustrates that the respondents' gravida ranged from 30 (f=19.1%) primigravida's up to 2 (f=1.3%) who were gravida 8. Most of the respondents who gave birth outside a health institution were gravida 2 (n=43; f=27.4%). The mentioned statistics took into account the last pregnancy. In India, however, it was found that gravida 3 respondents were more likely to give birth at home (Devenspathy et al., 2014:7).

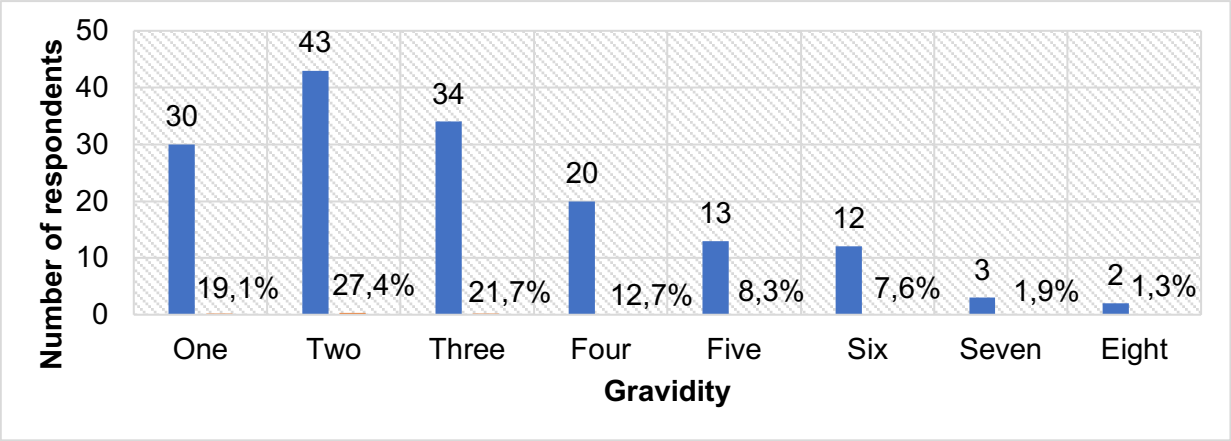

Figure 4.13: Gravidity

4.3.3.2 Parity of respondents (N=157)

The majority of the respondents had two children (n=48; f=30.6%), 32 (f=20.4%) had three children, 23 (f=14.6%) had four, 13 (f=8.3%) had five children or more, and 29 (f=18.5%) had one child (see Figure 4.14). Study findings in Kenya revealed that multiparous respondents were less likely to opt for institutionalised births (Gitonga & Muiruri 2016:25).

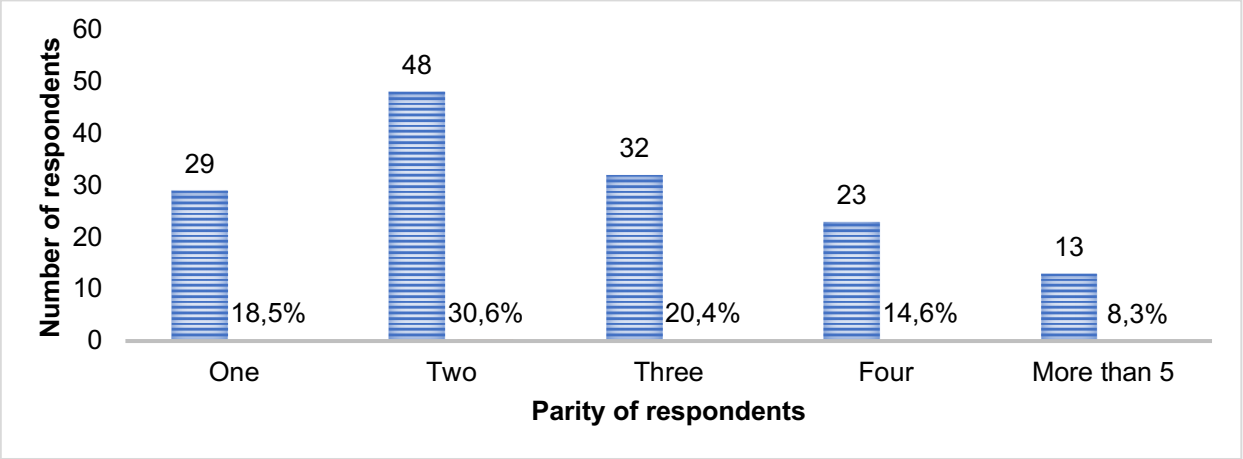

Figure 4.14: Parity

4.3.3.3 History of premature or stillbirth (N=157)

Of the respondents, 85.4% (n=134) reported that they did not have a history of stillbirths, premature births or miscarriages, whereas 23 (f=14.6%) respondents had experienced a stillbirth, premature birth or a miscarriage (see Figure 4.15).

The majority of the respondents (n=138; f=87.9%) gave birth at full gestational age, whereas 19 (f=12.1%) reported that they experienced a premature birth.

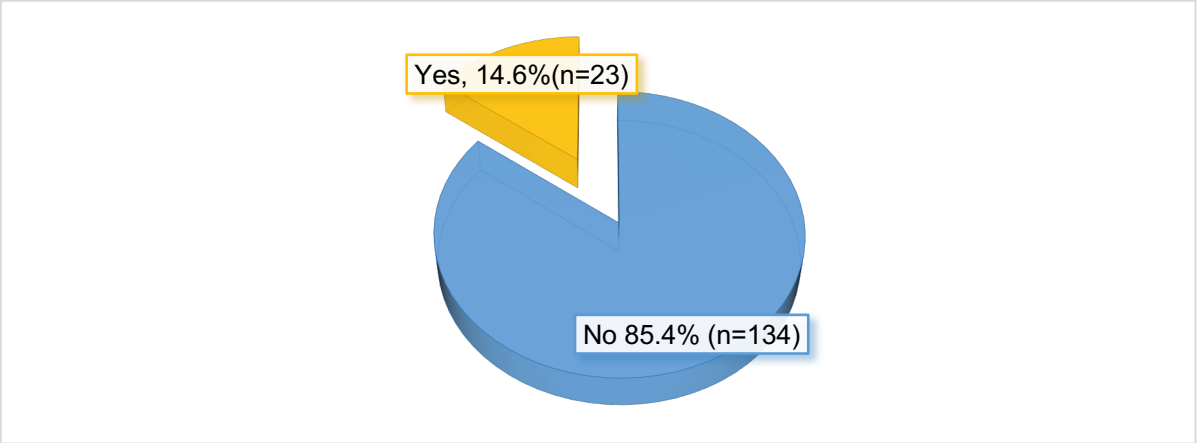

Figure 4:15: History of premature or stillbirth

4.3.3.4 Planned or unplanned pregnancy (N=157)

As illustrated in Figure 4.16, 103 (f=65.6%) respondents had unplanned pregnancies, and 54 (f=34.4%) respondents had planned for their pregnancy. Several studies have revealed that respondents with unintended pregnancies are less likely to use health institutions for ANC, childbirth and postnatal care (PNC) (Berhe, Welearegay, Abera, Kahsay & Kahsay 2014:75; Wado, Afework & Hindin 2013:1-8).

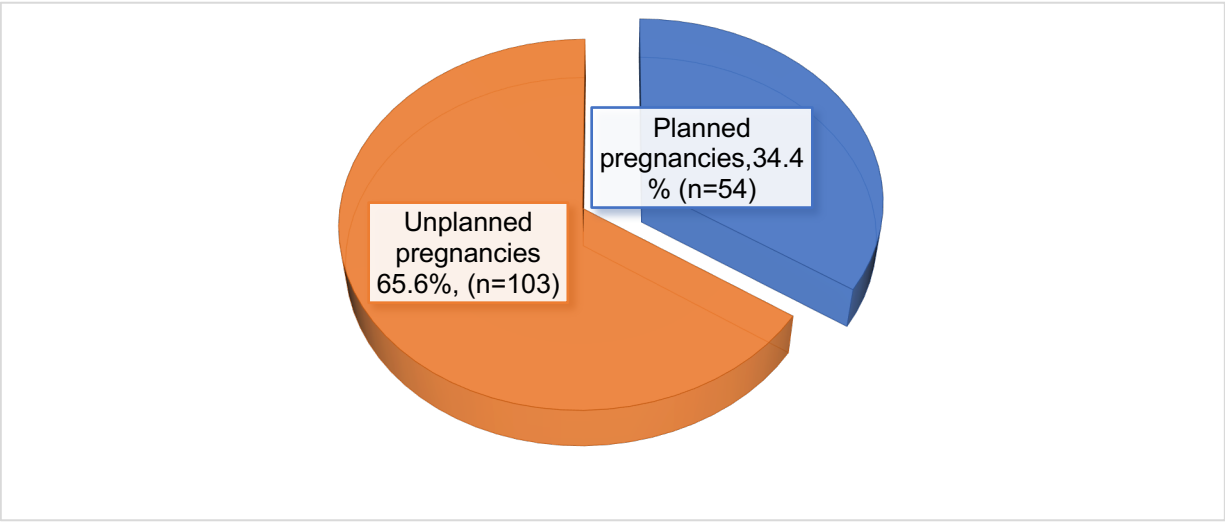

Figure 4.16: Pregnancy intentions

4.3.3.5 Reasons for unplanned pregnancies (n=103)

Unintended pregnancies were attributed to three main factors, namely non-use of family planning methods (F=75; f=47.8%), contraceptive failure (F=12; f=7.6%), and not diligently using contraceptives (F=16; f=47.8%). Two respondents revealed that they were raped and conceived as a result.

Although comprehensive sexual education (CSE) has improved, knowledge gaps still exist among young, vulnerable populations (Haberland & Rogow 2015:15). CSE mainly focuses on teaching adolescents about abstinence, not on safe sex and the use of contraceptives to reduce unplanned pregnancies. Yet, according to UNFPA (2019), adolescents have the highest rates of unplanned pregnancy.

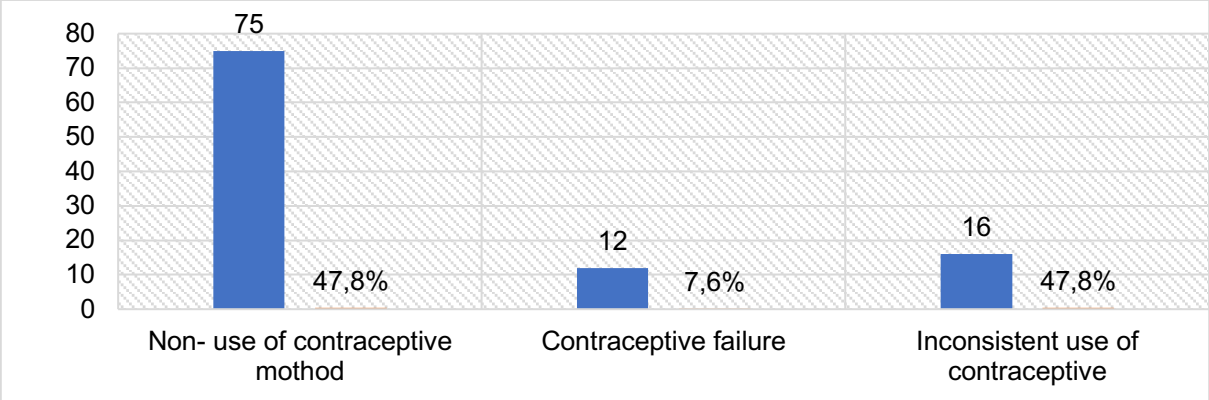

Figure 4.17: Reasons for unplanned pregnancies (n=103)

4.3.4 Knowledge, attitude and perception towards ANC

The ANC period presents a significant opportunity to provide pregnant women and their families information about pregnancy, labour and delivery risks, and the importance of health institution births, assisted by a skilled birth attendant. A series of laboratory tests are also conducted during ANC visits. The health care workers collect blood samples to test haemoglobin, blood group, hepatitis B, syphilis and HIV, whereas urine tests are conducted for blood glucose and urinary tract infection purposes. Ultrasound scan assessments are done to check foetal development, pregnancy duration, multiple pregnancies, and also to identify any risk factors (Better

Health 2014). ANC attendance allows health care workers to provide women with health education, including the signs of early labour and complications (WHO 2020).

4.3.4.1 ANC attendance during the last pregnancy (N=157)

As illustrated in Figure 4.18 below, 132 (f=84.1%) respondents managed to attend ANC while 25 (f=15.9%) never did. According to the Swaziland SRH Report (2019:18), ANC coverage in Swaziland is high, at 99% coverage. Yet this study reported a lower ANC coverage of 84.1% among respondents who experienced a non-institutional birth.

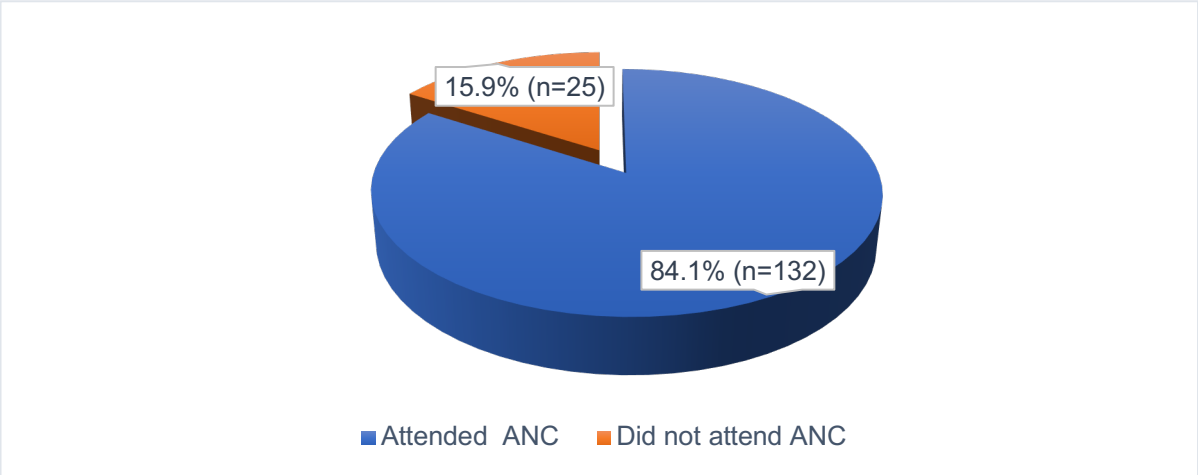

Figure 4.18: ANC attendance

4.3.4.2 ANC Focused visits (FANC) (n=132)

As illustrated in Figure 4.19, of the 132 respondents who attended ANC visits, only 50 (f=31.8%) managed to attend all four ANC visits, as recommended by the Swaziland ANC guidelines (2012-2019). According to the Swaziland Multiple Indicator Cluster Survey (2014:28), women from poor households and those with only a primary level of education are less likely to attend all recommended ANC visits. A study in Nepal revealed that increased ANC frequency was directly associated with greater utilisation of institutional birth services (Pathak, Shrestha, Devkota & Thapa 2017:228-234), possibly because these women are made aware of the benefits of institutional births.

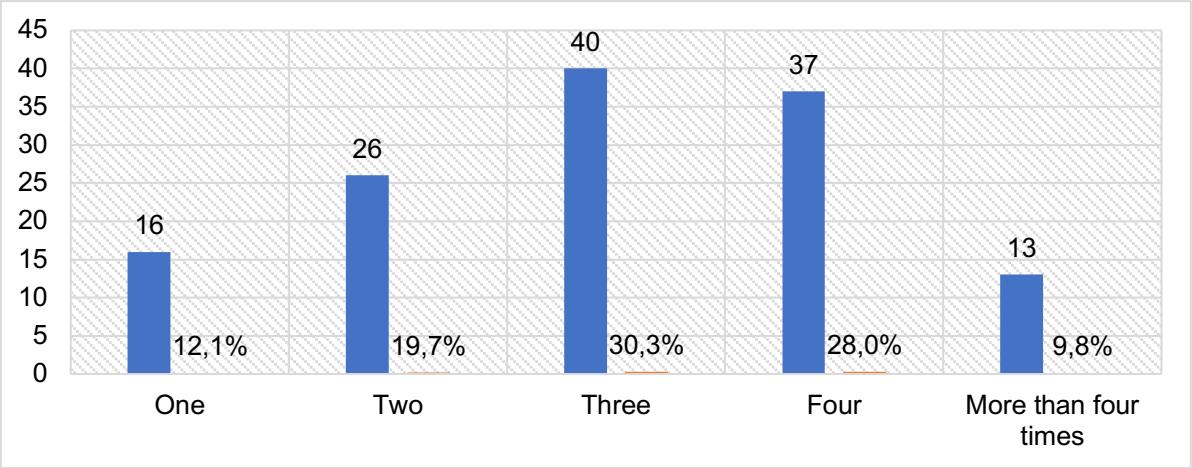

Figure 4.19: Number of ANC visits

4.3.4.3 Attitude of health care workers at ANC (n=132)

Of the respondents who attended ANC, 125 (f=94.7%) reported that the health care workers portrayed a good attitude towards them, whereas 4 (f=3.0%) reported that their attitude was bad, and 3 (f=2.3%) said the health care workers were not always good to them (see Figure 4.20). The attitude of health care service providers proved to influence maternal health-seeking behaviour, predominantly for childbirth services (Mannava, Durrant, Fisher, Chersich & Luchters 2015:1-17). Trust and confidence in the health care worker contribute to women's likelihood to give birth at a health institution, as indicated by Mekonnen, Ayichiluhm and Dejenu (2015:1-9[1B]). In this study's context, it seems as if the positive attitudes of health care workers did not result in institutionalised births (see Figure 4.20).

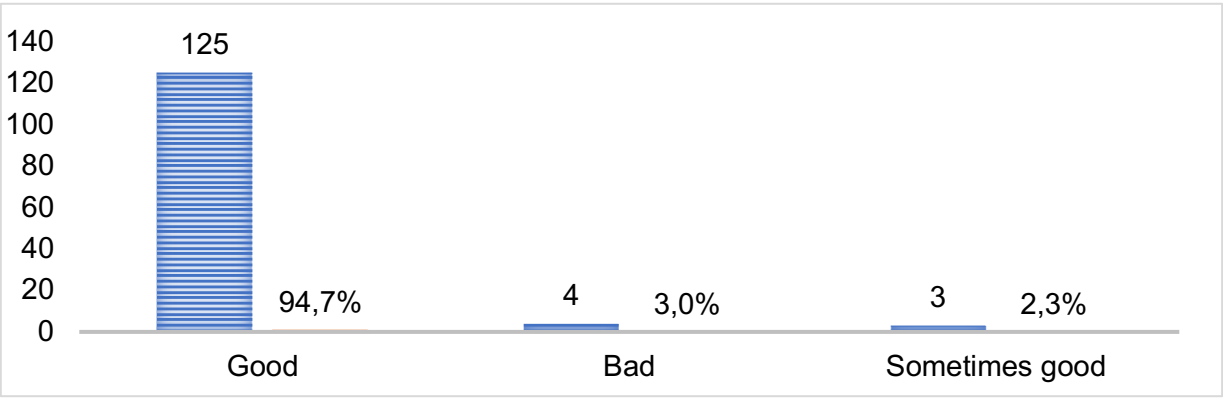

Figure 4.20: Attitude of health care workers at ANC

4.3.4.4 Reasons for ANC non-attendance (n=25)

Multiple factors were identified to be associated with ANC non-attendance, as illustrated in Table 4.4. Seven (f=28%) respondents reported a lack of time, 2 (f=8%) a lack of bus fare, 3 (f=12%) attitudes of health care workers, and 6 (f=24%) psychosocial problems, including fear of disclosure of pregnancy (F=7; f=28%) as reasons for not attending ANC. Contrary to these findings, 48 (f=44%) Namibian respondents cited unavailability of transport as a barrier to their utilisation of ANC services (Ilyambo 2017:65). Although all the public and private clinics provide ANC services in the Shiselweni region of Swaziland, only three provide maternity services, which possibly affects institutionalised births.

Table 4.4: Reasons for not attending ANC (n=25)

Reasons for not attending ANC	Frequency (F=)	Percentage (f=%)
Lack of time to attend ANC	7	28.0
Did not have money for bus fare	2	8.0
Fear of attitude of health care workers	3	12.0
I was experiencing psychosocial problems	6	24.0
Fear of disclosure of pregnancy	7	28.0
Total	25	100

4.3.4.5 Benefits of attending ANC (N=157)

All 157 respondents reported having knowledge about the benefits of attending ANC, as illustrated in Table 4.7, although some did not attend ANC. Hundred and thirty-seven (f=83.3%) respondents mentioned that health care workers are able to check their health and the well-being of their unborn baby during these visits. One hundred and eighteen (f=75.2%) respondents reported that health care workers are able to diagnose pregnancy risk factors and complications and mitigate them early during these visits. Despite a high prevalence of HIV of 39.2% among pregnant women in Swaziland, as reported by the United Nations Children's Fund (2020), only 3 (f=1.9%) respondents reported that the presence of PMTCT services motivated them to attend ANC clinics.

Table 4.5: Benefits of ANC attendance (N=157)

Benefits of ANC	Frequency (n=)	Percentage (f=%)
To check their health and that of their baby	137	83.3
For skilled birth attendance to diagnose risk factors and complications early	118	75.2
To discuss birth preparedness	78	49.7
Availability of skilled birth attendants	56	35.7
Availability of ANC equipment	29	18.5
Provision of PMTCT services	3	1.9
Provision of psychosocial services	3	1.9
Provision of supplements	6	3.8
Total	157	100

4.3.4.6 Source of information pertaining ANC benefits (N=157)

The majority of the respondents reported that health care workers (n=133; f=84.7%) were their major source of information on ANC benefits, followed by the media (n=57; f=36.3%), friends and relatives (n=43; f=72.6%), and school health programmes (n=3; f=1.9%). Also, 2 (f=1.3%) respondents heard about the benefits at their workplaces, and 6 (f=3.8%) knew 'just knew' (see Figure 4.21).

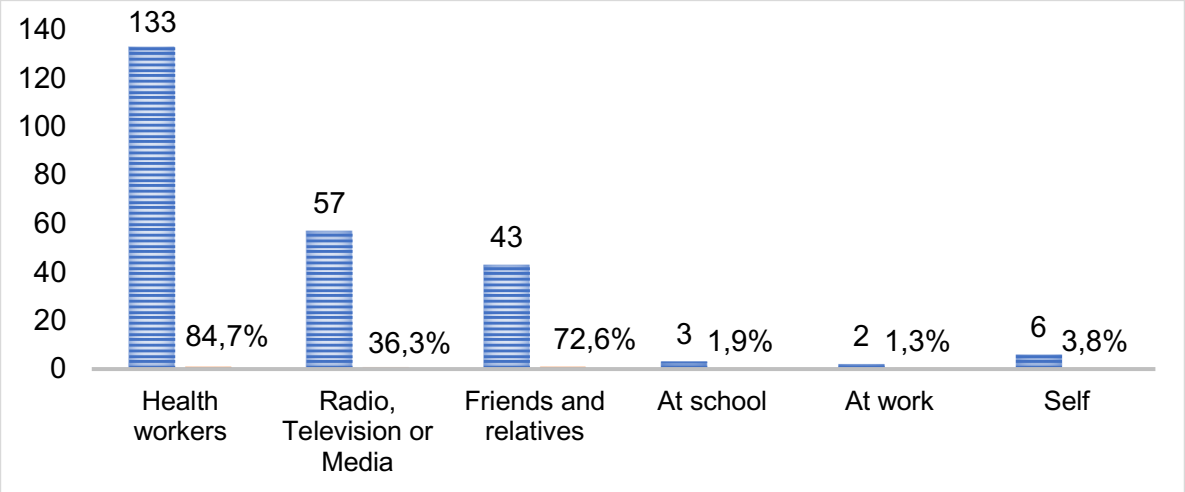

Figure 4.21: Sources of information for ANC benefits

4.3.4.7 Influence of ANC on the choice for place of birth (n=132)

Ninety-six (f=61.1%) respondents acknowledged that ANC attendance influenced their plan for an institutionalised birth, whereas 39 (f=22.9%) disagreed (see Figure 4.22). The main reasons for planned institutional births included the presence of skilled birth attendants (F=53; f=33.8%), health education provided on safe motherhood (F=23; =14.6%), and the provision of PMTCT services (F=20; f=12.7%).

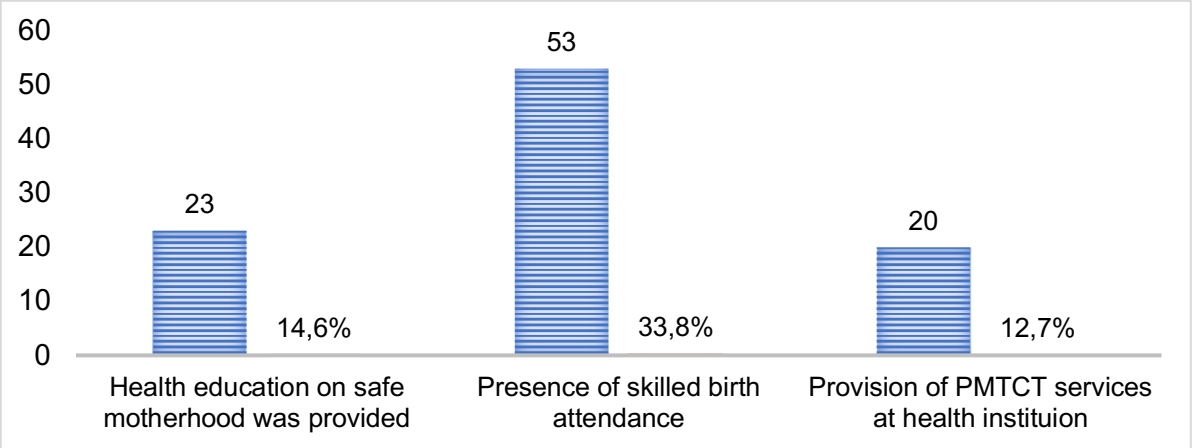

Figure 4.22: ANC's influence on the choice of place of birth (n=132)

4.3.5 Knowledge attitudes and perception towards maternal health services

Knowledge is considered a key component to empower women in making informed decisions about their SRH rights (UNFPA 2020).

4.3.5.1 Respondents' knowledge of the benefits of institutional birth (N=157)

Of the respondents, 128 (f=94.4%) were knowledgeable about the benefits of giving birth in a health institution, and 9 (f=5.7%) respondents had poor knowledge of the potential benefits. Women who are knowledgeable about the danger signs of labour are more likely to use health institutions for childbirth purposes (Yoseph, Abebe, Mekonnen, Sisay & Gonete 2020:10). The respondents mentioned the following benefits of institutionalised births:

- 130 (f=82.8%) respondents stated that skilled birth attendants could identify and manage complications better than traditional birth attendants.
- 32 (f=20.4%) respondents acknowledged that the health institution is a clean environment.
- 46 (f=29.3%) respondents mentioned that health institutions have better equipment, drugs, and blood transfusion services.
- 27 (f=17.2%) respondents stated that PMTCT services are provided to reduce mother to child HIV transmission rates at health institutions.
- 17 (10.8%) revealed that health education on baby and PNC services are provided at health institutions.

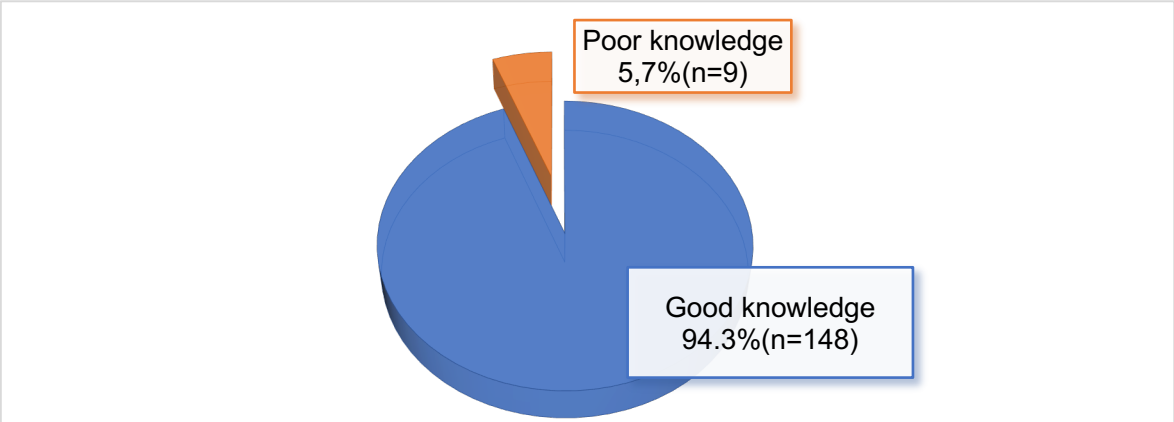

Figure 4.23: Knowledge of benefits of an institutional birth (N=157)

4.3.5.2 Reasons for non-institutional births (N=157)

Despite the fact that the majority of the respondents were knowledgeable about the benefits of institutional births (see Table 4.6), the various impeding factors for institutional births were: 36 (f=24.3%) respondents had no money for transport and hospital fees, 46 (f=31.0%) revealed unavailability of transport, 34 (f=21.7%) complained about precipitate labour, 8 (f=5.4%) revealed that the health care workers were unfriendly during previous encounters, 11 (f=7.4%) experienced preterm labour, 10 (f=6.7%) respondents complained about long distances to the health institutions, and 7 (f=4.7%) reported bad roads. Five (f=3.3%) respondents gave birth while on transit to the nearest health institution.

Table 4.6: Reasons for non-institutional births (N=157)

Variable	Frequency (n=)	Percentage (f=%)
No money for transport costs	36	24.3
Transport was not available	46	31.0
Precipitate labour	34	22.9
Unfriendly health care workers	8	5.4
Preterm labour	11	7.4
Distance too long	10	6.7
Was on transit from BEmONC to CEmONC facility	5	3.3
Bad roads	7	4.7
Total	**157**	**100%**

4.3.5.3 Items available during childbirth (N=157)

Table 4.7 illustrates the items that were available and used during the birthing process. According to the United Nation Population Fund (UNFPA) (2021), emergency birth kits are needed to prevent infections and save lives when respondents are forced by challenging situations to give birth outside health institutions. These kits should consist of soap, sterile plastic sheeting, a razor blade, umbilical cord tie, blanket and latex gloves. The respondents did not have all the recommended essential emergency home delivery items, and unsterile items such as scissors, plastics, and thatching grass were used, thereby exposing the mother and her newborn baby to infections. Only 81 (51.6%) respondents were in possession of gloves.

Table 4.7: Items available during labour (N=157)

Variable	Frequency (n=)	Percentage (f=%)
Razor blades	60	38.2
Gauze and cotton wool	52	33.1
Methylated spirit	55	35.0
Soap	97	61.8
Gloves	81	51.6
Water	91	58.0
Pain relief drugs	16	10.2
Food	39	24.8
Plastics	2	1.3

Variable	Frequency (n=)	Percentage (f=%)
Scissors	13	8.3
Thatching grass	1	0.6
Towels	1	0.6
Total	157	100

4.3.5.4 Health-related problems experienced during childbirth (n=35)

The majority of the respondents (n=122; f=77.7%) reported an uncomplicated birth, whereas 35 (f=22%) encountered some obstetric complications (see Table 4.8). Twelve (f=34.2%) respondents complained of first and second-degree vaginal tears, 10 (f=28.5%) had premature babies, and 2 (f=5.7%) had stillbirths. The other three (f=8.4%) obstetric complications included urine incontinence, umbilical cord around the baby's neck, and retained placenta.

Table 4.8: Complications reported by respondents (n=35)

Variable	Frequency (F=)	Percentage (f=%)
Vaginal tears	12	34.0
Postpartum haemorrhage	8	22.8
Cord around the neck of baby	1	2.8
Preterm baby	10	28.5
Still birth	2	5.7
Urine incontinence	1	2.8
Retained placenta	1	2.8
Total	**35**	**100**

4.3.5.5 Postnatal care services (n=157)

Despite encountering non-institutional births, all but one respondent (n=156; f=99.4%), attended immediate PNC services. The only respondent who failed to attend within 24 hours after giving birth, reported that she did not have transport money.

4.3.5.6 Immunisation services after non-institutional birth (n=155)

All 155 (f=97.5%) respondents who gave birth to live babies had their babies immunised. According to the Centre for Disease Control (CDC) (2020), immunisation is important for herd immunity and to protect children from preventable childhood illnesses.

4.3.6 Recommendations to improve institutional births

Having appreciated that home births were a risk factor to maternal and child health morbidity, the respondents suggested the following recommendations to possibly enhance maternal health service utilisation, including for childbirth, in Swaziland.

4.3.6.1 Recommendations for the health system

According to the respondents, there were six distinguished proposed interventions for maternal health systems:

- 91 responses suggested that the government of the Kingdom of Eswatini should provide ambulances to ferry women in labour to health institutions.
- 40 responses referred to the need for waiting huts for women who live far from health institutions.
- 18 responses indicated a desire that the government or its stakeholders must provide women with free childbirth services or vouchers.
- 23 responses revealed the recommendation that health centres should provide comprehensive maternal services.
- 45 responses recommended that basic comprehensive health services should be offered at the nearest clinics, and all maternity wings should be fully functional with adequate equipment and health care workers.
- 23 (f=15.6%) responses suggested that health care workers must improve their attitude, especially at the maternity ward entry point.

4.3.6.2 General recommendations

The responses received from some respondents on how to motivate institutional births included:

- Pregnant women must be motivated to attend ANC (26 responses).
- Women must be empowered to enable them to afford childbirth costs (26 responses).
- Effective use of contraceptives to avoid unplanned pregnancies (13 responses).
- The community must be actively involved in supporting pregnant women (7 responses), including offering support with transport.

4.4 CORRELATION OF FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS

Table 4.9 illustrates factors obtained from literature that might contribute to non-institutional births to assess whether these were reported in this study. The selected factors for comparison were age, parity, education level, employment status, area of residence, marital status, planned mode of transport, distance to the nearest health facility, pregnancy intentions, knowledge on the benefits of institutional births, and the health care workers' attitude at ANC.

The chi-square tests were employed to measure the strength of the associations between selected factors and the utilisation of ANC, type of non-institutional birth (i.e., BBA and home births), presence of complications, and PNC utilisation. Pearson correlation tests were also employed to identify the direction and strength of the association between different selected factors associated with non-institutional births (see Table 4.9).

Table 4.9: Correlation of factors associated with maternal health service utilisation

	Age	Marital	Resid	Educ	Emplo	Maternal	Distance	Birthpl	Planned place	Parity	ANC attendance	Health worker atti	Knowledge of benefits
Age group		.471**	.071	.071	.038	-.032	-.097	-.121	.134	.682**	-.209**	-.075	-.184*
Marital status	.471**		.079	-.104	-.048	.125	.133	-.095	.188*	.435**	-.125	-.075	-.181*
Residence	.071	.079		-.269**	-.126	.360**	.354**	.113	-.051	.117	-.085	-.190*	.097
Education	.071	-.104	-.269**		.297**	-.303**	-.102	-.017	-.183*	-.246**	-.148	.238**	-.029
Employment	.038	-.048	-.126	.297**		-.209**	-.081	-.084	.059	-.065	-.053	.045	.037
Maternal services	-.032	.125	.360**	-.303**	-.209**		.474**	.223**	.120	.078	.042	-.095	.154
Distance	-.097	.133	.354**	-.102	-.081	.474**		.139	-.006	-.023	.084	-.029	.032
Place child birth	-.121	-.095	.113	-.017	-.084	.223**	.139		-.165*	-.091	-.007	.030	.089
Planned place of birth	.134	.188*	-.051	-.183*	.059	.120	-.006	-.165*		.267**	.100	-.053	-.064
Parity	.682**	.435**	.117	-.246**	-.065	.078	-.023	-.091	.267**		-.150	-.011	-.126
ANC attendance	-.209**	-.125	-.085	-.148	-.053	.042	.084	-.007	.100	-.150		.[c]	.042

Health worker attitude	-.075	-.075	-.190*	.238**	.045	-.095	-.029	.030	-.053	-.011	.c		-.053
Knowledge of benefits	-.184*	-.181*	.097	-.029	.037	.154	.032	.089	-.064	-.126	.042	-.053	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed)

c. Cannot be computed because at least one of the variables is constant

The main factors identified to be associated with maternal health service utilisation in this study were age group, marital status, education level, employment status, area of residence, distance, availability of health institutions, pregnancy intentions, health care worker attitude, and knowledge of the benefits of institutional births (see Tables 4.10, 4.11 and 4.12). Proportional contributions were used to analyse the identified factors.

4.4.1 Predisposing factors

The predisposing factors possibly associated with maternal health service utilisation is illustrated in Table 4.10. However, none of the predisposing factors were significantly associated with the selected variables, as they had p-values greater than 0.05.

Table 4.10: Cross-tabulation of predisposing factors and maternal health service utilisation and complications

		ANC		Focused ANC		Place of birth		Complications		PNC	
Age group	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
14-19 years	**17 (10.8)**	11(64.7)	6(35.3)	2(11.8)	15(88.2)	2(11.8)	15(88.2)	5(29.4)	12(70.5)	100(17)	0(0.0)
20-24 years	**45 (28.7)**	35(77.8)	10(22.2)	13(28.9)	32(71.1)	11(24.4)	34(75.6)	8(17.8)	37(82.2)	97.8(44)	1(2.2)
25 to 29 years	**42 (26.8)**	37(88.1)	5(11.9)	12(28.6)	30(71.4)	14(33.3)	28(66.6)	9(21.4)	33(78.6)	100(42)	0(0.0)
30 to 34 years	**28 (17.8)**	26(92.9)	2(7.1)	13(46.4)	15(53.6)	6(21.4)	22(78.6)	8(28.6)	20(71.4)	100(28)	0(0.0)
35 to 39 years	**20 (12.7)**	18(90.0)	2(10.0)	8(40.0)	12(60.0)	9(45.0)	11(55.0)	4(20.0)	16(80.0)	100(20)	0(0.0)
40 years and older	**5 (3.2)**	5(100)	0(0.0)	2(40.0)	12(60.0)	1(20.0)	4(80.0)	1(20.0)	4(80.0)	100 (5)	0(0.0)
P-value		**0.085**		**0.216**		**0.237**		**0.882**		**0.776**	
Marital status	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Single	**98 (62.4)**	79(80.6)	19. (19.4)	30(30.6)	68(69.4)	22(22.4)	76(77.6)	23(23.5)	75(76.5)	97(99.0)	1(1.0)
Cohabiting	**14 (10.2)**	14(87.5)	2(12.5)	4(25.0)	12(75.0)	8(50.0)	8(50.0)	3(18.8)	13(81.3)	100.0	0(0.0)
Married	**42 (26.8)**	38(90.5)	4(9.5)	16(38.1)	26(61.9)	13(31.0)	29(69.0)	9(21.4)	33(78.6)	42(100.0)	0(0.0)
Divorced	**1 (0.6)**	1(100)	0(0.0)	0.0	1(100.0.)	0(0.0)	1(100.0)	0(0.0)	1(100.0)	1(100.0)	0(0.0)
P-value		**0.477**		**0.651**		**0.114**		**0.919**		**0.895**	
Education level	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
No education	**5 (3.2)**	3(60.0)	2(40.0)	1(20.0)	4(80.0)	2(40.0)	3(60.0)	1(20.0)	4(80.0)	5(100.0)	0(0.0)
Primary	**34 (21.7)**	27(79.4)	7(20.6)	10(29.4)	24(70.6)	9(26.5)	25(73.5)	11(32.4)	23(67.6)	33(97.1)	1(2.9)
Secondary	**54 (34.4)**	44(81.5)	10(18.5)	16(29.6)	16(29.6)	18(33.3)	36(66.7)	12(22.2)	42(77.8)	54(100.0)	0(0.0)
High school	**53 (33.8)**	48(90.6)	5(9.4)	19(35.8)	19(35.8)	8(15.1)	45(84.9)	10(18.9)	43(81.1)	53(100.0)	0(0.0)
Certificate	**5 (3.2)**	5(100.0)	0(0.0)	3(60.0)	3(60.0)	2(60.0)	2(40.0)	0(0.0)	5(100.0)	5(100.0)	0(0.0)
Diploma	**6 (3.8)**	5(83.3%)	1(16.7)	1(16.7)	5(83.3)	3(50.0)	3(50.0)	1(16.7)	5(83.3)	6(100.0)	0(0.0)
P-value		**0.346**		**0.640**		**0.87**		**0.563**		**0.602**	

4.4.1.1 Age group (N=157)

With regards to the 0.05 level of correlation significance, age was negatively associated with knowledge of the benefits of institutional births at -.184. Age group was not associated with ANC attendance, place of birth, postnatal attendance, and the experience of complications (p-values were more than 0.05) (see Table 4.9). However, a higher proportion of birth complications were reported among adolescent respondents (n=5; f=29.4%), whereas the lowest was among respondents within the age group of 20 to 24 years (n=8; f=17.8%) (see Table 4.10). These findings are supported by similar trends where the WHO (2020) reported higher risks of obstetric complications among adolescent mothers than women aged between 20-24 years.

4.4.1.2 Marital status (N=157)

Marital status was also negatively significantly associated with knowledge of benefits of institutional births (.181), though it was positively associated with planned place of birth (.188) and the respondent's age group (.471). Thus, marriage did not significantly influence place of birth (p-value 0.11) (see Table 4.9). The proportion of married respondents who gave birth in transit to the health institution was higher (n=8; f=50%) among cohabiting than single respondents (n=22; f=22.4%). A higher proportion of single respondents (n=23; f=23.5%) experienced complications during and after childbirth than respondents who were cohabiting (n=3; f=18.8%). All the respondents in union (n=58; f=100%) attended PNC services, while coverage for single respondents was slightly lower (n=97; f=97.7%).

4.4.1.3 Education level (N=157)

Education level was identified to be significantly negatively associated with the respondents' planned place of childbirth (-.183), meaning that less-educated respondents were more likely to give birth outside health institutions (see Table 4.9). However, the cross-tabulation analysis (see Table 4.9) revealed no statistically significant relationship between age and ANC, birthplace, complications, and PNC attendance, as p-values were greater than 0.05. ANC attendance was highest among respondents with a diploma level of education (n=5; f=100%), and lowest among

respondents with no education (n=3; f=2.3%), possibly influencing their choice of childbirth setting and highlighting the importance of education on the utilisation of ANC and maternal health services (see Table 4.10). The proportion of respondents (n=11; f=32.4%) who experienced complications were the highest among respondents with a primary level education (n=1; f=16.7%), and lowest among respondents with a diploma level of education, again emphasising the importance of ANC attendance.

4.4.2 Enabling factors

The enabling factors possibly associated with maternal health service utilisation is illustrated in Table 4.11.

Table 4.11: Enabling factors for maternal health service utilisation

		ANC		Focused ANC		Place of birth		Complications		PNC	
Employment status	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Employed	**41 (26.1)**	36(87.8)	5(12.2)	17(41.5)	24(58.5)	9(22.0)	32(78.0)	10(24.4)	31(75.6)	41(100.0)	0(0.0)
Self-employed	**8 (5.1)**	5(62.5)	3(37.5)	1(12.5)	7(87.5)	4(50.0)	4(50.0)	0(0.0)	8(100.0)	8(100.0)	0(0.0)
Unemployment	**108 (68.8)**	91(84.3)	17(15.7)	32(29.6)	76(70.4)	30(27.8)	30(27.8)	25(23.1)	83(76.9)	107(99.1	1(0.9)
P-value		**0.201**		**0.185**		**0.263**		**0.295**		**0.796**	
Area of residence	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Urban	**21 (13.4)**	16(76.2)	5(23.8)	6(28.6)	15(71.4)	5(23.8)	16(76.2)	3(14.3)	18(85.7)	21(100)	0(0.0)
Rural	**136 (86.6)**	116(85.3)	20(14.7)	44(32.4)	92(67.6)	38(27.9)	98(72.1)	32(23.5)	104(76.5)	135(99.3)	1(0.7)
P-value		0.289		0.729		0.693		0.344		0.693	
Distance	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
5km or less	**31(19.7)**	27(87.1)	4(12.9)	13(41.9)	18(58.1)	6(19.4)	25(80.6)	6(19.4)	25(80.0)	31(100.0)	0(0.0)
More than 5km	**126(80.3)**	105(83.3)	21(16.7)	37(29.4)	89(70.6)	37(29.4)	89(70.6)	29(23.0)	97(77.0)	125(99.2)	1(0.8)
P-value		**0.608**		**0.178**		**0.263**		**0.661**		**0.619**	
Availability MCH	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Available	**75(86.7)**	65(47.8)	10(13.3)	26(34.7)	49(65.3)	16(21.3)	59(78.7)	15(20.0)	60(80.0)	74(98.7)	1(1.3)
Unavailable	**63(80.8)**	78(49.7)	15(19.2)	21(26.9)	57(73.1)	25(32.1)	53(67.9)	18(23.1)	60(76.9)	78(100.0)	0(0.0)
Not sure	4(100)	4(100.0)	2(0.0)	3(75.0)	1(25.0)	2(50.0)	2(50.0)	2(50.0)	2(50.0)	4(100.0)	0(0.0)
P-value		0.413		0.101		0.196		0.063		0.577	
Unplanned or planned pregnancies	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Unintended	**103(65.6)**	48(88.9)	6(11.1)	16(29.6)	38(70.4)	19(35.2)	35(64.8)	12(22.2)	42(77.8)	54(100.0)	0(0.0)
Intended	**54(34.4)**	84(81.6)	19(18.4)	34(33.0)	69(67.0)	24(23.3)	79(76.7)	23(22.3)	80(77.7)	102(99.0)	1(0.6)
P-value		0.233		0.666		0.113		0.988		0.468	

4.4.2.1 Employment status (N=157)

A significant positive correlation at 0.01 level was noted between employment status and respondents' education level (.297), whereas there was a significant negative correlation with the presence of health institutions (-.303) in the respondents' area of residence (see Table 4.9). The cross-tabulation analysis between employment status and other maternal health service utilisation variables did not reveal any significant associations as the values were more than the 0.05 level (see Table 4.11). In respect of ANC attendance, a higher proportion of employed respondents attended ANC, (n=36; f=87.8%) with were self-employed respondents attending ANC the least (n=5; f=62.5%). The FANC visits were also highest among employed respondents (n=41.5%; f=17), than among self-employed respondents (n=1; f=12.5%) and among unemployed respondents (n=32; f=29.6%). The highest proportion of BBAs were among self-employed respondents (n=4; f=50.0%), followed by those from unemployed respondents (n=30; f=27.85), whereas home births were highest among employed respondents (n=32; f=78%) and lowest among self-employed respondents (n=4; f=50%).

4.4.2.2 Area of residence (N=157)

A negative, strong correlation was noted (-.190) between residential area and health care worker attitude (see Table 4.9). Nonetheless, no significant association was detected between area of residence and utilisation of maternal health services, including the presence of birth complications (p-value >0.05) (see Table 4.11). A higher proportion of ANC attendance (n=116; f=85.3%) was reported among respondents from rural areas than those from urban areas (n=16; f=76.2%). Also, a higher proportion of FANC visits were reported among rural respondents (n=44; f=32.4%) than urban respondents (n=6; f=28.6%).

The proportion of BBAs were also higher among the rural respondents (n=38; f=38), whereas home births were higher among urban respondents (n=16; f=76.2%). Respondents who lived in rural areas experienced a higher percentage of complications (n=32; f=23.8%) than urban respondents (n=3; f=14.3%). All

respondents from the urban areas attended PNC services (n=21; f=100%), whereas one woman from the rural area did not seek PNC services (n=135; f=99.3%).

4.4.2.3 Distance

As illustrated in Table 4.9, a significant correlation at 0.01 level was reported between distance from the health institution and the area of residence (.354), and also the presence of health institutions (.474). An insignificant association was detected when the cross-tabulation analysis was employed between distance and the health institution utilisation variable (p-value was greater than 0.05) (see Figure 4.11). With regards to distance and ANC attendance, a higher proportion of attendance was noted among the respondents who reported that they live within a 5km radius to the nearest health institutions (n=27; f=87.1%) than those who had to travel a distance of more than 5km (n=105; f=83.3%). ANC focused visits were also higher (n=13; f=41.9%) among respondents who stayed within the 5km radius of the institution than those who stayed more than the 5km (n=29.4%; f=37) from the nearest health institution.

A higher proportion of BBAs (n=37, f=29.4%) was seen among respondents who lived more than 5km from the health institution, whereas home births were higher among respondents living within a 5km radius (n=25; f=80.6%). The highest proportion of respondents who experienced obstetric complications was among those who lived more than 5km from the health institution (n=29; f=23.0%) than those who lived less than 5km (n=6; f=19.4%) from the institution. The highest proportion of complications was faced by respondents who were employed (n=24.4%; f=10) than unemployed respondents (n=25; f=23.1), although the difference was only 1.3% between the two groups. None of the self-employed respondents reported any obstetric complications during and after experiencing a non-institutional birth.

4.4.2.4 Availability of health institutions (F=75)

As illustrated in Table 4.9, the presence of maternal health services (which offers childbirth services) was significantly positively associated (0.01 level) with area of residence (.360), distance (.474) and place of birth (.223), though negatively significantly associated with education (-.303) and employment status (-.209). In

respect of cross-tabulation analysis, there were no statistically significant associations (p-value > 0.05) observed between the availability of maternal health services and the selected variables of maternal health service utilisation (see Table 4.11).

There was a higher proportion of ANC attendance among respondents (n=125; f=84.5%) who were living in settings with maternal health services, than respondents (n=63; f=80.8%) who did not have available maternal health services, yet all (f=100%) respondents attended ANC. A higher proportion of respondents (n=26; f=34.7%) who stayed in settings which had maternal health services managed to attend the FANC visits than those respondents (n=21; f=26.9%) who did not have the services available to them, and those respondents (n=3; f=75.0%) who were not sure whether they had these services.

BBAs were highest among respondents (n=2; f=50.0%) who were not sure about the availability of maternal health services, followed by those with the maternal health services (n=16; f=21.3%), whereas home births were highest among respondents with access to maternal health services (n=78.9%) than those who were not sure (n=2; f=50.0%). A higher proportion of complications was reported among respondents who were unaware of the presence of maternal health services in their communities (n=2; f=50.0%). PNC care was lower among respondents with access to maternal health services (n=74; f=98.7%), whereas the respondents without access and those who are unsure of the presence of maternal health services, all attended PNC services.

4.4.2.5 Unplanned or planned pregnancy (n=157)

As illustrated in Table 4.11, no statistically significant association (p-values >0.05) was reported between unplanned or planned pregnancies and the use of health institutions, or the experience of birth complications. However, the use of ANC services was higher among respondents who had planned for their pregnancies (n=48; f=88.9%) and lower among those with unplanned pregnancies (n=84; f=81.6%). Conflictingly, ANC focused visits were slightly lower among respondents with planned pregnancies (n=16; f=29.6%) than among unintended pregnancies (n=34; f=33%), though BBAs were higher among those with planned pregnancies (n=19; f=35.2%), and home births were higher among respondents who had not planned for their pregnancies (n=79;

f=76.7%). All 54 respondents who had planned for their pregnancies attended PNC services, whereas 103 (f=99%) respondents with unintended pregnancies attended PNC services. The proportion of complication experienced were almost similar between respondents with intended and unplanned pregnancies (n=12; f=22.2%; n=23; f=22.3%).

4.4.3 The need factors

The need factors possibly affecting maternal health service utilisation were; health care worker attitude and respondents' knowledge of the benefits of institutionalised births (see Table 4.12). The health care workers' attitude was statistically significantly associated with maternal complications (p-value 0.043).

Table 4.12: Need factors associated with maternal health service utilisation

		ANC		Focused ANC		Place of birth		Complications		PNC	
Health worker attitude	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Good	**125 (94.7)**	**125 (94.7)**	n/a	49(39.2)	76(60.8)	34(27.2)	91(72.8)	27(21.6)	98(78.4)	124(99.2)	1(0.8)
Bad	**4(3.0)**	**3(2.3)**	n/a	0(0.0)	4(100.0)	2(50.0)	2(50.0)	3(75.0)	1(25.0)	4 (100.0)	0(0.0)
Sometimes good	**3(3.0)**	**4(3.0)**	n/a	1(33.3)	2(66.7)	1(33.3)	2(66.7)	1(33.3)	2(66.7)	3(100.0)	0(0.0)
P-value				**0.278.**		**0.594**		**0.043*** **		**0.972**	
Knowledge of benefits	**n (%)**	**Yes**	**No**	**Yes**	**No**	**BBA**	**Home birth**	**Yes**	**No**	**Yes**	**No**
Good	**148(94.3)**	125(84.5)	23(15.5)	46(21.1)	102(68.9)	41(27.7)	107(72.3)	33(22.3)	115(77.7)	147(99.3)	1(0.7)
Poor	**9(5.7)**	7(77.8)	2(22.2)	4(44.4)	5(55.6)	2(22.2)	7(77.8)	2(22.2)	7(77.8)	9(100.0)	0(0.0)
P-value		**0.595**		**0.403**		**0.720**		**0.996**		**0.805**	

*** significantly associated with maternal complications.

4.4.3.1 Health care worker attitude at ANC (n=132)

Birth complications were significantly associated (p-value of 0.043) with the attitude of health care workers towards the respondents at the ANC entry point (see Table 4.12). A higher proportion of FANC visits was found among respondents (n=49; f=39.4%) who perceived that health care workers' attitude was favourable towards them, whereas none of the respondents who complained about the bad attitude of health care workers completed the focused visits. The proportion of complications was higher (n=3; f=75.0%) among respondents who reported a bad experience at the hands of health care workers and lowest among the respondents who were satisfied with the attitude of health care workers (n=27; f=21.6%). PNC utilisation was lower (n=124; f=99.2%) among the 125 respondents who reported good attitudes among health care workers at the ANC entry point, whereas 9 (f=100%) respondents complained about the conduct of health care workers, they all attended PNC services.

4.4.3.2 Knowledge of benefits institutional births (N=157)

Respondents' knowledge of institutional births' benefits did not statistically significantly influence their decision to utilise maternal health services as the p-values were greater than 0.05 (see Table 4.12). The proportion of FANC visits were higher (n=4; f=44.4%) among respondents with poor knowledge of the benefits of institutional births and lower (n=46; f=21.1%) among respondents with good knowledge of its benefits. BBAs were also higher among respondents with poor knowledge (n=7; f=77.8%) whereas home births were higher among respondents with good knowledge (n=41; f=27.7%) of health institution benefits. A high number (n=33; f=22.3%) of respondents with good knowledge experienced some complications, whereas only 2 (f=22.2%) whose knowledge was poor also reported some childbirth complications. All 9 respondents with poor ANC knowledge attended PNC services, whereas 147 (f=99.3%) with good knowledge attended these services.

4.5 CONCLUSION

Chapter 4 identified and discussed factors that were associated with non-institutional births in the Shiselweni region of Swaziland. In the next chapter, the findings are summarised, the limitations of the study are discussed, and recommendations are identified, followed by the conclusions that were drawn from this study.

CHAPTER 5
CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter 5 contains the conclusions, recommendations and limitations of the study. The Andersen and Newman Behavioural Model of Health Services utilisation supported the conclusions of the study (see Section 1.9). Recommendations to improve institutional births and for future research are provided, and conclusions are also drawn regarding the significance of the study.

5.2 RESEARCH DESIGN AND METHOD

A cross-sectional, non-experimental and quantitative research design was employed to identify and describe factors associated with non-institutional births in the Shiselweni region of Swaziland. Multiple-stage sampling was used to select a sample of 157 women who experienced a non-institutional birth. A questionnaire was administered to the respondents to answer the research questions in an interview fashion (see Section 3.6.2). The research team comprised of the researcher, three research assistants and a statistician. The statistician assisted the researcher with data analyses using the Statistical Package for the Social Sciences (SPSS) version 23. Both descriptive and analytical statistics were used in analysing the research data. This study intended to accomplish three objectives, which were all met. These included:

- Identify and describe the factors associated with non-institutional births in the Shiselweni region of Swaziland.
- Identify the challenges encountered by women who had non-institutional births.
- Provide evidence-based recommendations to the Swaziland reproductive health programme planners and policymakers to assist in enhancing institutional births, facilitated by skilled birth attendants.

The summary of the findings is presented in relation to the first two objectives of the study. The third objective is addressed in the recommendation section (see Section 5.4).

5.3 CONCLUSIONS

5.3.1 Identify and describe factors associated with non-institutional births (objective 1)

The following factors were found to be associated with non-institutional births.

5.3.1.1 Age

The study findings revealed that the youngest respondent was 14 years old, whereas the oldest was 43 years. The highest number of non-institutional births were among young mothers aged between 20 to 24 years, and adolescent mothers aged between 14 to 19 years. These findings were in agreement with other studies within and across developing countries which revealed higher odds of non-institutional births among young mothers (Boah et al., 2018:125; Abdella et al., 2017:34).

5.3.1.2 Marital status

The majority of the respondents were single and living with their parents or guardians. Single women are less likely to opt for institutional births than divorced, married and widowed women (Envuladu et al., 2013:5; Kifle et al., 2018:22; Abeje et al., 2014:6; Ogolla 2015:3), as was supported by the study's findings. Spouses play an important role in providing financial resources for an institutional birth (Bohren Berger Munthe-Kaas & Souza Vogel 2014:3), thus influencing whether women, in this case single women, were able to opt for an institutional birth.

5.3.1.3 Employment status

The majority of the respondents were not employed; 49 were employed or self-employed (f=3.2%), thus had an income due to their employment. A comparative analysis of employment status revealed that 72% of respondents' husbands or

partners were employed. The majority of home births (see Figure 4.2) were reported from respondents whose husbands were unemployed, highlighting the importance of household income as a possible enabling influence for an institutional birth.

5.3.1.4 Education level

A very small number (f=6.5%) of the respondents reached tertiary education (certificate and diploma level), and evidence indicates that more educated women prefer institutional births (Ejeta & Nigusse 2015:36-42; Rutaremwa et al., 2015:271).

None of the respondents' husbands had a qualification at diploma level, possibly negatively influencing their utilisation of health institutions because educated men are more knowledgeable about the benefits of institutional childbirth (Dixit et al., 2017:133).

5.3.1.5 Area of residence

Rural residence was found to be a contributing factor influencing women's decision to give birth outside health institutions as the majority of the respondents (86.6%) resided in rural communities. Several challenges were experienced with transport to health facilities, including travelling during the night, weekends and public holidays, bad roads, and the weather impacting on roads (see Table 4.2).

5.3.1.6 Distance from the healthcare facility

Although the WHO (2014) recommends that health institutions should be within a 5km radius of communities, the majority of respondents (79.6%) lived more than 5km from the nearest health institution (see Table 4.8).

5.3.1.7 Unplanned pregnancies

Although family planning is offered free of charge in Swaziland, 65.6% (see Figure 4.16) of respondents reported having had an unplanned pregnancy. The reasons

provided were: not using contraceptives, contraceptive failure, the inconsistent use of contraceptives, as well as two pregnancies due to rape.

5.3.1.8 ANC attendance

Respondents' ANC attendance was lower than the national coverage of 99% (MICS 2014:107) despite the strong association between ANC attendance and the use of health institutions for childbirth (Kidanu, Degu & Tiruye 2017; Ifa & Teferi 2019:38-43).

5.3.2 Identify the challenges encountered by women who had non-institutional births (objective 2)

Despite the fact that 94,3% of respondents reported having had knowledge of the benefits of institutional births, they had non-institutional births that resulted in the following challenges:

5.3.2.1 Lack of delivery equipment

Approximately 61% of the respondents did not have the necessary equipment to assist them with childbirth, exposing them and their newborns to infections. Unsterile scissors, plastics, and thatching grass were used, exposing the mother and baby to infections (see Table 4.7). Birth attendants also did not use gloves, exposing themselves, the woman, and her baby to potential infections.

5.3.2.2 Unskilled birth attendance

All the respondents were assisted by non-skilled birth attendants such as family members, rural motivators, friends, neighbours and paramedics. Moreover, 10.8% of women gave birth without any support, and thus were alone during childbirth.

5.3.2.3 Obstetric challenges

Thirty-five out of the 157 respondents (22.2%) experienced the following complications after giving birth outside the health institutions: vaginal tears, premature babies,

postpartum haemorrhage, stillbirths, the umbilical cord being wrapped around the baby's neck, urine incontinence and retained placenta, as revealed in Table 4.8.

5.3.2.4 Lack of money

Despite minimal charges for maternity services in Swaziland, 38.9% of respondents reported a lack of finances to pay for the hospital, which contributed to them giving birth outside the health institutions.

5.3.2.5 Transport unavailability

More than half of the respondents could not access their transport of choice to go to the health institution, despite many of them (27.3%) having planned to use government ambulances. The respondents were not able to utilise hired cars due to the cost involved, some delays, bad roads and weather conditions (see Section 4.3.2.5).

5.3.2.6 Attitude of health care workers

Of concern is the three respondents who reported maltreatment by health care workers during ANC visits. Also, 54.1% of the respondents claimed they were not treated well at the maternity ward when they presented themselves and their babies for PNC.

5.4 RECOMMENDATIONS

The factors associated with non-institutional births were investigated and identified. As the global community moves towards reducing maternal mortality to less than 70 per 100, 000 live births by 2030 (UN SDGs 2015), countries with high maternal deaths should invest more energy and resources into providing equitable and adequate maternal health services. Interventions should be aimed at improving the availability, accessibility, quality and use of maternal health services to motivate mothers to give birth in an institution with the assistance of a skilled birth attendant such as a midwife. The recommendations from this study focused on aspects which could enhance the coverage of institutional births, facilitated by skilled birth attendants.

5.4.1 Free transport services

It was evident that even though women wanted to deliver their babies in a health institution, the majority faced constraints of long distances, poor road infrastructure, and a lack of adequate transport. In the case of precipitate labour, women had to wait for scarce government ambulances. Having appreciated that home birth is a risk factor, respondents themselves recommended that the government of Eswatini, should provide adequate ambulances to transport women in labour to the nearest health institutions.

The researcher will electronically share these important findings with the Shiselweni Regional Management Team (RHMT) and the SRH unit and ask them to advocate and negotiate with the Ministry of Economic Planning and Development to budget for free transport services. The procurement of more ambulances that can transport pregnant women (for free) to a health institution will promote institutional births.

5.4.2 Improving infrastructure, equipment, staff and availability of health institutions

Quality of care is universally known to have a significant influence on maternal health service utilisation. However, it was determined that the availability of services, staff, adequate supplies and equipment, including health care workers' attitudes, were challenging. The researcher will take the responsibility to disseminate the study findings in electronic format to the Shiselweni RHMT explaining, in a cover letter, with a focus on the evidence provided, how the poor infrastructure negatively impacted on the utilisation of maternal health services, thus contributing to non-institutional births. The researcher will request an intervention to advocate for the improvement of road and transport infrastructure to allow women easy access to health institutions. A budget needs to be allocated for infrastructure improvement.

5.4.3 Human resources

A shortage of health care workers was reported as a barrier to institutional births. Some women reported that they gave birth in ambulances while being transported

from a health centre to the regional referral hospital. Therefore, competent midwives, obstetricians and other health care workers are needed in health centres to provide comprehensive emergency obstetric and neonatal interventions. This includes safe blood transfusion, providing oxytocin and antibiotics, performing caesarean sections, manual removal of the placenta, assisted vaginal delivery, abortions and resuscitation of the newborn. The newly built health facilities are not yet offering comprehensive maternal and child health services due to a shortage of staff and lack of skills (MoH Shiselweni Annual Health Performance Report 2020:33). Additional health care workers are also required for the six clinics with maternal wings to provide basic emergency obstetric and neonatal services. In-service training is also recommended for health care workers to improve their attitudes towards people under their care.

5.4.4 Male involvement

Community initiatives are required to address social norm barriers for institutional births in a patriarchal country like Swaziland. Gender norms that discourage male involvement in maternal health issues should be discouraged by addressing already existing gender inequalities. The Shiselweni RHMT is therefore recommended to mobilise resources and work with its implementing partners and communities to design and introduce a male involvement strategy to improve men's level of awareness on maternal health issues. The researcher will share possible avenues such as social media campaigns, workplace-based and community outreach programmes with appropriate stakeholders. Commitment and involvement among key political and religious leaders and other influential people are crucial to ensure male involvement, and therefore the office of the Shiselweni Principal Health Administrator will be encouraged to collaborate with community leaders.

5.4.5 Health promotion activities

The researcher will provide an electronic copy of the research findings to the Shiselweni regional health promotion officer. The cover letter will guide the officer to the recommendations of the study to ensure that the recommendations are considered. The recommendations are to improve maternal health service utilisation

and increase institutional births assisted by skilled birth attendants by addressing the following:

- Active participation in social media campaigns to motivate women to book ANC services as early at 12 weeks (Eswatini ANC Guidelines 2020:14) and attend all eighty visits.
- Share health education or information, education and communication (IEC) materials on birth preparedness, the advantages of institutional births, and the importance of contraceptives on social media and in health education material in clinics.
- Use social media to share the location of health institutions for childbirth as well as the transport available.

5.4.6 Women's empowerment

Knowledge is one of the crucial elements that can contribute to women's empowerment. The recommendations already stipulated as part of health promotion can positively contribute to women's empowerment.

Unfortunately, the researcher cannot directly influence gender-based violence. However, if social media can be utilised to educate men in understanding childbirth and the importance of institution births, women may become empowered as a result.

5.5 CONTRIBUTION OF THE STUDY

Maternal and child health remains an essential concern in the achievement of the SDGs by 2030 in the Kingdom of Swaziland. Living up to the commitment of the international community to achieve universal access to reproductive health by 2030 requires the identification of barriers to institutional births and skilled birth attendance. Understanding the social, demographic and economic determinants of non-utilisation of health services for birth is important to enhance maternal and newborn health outcomes. This study offered a contextual approach to factors associated with non-institutional births in the Shiselweni region of Swaziland. As indicated in the

recommendations, stakeholders will be provided with scientific evidence pertaining to the mentioned factors.

5.6 RECOMMENDATIONS FOR FURTHER RESEARCH

Contextual differences might warrant further studies in different geographical areas and diverse communities of Swaziland and other African countries. Also, a qualitative approach may be obligatory to supplement these preliminary findings and should involve health care workers to substantiate these findings.

5.7 LIMITATIONS OF THE STUDY

Health care workers or skilled birth attendants were not included in the study. They were purposively excluded to first study the factors impacting non-institutional births from the perspective of mothers.

5.8 CONCLUDING REMARKS

It is important that the research findings and the recommendations be shared with relevant stakeholders to advocate and facilitate the mentioned interventions to increase the number of women who seek institutional births. Motivating institutional births and providing women support in terms of a skilled birth attendant (midwife or doctor) can contribute to reaching the SDGs in a developing country such as Swaziland.

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ANNEXURE 1: INFORMATION LETTER FOR MOTHERS AGED BETWEEN 18 TO 49 YEARS

Title of the study: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant: .....

Dear Mother

You are invited to participate in a research project conducted by, **Jesca Chokani**, a Master's degree student at the University of South Africa in the Department of Health Studies. Because you are a mother who did not gave birth at a health institution, you have personal experience. You have a choice to participate or not to participate in this study. If you agree to participate in the study, you will be asked to sign the consent form by the researcher or research assistant. By signing the consent form you are agreeing that

- understand the contents of this information letter.
- Consent to be a participant in the research project.
- Consent to the use of your personal and health information as described.

What is the purpose of this study?

This study is expected to collect important information to identify the reasons that motivates or causes you to give birth in any place, except in a specific health institution.

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

You will be asked to answer questions which will be asked by myself as the researcher or a research assistant. A convenient time and place for the interview will be arranged with you if you agree to take part in the study. You will be able to share your ideas regarding the place where you gave birth with me. The interview will take more or less 30 minutes.

Would the information that I give in the questionnaire be kept a secret and not shared with others?

The information which you will share will be kept secret as much as possible. Should an article be written about this research project, your name and personal information will be protected to the maximum extent possible.

What are the risks of this research?

There are no known risks associated foreseen in you participate in the research. If you fell stressed due to answers that recall stressful events during delivery of your baby, you will be referred for appropriate service for counselling without cost. In case you incur transport costs to come to the health institution only for scheduled interview, the researcher will cover your transport cost.

What are the benefits of this research?

You will not be paid for your participation in the research. The information that you will share will assist to make recommendations to improve access to institutional births for pregnant women in the Shiselweni region.

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

You may choose to withdraw your participation. You may choose to withdraw your participation at any time without any negative effects.

What if I have questions?

If you have any questions about the study itself, please contact me (Jesca Chokani) via Telephone: 00268 76579621 or via Email: 49153811@mylife.unisa.ac.za.

In case if you have any complaints or concerns related to the study or your rights as a research participant, please contact: The Research Supervisor at +27 (0)12 429 2226; E-mail: roetsl@unisa.ac.za or the ethics Committee at HSREC@unisa.ac.za. Any complaint or concern you raise will be treated in confidence and investigated and you will be informed of the outcome.

ANNEXURE 2: CONSENT FORM FOR MOTHERS AGED BETWEEN 18 TO 49 YEARS

Title: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant:.....

I, the undersigned, agree to participate in the above-mentioned research study. I confirm that the researcher has explained the following to me:

- My participation in the study is voluntary and I may discontinue at any time without facing any consequence.
- I do not wish to be paid for my participation, and if I feel uncomfortable in any way during the completion of a questionnaire, I have the right to decline to answer any further questions.
- The researcher will ensure confidentiality and not identify me by name in any of the reports in the study will remain secured.
- All materials containing identifying information will be destroyed once the completed study is accepted.

I have read and understood the information provided to me and had all my questions answered to my satisfaction, and I voluntarily agree to participate in the study.

Participants Name	Signature	Date

Researchers'/ Research assistants' name	Signature	Date

ANNEXURE 3: INFORMATION LETTER FOR MOTHERS AGED BETWEEN 14-17 YEARS

Title of the study: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant: .....

Dear Respondent

I hereby give you information and invite you to be part of a research study that will be conducted by me, Jesca Chokani, as a Master's degree student at the University of South Africa in the Department of Health Studies. Because you did not give birth to your baby at a health institution, you have personal experience of the topic therefore you can assist with the research. We have discussed this research project with your parent(s) or guardian and they know that we are also asking you for your agreement. Your parent(s) or guardian gave permission that you may participate if you wish to do so. You can however choose by yourself whether you want to participate or not. If you do not want to participate, your decision will not cause any negative effects.

What is the purpose of this study?

This study is expected to collect information regarding the reasons that caused you to give birth in any place, except in a specific health institution.

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

You will be asked to answer questions which will be asked by myself. You will be able to choose a time and a date, at a place convenient for you to complete the questionnaire. The interview will take more or less 30 minutes.

Would the information that I give in the questionnaire be kept a secret and not shared with others?

All the information that you share Information about you that will be collected from this research project will be kept in a locked carboard by the researcher. The

questionnaires will be named by a numeric number, and your personal details will not appear on the questionnaire.

What are the risks of this research?

I do not foresee any known risks to you if you participate in the research. If you feel stressed due to answers that recall stressful events during delivery of your baby, you will be referred for appropriate service for counselling without cost. In case you incur transport costs to come to the health institution only for the scheduled interview, the researcher will cover your transport cost.

What are the benefits of this research?

You will not be paid for your participation in the research. The information that you will share will assist to make recommendations to improve the access that women have to give birth in to institutional births for pregnant women in clinics and hospitals.

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

You do not have to be in this research if you do not want to be. It is up to you. If you decide not to be in the research, it is okay and nothing changes. This is still your clinic, everything stays the same as before. Even if you say "yes" now, you can change your mind later and it is still okay.

What if I have questions?.

Please ask me to stop at any time, if you don't understand some things and you need some explanation and I will take time to explain to you.

If you have any questions about the study itself, please contact me (Jesca Chokani) via Telephone: 00268 76579621 or via Email: 49153811@mylife.unisa.ac.za. If you wish to report any problems you have experienced and have some questions regarding this study, please contact: The Research Supervisor at +27 (0)12 429 2226; E-mail: roetsl@unisa.ac.za or the ethics Committee at HSREC@unisa.ac.za.

I will be grateful if you agree to participate.

ANNEXURE 4: INFORMED ASSENT FOR PARENT/ GUARDIAN OF MOTHER AGED 14 TO 17 YEARS

Title of the study: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant: .....

I .....(Respondents' name) confirm that the aim, procedures, advantages and anticipated inconvenience of my child's participation was explained to me in a document. I have read the information myself, or it was read to me and understood the study as explained in this information sheet. I have had adequate opportunity to ask questions and am prepared for my child to participate in the study. I understand that her participation is voluntary and free to withdraw at any time without penalty.

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my name will not be divulged without my permission and my identity will remain confidential.

I have received a signed copy of the informed consent agreement.

Date:.....

Respondents name (Please print)…….....

Respondents signature …….....

Parent/ Guardian name (Please print).....

Parent/Guardian signanture.....

Researcher/ Research assistant signature.....

In case if you have any complaints or concerns related to the study or your rights as a research participant, please contact: The Research Supervisor at +27 (0)12 429 2226; E-mail: roetsl@unisa.ac.za or the ethics Committee at HSREC@unisa.ac.za. Any

complaint or concern you raise will be treated in confidence and investigated and you will be informed of the outcome.

ANNEXURE 5: INFORMATION LETTER FOR GUARDIAN OR PARENT

Title of the study: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant: .....

Dear Parent/ Guardian

Your child has been selected to participate in this study since she has personal experience of giving birth outside the health institution. Your permission is therefore sought to have your child participate in this research project being conducted by **Jesca Chokani,** a Master's degree student at the University of South Africa in the Department of Health Studies. Please carefully ready the following information before you decide whether or not to give your permission for your child to participate in this study.

What is the purpose of this study?

This study is expected to collect important information to identify the reasons that caused her to give birth in any place, except in a specific health institution.

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

She will be asked to answer questions which will be asked by myself as the researcher or a research assistant. A convenient time and place for the interview will be arranged with you, if you agree to take part in the study. She will be able to share your ideas regarding the place where she gave birth with me. The interview will take more or less 30 minutes.

Would the information that I give in the questionnaire be kept a secret and not shared with others?

The information which you will share will be kept secret as much as possible. Should an article be written about this research project, your names and personal information will be protected to the maximum extent possible.

What are the risks of this research?

There are no known risks associated foreseen in you participate in the research. If you or she fell stressed due to answers that recall stressful events during delivery of your baby, you will be referred for appropriate service for counselling without cost. In case you incur transport costs to come to the health institution only for scheduled interview, the researcher will cover your transport cost.

What are the benefits of this research?

You will not be paid for your participation in the research. The information that you will share will assist to make recommendations to improve access to institutional births for pregnant women in the Shiselweni region.

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

You have a choice to participate or not to participate. You may choose to withdraw your participation. You or your child may choose to withdraw your participation at any time without any negative effects.

What if I have questions?

If you have any questions about the study itself, please contact me (Jesca Chokani) via Telephone: 00268 76579621 or via Email: 49153811@mylife.unisa.ac.za.

In case if you have any complaints or concerns related to the study or your rights as a research participant, please contact: The Research Supervisor at +27 (0)12 429 2226; E-mail: roetsl@unisa.ac.za or the ethics Committee at HSREC@unisa.ac.za. Any complaint or concern you raise will be treated in confidence and investigated and you will be informed of the outcome.

ANNEXURE 6: INFORMED ASSENT FOR PARENT/ GUARDIAN.

Title of the study: Factors associated with non-institutional births in the Shiselweni region of Swaziland.

Researcher: Jesca Chokani

Research Supervisor: Professor Lizeth Roets

Research Assistant: .....

Dear Parent/ Guardian

I…… (parent/ guardian name) confirm that the aim, procedures, advantages and anticipated inconvenience of my child's participation was explained to me in a document. I have read the information sheet myself, or it was read to me and understood the study as explained in this information sheet. I have had adequate opportunity to ask questions and am prepared for my child to participate in the study. I understand that her participation is voluntary and free to withdraw at any time without facing any consequences.

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my name or child's name will not be shared without my permission and my identity will remain private.

I have received a signed copy of the informed consent agreement.

Date:.....

Parent /Guardian name (Please print):……...

Parent / Guardian signature: ……

Child name (Please print):……

Child date of birth:……

ANNEXURE 7: ENGLISH DATA COLLECTION TOOL

Factors associated with non-institutional births in the Shiselweni region of Swaziland.

The interviewer:

Please complete the questionnaire as best as possible. Where open ended questions are asked, please write down the information in the direct words provided by the respondent.

Dear Respondent.

Please answer all the questions as honest as possible. If you do not understand a question, please ask the interviewer to explain the question to you.

Question Number	Question	Response	Leave blank for official use
Section 1: Respondents demographic information			
Q.1.1	What is your date of birth?	DD……MM…….YY……	☐
Q.1.2	Do you stay in an urban or rural area?	Urban 1. Rural 2	☐
Q.1.3	Whom do you stay with?	Parents 1 Friends 2 Partner/ husband 3 Children 4 Alone 5	☐
Q.1.4	What is your current occupation?	Self employed 1 Unemployed 2 Employed 3 Still in School 4 Still in university 5 Still in college 6 Other specify …….. …… 7	☐
Q.1.5	What was your highest level of education?	No education 1 Primary education 2 Secondary education 3 High School 4 Certificate 5 Diploma 6	☐

		Degree 7	
Q.1.6	What is your marital status? Proceed to question Q.1.7 if you are not married or cohabiting.	Single 1 Cohabitating 2 Married 3 Divorced 4 Widowed 5	☐
Q.1.7	If you are married or cohabiting what is your partner's employment status?	Self employed 1 Unemployed 2 Employed 3 Still in school 4 Still in university 5 Still in college 6	☐
Q.1.8	What is your partner or husband highest level of education?	No education 1 Primary education 2 Secondary education 3 High School 4 Certificate 5 Diploma 6 Degree 7	☐
Q.1.9	What is your religion?.	Christianity 1 Islam 2 Judaism 3 Traditionalist 4 No religion 5 Other religion, please specify ……. …….. 6	☐
Q.1.10	Who owns the house you are staying in?.	Own house 1 Rented house 2 Other specify…… …….. 3	☐
Section 2: Economic, geographical and social factors			
Q.2.1	Do you have health institutions that provides maternity services in your area?	Yes 1 No 2 Unsure 3	☐
Q.2.2	If your answer was yes, please write down the services that are available? …… …… ……..		☐☐

Q.2.3	How far is it from your place of residence to the nearest maternal health institution where midwives can assist with giving birth to baby?	< 5 km | 1 . ≥5km-≤10 km | 2 ≥10 km- ≤15 km | 3 . ≥15 km – ≤20 km | 4 More than 20 km | 5	☐
Q.2.4	Do you have to pay transport costs to reach to nearest maternal health institutions? Proceed to question Q.2.6. if your answer is no.	Yes | 1 No | 2	☐
Q.2.5	If your answer was yes, what is the transport costs to get to your nearest maternal health institution?	E……	☐
Q.2.6	How much do you have to pay to give birth at a health institution?	E……..	☐
Q.2.7	Where did you gave birth when you were pregnant with your last child?	At traditional birth attendant place. | 1 At my own home | 2 At my parents in law place. | 3 At my parents home | 4 On the way to hospital | 5 Any other place specify …… …… | 6	☐
Q.2.8	Who assisted you during the birth of your last child?.	Family member | 1 A rural health motivator | 2 Traditional birth attendant | 3 A friend | 4 Self | 5 Any other place specify …… …… | 6	☐
Q.2.9	Who chosed the place where you gave birth?.	Self. | 1 Partner/ Husband | 2 In-laws. | 3 My own family | 4 Other specify …… …… | 5	☐

Q.2.10	Where did you plan to give birth?	Health Institution 1 Home 2 Other specify…… 3	☐
Q.2.11	If your plan was not to have your baby at a health institution, please provide the reasons for your choice? …… …….. ……		☐☐
Q.2.12	If you have planned to deliver in a health institution, what was the reason for not been able to do so? (Please tick all appropriate answers).	I had no transport money 1 There was no transport to take me to health institution 2 I did not have money to pay the hospital fees. 3 Unfriendly attitude of health care workers 4 I had unexpected labour 5 Distance to the health institution is too long. 6 Other specify…… 7	☐☐
Q.2.13	What was your choice of transport to reach your nearest maternal health institution?	Government ambulance 1 Own car 2 Hire private car 3 Public transport 4 Other specify…… 5	☐
Q.2.14	Did you manage to reach the health institution by using your choice of transport?	Yes 1 No 2	☐
Q.2.15	If your answer to question Q.2.14 was no, what were the reason/s?. …… …….. ……		☐☐
Section 3: Obstetric History			
Q.3.1	How many times were you pregnant including miscarriages and still births?.	Gravida……	☐

Q.3.2	How many children do you have?	0 1 2 3 4 5 More than 5	☐
Q.3.3	Do you have a history of premature births, still births or miscarriages?	Yes 1 No 2	☐
Q.3.4	Did you carry the last pregnancy to term? If your answer is no, please explain what happened?. …… …… ……..	Yes 1 No 2	☐
Q.3.5	Was your last pregnancy planned?	Yes 1 No 2	☐
Q.3.6	If the pregnancy was not planned, what was the reason for you to fall pregnant? …….. …… ……..		☐☐
Section 4: Knowledge, attitude and perception towards antenatal care services			
Q.4.1	Did you attend ANC when you were pregnant with your last child? If answer is yes, please proceed to question Q.4.3.	Yes 1 No 2	☐
Q.4.2	If your answer was no, please explain the reason for not attending ANC? and proceed to question Q.5.1. …… …….. …… ……		☐☐
Q.4.3	If you attended ANC, how many times did you attend?.	One 1 Two 2 Three 3 Four 4 More than 4 times 5	☐
Q.4.4	How will you describe the attitude of health care workers (or nurses) at ANC service?	Good 1 Bad 2 Other specify…… 3 ……	☐

Q.4.5	Please indicate what you think the benefits of attending ANC visits are? You can give more than one answer.	To check their health and that of their baby. 1 For skilled birth attendant to diagnose risk factors and complications early 2 To discuss birth preparedness 3 Availability of skilled midwives 4 Availability of ANC equipment 5 Other Specify…… …… …… 6	☐☐
Q.4.6	Who told you about the benefits of attending ANC? You can give more than one answer.	Health care workers 1 Radio/Television/Media 2 Friends/ Relatives 3 Other specify…… …… 4	☐☐
Q.4.7	Did attending the antenatal clinic influenced your choice to where you had planned to give birth**?.**	Yes 1 No 2	☐
Q.4.8	If the answer in question Q.4.7 was yes, please provide the reasons? …… …… ……		☐☐
Section 5: Knowledge, attitudes and perception towards maternal health services			
Q.5.1	Do you know the benefits of giving birth at maternal health institution were a skilled birth attendant assist you? If your answer is no, please proceed to question Q.5.4.	1 Yes 2 No	☐
Q.5.2	If your answer to question Q.5.1 was yes, what are the benefits for a health institution birth? …… …… ……		☐☐
Q.5.3	If you knew about the benefits, please explain why you gave birth outside health institution? …… …… ……		☐☐

Q.5.4	When giving birth which of the following items were available during the delivery***?*** *You can give more than one answer.*	Razor blades 1 Gauze and cotton wool 2 Methylated spirit 3 Soap 4 Gloves 5 Water 6 Food 7 Pain relief drugs 8 Other specify…… 9	☐☐
Q.5.5	Did you have any complications after the birth of your baby?.If your answer is no, please proceed to 5.11	Yes 1 No 2	☐
Q.5.6	If you answer to question Q.5.5 was yes, please describe the complications that you or your baby encountered? …… …… ……		☐☐
Q.5.7	Did you go to the nearest health institution for post-natal care services? If answer is yes, please proceed to question 5.9.	Yes 1 No 2	☐
Q.5.8	If your answer to question Q.5.7 was no, what were the reasons of not attending post-natal clinic? …… ……		☐☐
Q.5.9	Did you take your last baby for immunisation**?**	Yes 1 No 2	☐
Q.5.10	If your answer to question 5.9 was no, what were the reasons of not taking your baby for immunisation? …….. …… ……..		☐☐
Section 6: Recommendation by respondents for safe motherhood			
Q.6.1	Please describe what you think can be done to motivate women in the Shiselweni region to give birth at a health institution were skilled birth attendants can assist you ?. …… …… ……		☐☐

Thank you for your time.

ANNEXURE 8: SISWATI DATA COLLECTION TOOL

Imbangela/tici letihambisana nekungbelekeli esibhedlela esifundzeni saseShiselweni, Eswatini

Lobutako:

Ngicela uphendvule lemibuto ngekwetsembeka lokukhulu. Lapho kunemibuto ledzinga timphendvulo letindze, ngicela ubhale phansi yonkhe lemininingwane letawushiwo ngulona lobutwako.

Sawubona Make.

Ngicela uphendvule lemibuto ngekwetsembeka lokukhulu. Nangabe kukhona lapho ungeva kahle khona sisachubeka nalokucocisana, ngicela ungimise, ubute khona ngitokuchazela kahle ungabhali.

Inombolo Yembuto	Umbuto	Imphendvulo	Shiya ungabhlali lutfo kut lihhovisi
Sigaba 1: Imininingwane ngalocwaningwako			
Q.1.1	Watalwa nini?	Lusuku…..Inyanga……Umnyaka……	☐
Q.1.2	Uhlala endzaweni lesedolobheni noma lesemakhaya ?	Edolobheni 1 Emakhaya 2	☐
Q.1.3	Uhlala nabani?	Batali 1 Bangani 2 Nalotsandzana naye/ Indvodzayakho 3 Bantfwana 4 Wedvwa 5	☐
Q.1.4	Ngekusebenta wenta ini?	Ngiyatisebenta 1 Angisebenti 2 Ngicashiwe 3 Ngisafundza 4 Ngiyafundzela enyuvesi 5 Ngiyafundzela ekolishi 6 Lokunye Kucacise…… …… 7	☐
Q.1.5	Esikolweni wafundza wafika kuphi?	Angiyanga esikolweni 1 Sigaba sekucala 2 Sigaba sesibili 3 Sigaba selibanga lekugcina 4 Sitifiketi 5 Ticu tekucala ekolishi 6 Ticu letiphakeme 7	☐

Q.1.6	Wendzile? *Chubekela uye kumbuto. Q.1.7 nangabe lobutwako akendzi noma uma ngabe uhlalisana nalotsandzana naye*.	Angikendzi 1 Masihlalisane 2 Ngendzile 3 Nginencwadzi yesehlukaniso 4 Ngingumfelokati 5 Sehlukene kwesikhashana 6	☐
Q.1.7	Nangabe wendzile noma una masihlalisane, lobabe usebenta kuphi?	Uyatisebenta 1 Akasebenti 2 Uyasebenta 3 Uyafundza 4 Usenyuvesi 5 Usekolishi 6	☐
Q.1.8	Lotsandzana naye noma indvodza yakho ikuliphi libanga ngetemfundvo?	Akafundzanga 1 Sigaba sekucala 2 Sigaba sesibili 3 Sigaba selibanga lekugcina 4 Sitifiketi 5 Ticu tekucala ekolishi 6 Ticu lephakeme 7	☐
Q.1.9	Ngiyiphi inkholelo loyikhontako yakho?.	Inkholelo yema christu 1 Inkholelo yemandiya 2 Inkholelo yemaJuda 3 Sintfu nemadloti 4 Ngite inkholelo 5 lenye lekhona 6	☐
Q.1.10	Ngubani umnikati welikhaya lohlala kulo?	Ngumuti waleho 1 Ucashile 2 Ngumuntfu lomunye longekho kulaba labangehle 3	☐
Sigaba 2: Lizinga letenhlakahle netemphilo			
Q.2.1	Endzaweni lapho uhlala khona, ukhona yini umtfolamphilo losedvute lonendzawo yekubelekela?	Yebo 1 Cha 2 Angati khale 3	☐
Q.2.2	Uma imphendvulo kungu yebo, chaza kutsi nguluphi lolusito loluniketwako kuleyo ndzawo. …… …… ……..		☐☐
Q.2.3	Kukhashane kangaka nani emtfolamphilo noma esibhedlela lapho ungatfola khona umbelekisi kuze ubeleke kahle?	< 5 km 1 ≥5km-<10 km 2 ≥10 km- <15 km 3 ≥15 km – ≥20 km 4 Ngetulu kwa 20 km…… …….. 5	☐
Q.2.4	Uyayibhadala yini imoto kuze ufike emtfolamphilo noma esibhedlela lesidvute? Chubekela kumbuto 2.6 uma imphendvulo kungu cha	Yebo 1 Cha 2	

Q.2.5	Kuba ngumalini kufika emtfolamphilo lapho kubelekelwa khona?	E……	☐
Q.2.6	Uyabhadala malini kubelekela emtfolamphilo esibhedlela?.	E……	☐☐
Q.2.7	Umntfwana wakho lomncane wambelekela kuphi?	Kumbelekisi wendzawo 1 Ekhaya kami 2 Ekhakhami 3 Ekhayakitsi 4 Endleleni leya esibhedlela 5 Lenye indzawo 6	☐
Q.2.8	Wabelekiswa ngubani umntfwanakho wekugcina?	Sihlobo 1 Umgcugcuteli 2 Inyanga lebelekisako 3 Ngumngani. 4 Ngatibelekela 5 Lomunye cacisa 6	☐
Q.2.9	Wakhetselwa ngubani indzawo yekubelekela?	Ngatibelekela 1 Singani sami / Yindvodza yami 2 Basekhakhami 3 Bakitsi 4 Lokunye chaza 5	☐
Q.2.10	Wena wawuhlele kutsi utobelekela kuphi?	Emtfolamphilo noma esibhedlela 1 Ekhaya 2 Lokunye chaza …… …… 3	
Q.2.11	Nangabe kwaba sincumo sakho kutsi ubelekele ekhaya, shano sizatfu sakho sekwenta lesincumo.....…… …… ……		☐☐

Q.2.12	Uma ngabe wawuhlele kubelekela emtfolamphilo, yini imbangela yekutsi ubelekele ekhaya? *(Khetsa imphendvulo lefanako)*	Kwabate imoto lengangimikisa emtfolamphilo 1 Bengite imali imoto yekuya emtfolamphilo 2 Ngangite imali yekubhadala tindleko tesibhedlela emva kwekubeleka 3 Ngaphatseka kabi esibhedlela 4 Umhelo lowawuphutfuma 5 Kuba khashane nesibhedlela 6 Kungaba ngulokunye Cacisa…… 7	☐☐
Q.2.13	Wakhetsa kwetfwalwa nguyiphi imoto kuze ufike esibhedlela/emtfolamphilo?	Yi ambulensi yahulumende 1 Yimoto yami 2 Ngacasha imoto 3 Imoto letfwala sive 4 Lokunye Cacisa …… 5	☐
Q.2.14	Wakhona yini kuhamba ngemoto loyifunako nawuyobeleka esibhedlela? *Yecela kumbuto 3.1 nangabe imphendvulo kungu yebo*	Yebo 1 Cha 2	☐
Q.2.15	Uma ngabe imphendvulo itsi cha, shano tizatfu? …… …… …… ……		☐☐
Sigaba 3: Umlandvo mayelana nekutetfwana			
Q.3.1	Sewuke wakhulelwa kangakhi emphilweni yakho kuze kube ngunyalo lokufaka ekhatsi konakalelwa netala umntfwana asashonile	Sisu sesingakhi……	☐
Q.3.2	Unabangakhi bantfwana lowabakhulelwa?	0 1 2 3 4 5 Ngetulu kwa 5	☐
Q.3.3	Uke wamtala umntfwana kungakefiki sikhatsi sakhe,wabeleka umnfwana afile, uke waphunyelwa sisu?	Yebo 1 Cha 2	☐
Q.3.4	Kulomntfwana logcine ngaye watetfwala wazewabeleka yini?	Yebo 1 Cha 2	☐
Q.3.5	Ngabe umntfwana wakho wekugcina bewuhlelile Kuba naye?	Yebo 1 Cha 2	

Q.3.6	Uma ngabe bewangakamlungiseleli, kwaba yini sizathu sakho sekutetfwala? …….. …… ……..		☐
Sigaba 4: Lwati ngekutetfwala nendlela yekutetfwala kanye nekupopola sisu			
Q.4.1	Uke wapopola yini sisu ngesikhatsi utetfwele umntfwana wakho wekugcina? *Uma imphendvulo kungu yebo*, chubekela kumbuto Q.4.3.	Yebo 1 Cha 2	☐
Q.4.2	Uma kungu cha, chaza kutsi kwaya ngani, bese wengcela ku mbuto Q.5.1 …… …….. ……		
Q.4.3	Waya kangakhi kuyopopola sisu?.	Kanye 1 Kabili 2 Katsatfu 3 Kane 4 Kwengca emahlandla lamane 5	
Q.4.4	Uma ngabe wasipopola sisu sakho chaza imphatfo lowayitfola etisebentini tetemphilo tisakuniketa lolosito.	Belukahle 1 Belukabi 2 Lokunye chaza …… …… …… 3	☐
Q.4.5	Ngekubuka kwakho kumcoka ngani kupopola sisu? *Timphendvulo letengca kuyinye tivumelekile.*	Kubuka imphilo yamake kanye nemntfwana. 1 Kubuka tinkinga letiyingoti kumntfwana namake 2 Kukhulumisana ngekulungiselela kubeleka 3 Kuze ngitobelekiswa ngumbelekisi loceceshekile 4 Kuze ngitopopolwa lesisu ngetintfo letifanele 5 Lokunye, chaza…… …… 6	☐☐
Q.4.6	Ngubani lowakufundzisa ngebumcoka bekupopola sisu? *Timphendvulo letengca kuyinye tivumelekile.*	Tisebenti tetemphilo 1 Kubuka tinkinga letiyingoti kumntfwana 2 Bangani/ Etihlotjeni 3 Lokunye chaza …… …… 4	☐
Q.4.7	Sincumo sekubelekela lapho wabelekela khona wasitsatsa emva kwekutsi upopole sisu yini? Yecela kumbuto Q.5.1. nangabe imphendvulo Itsi cha.	Yebo 1 Cha 2	☐

Q.4.8	Nangabe imphendvulo kungu yebo, niketa tizatfu letabanga kutsi ungampopolisi umntfwana? …… . …… …… …..		☐☐
Sigaba 5 : Lwati ngekutiphatsa mayelana nekuba ngumake			
Q.5.1	Uyabati yini bumcoka bekubelekela esibhedlea lapho kunembelekisi loceceshekile khona?**.**	Yebo 1 Cha 2	☐
Q.5.2	Uma imphendvulo itsi yebo ku Q.5.1, yini bumcoka bekubelekela emtfolamphilo? …… …… …… …… .		☐☐
Q.5.3	Njengobe bowati bumcoka bekubelekela esibhedlela, ngicela kuva kutsi kwaya ngani ungabe sabelekeli khona? …… …… …… …… …		☐☐
Q.5.4	Uke wanatsa yini timbita nawutetfwele kulesisu sekugcina? ***Yecela kumbuto.5.9 uma imphendvulo itsi Cha.*** .	1. Yebo 2. Cha	☐
Q.5.4B	Nangabe uphendvule yebo kuQ.5.4, titsini tekutsatsa makhambi noma umutsi wesintfu?	Kusheshisa umhelo 1 Kuvikela bumatima bekubeleka 2 Kucedza buhlungu 3 Lokunye chaza…… …… …….. 4	☐
Q.5.4	Shano lokwakukhona ngalesikhatsi ubeleka***? Timphendvulo letetingetulu kwayinye tivumelekile.***	Ilezana 1 Sicephu, koyini nelibhandishi 2 Umutsi wekugeza silondza 3 Insipho 4 Kwekufaka etandleni 5 Emanti 6 Kudla 7 Emaphilisi ebuhlungu 8 Lokunye chaza…… …… 9	☐☐
Q.5.5	Wabanato yoni tinkinga ngemuva kwekubeleka Umtfwana wakho wekugcina noma lomncane? Uma imphendvulo kungu cha, chubekela kumbuto	Yebo 1 Cha 2	☐

	5.10		
Q.5.6	Umangabe yebo, chaza tinkinga letavelela wena noma umntfwana wakho?. …… …… ……		
Q.5.7	Waya yini emtfolaphilo noma esibhedlela emvakwe malanga lasikhombisa ubelekele? Uma imphendvulo kungu yebo , chubekela kumbuto 5.9 Uma imphendvulo yakho ku 5.7 kungu cha, yini Tizatfu tekutsi ungayi emtfolaphilo ngemuva Kwemalanga lasikhombisa ubelekile?	Yebo 1 Cha 2	
Q.5.8	Nangabe uwuzange uya, yini sizantfu nobe tizatfu tekungayi emtfolaphilo noma esibhedhela envakwe malanga lasikhombisa ubelekile?. …… …….. ……		☐☐
Q.5.9	Umntfwana wamumikisa yini kuyogoma?	Yebo 1 Cha 2	☐
Q.5.10	Nangabe imphendvulo yakho kungu cha kumbuto 5.9, yini tizatfu letabanga kutsi ungamugomisi umtfwana? …… … …… …… ……		☐☐
Sigaba 6: Tincomo ngekuba mayelana namake lophephile			
Q.6.1	Ucabanga kutsi kungentiwa njani kukhutsata bomake lobatetfwele baseShiselweni kutsi babelekele emtfolamphilo lapho bangatfola lusito lwababelekisi labafundzisekile ngekubekisa? …… …… …… …… …… ……		☐☐

NGIYABONGA SIKHATSI SAKHO

ANNEXURE 9: ETHICAL CLEARANCE HEALTH STUDIES RESEARCH UNISA

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHREC)

5 December 2018

Dear Jesca Chokani

HSHDC/892/2018
Student: Jesca Chokani

Student No.:49153811
Supervisor: Prof L Roets
Qualification: Phd
Joint Supervisor: -

Decision: Ethics Approval

Name: Jesca Chokani

Proposal: Factors associated with non-institutional births in the Shiselweni Region of Swaziland

Qualification: MPCHS94

Risk Level: Medium Risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 5 December 2018 to 5 December 2020

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on. 5 December 2018

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *You are required to submit an annual report by 30 January of each year that that he study is active. Reports should be submitted to the administrator HSREC@unisa.ac..az Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JE Maritz
CHAIRPERSON
maritje@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

ANNEXURE 10: ETHICAL CLEARANCE LETTER SWAZILAND NATIONAL HEALTH RESEARCH REVIEW BOARD

RESEARCH PROTOCOL CLEARANCE CERTIFICATE

BOARD REGISTRATION NUMBER	**FWA 00026661/IRB 00011253**						
PROTOCOL REFERENCE NUMBER	**SHR093/2019**						
Type of Review	Expedited	X		Full Board			
Name of Organization	Student (Masters)						
Title of study	Factors associated with Non-institutional births in the Shiselweni region of Swaziland						
Protocol version	1.0						
Nature of protocol	New	X		Amendment		Renewal	
List of study sites	**Hlatikhulu Hlatikhulu Government Hospital and public health unit, Nhlangano health centre, Matsanjeni Health Centre**						
Name of Principal Investigator	Ms. CHOKANI, JESCA						
Names of Co- Investigators	**Professor Roets, Lizeth**						
Names of steering committee members in the case of clinical trials	N/A						
Names of Data and Safety Committee members in the case of clinical trials	N/A						
Level of risk (Tick appropriate box)	Minimal ✓			High			
Clearance status (Tick appropriate box)	Approved	X		Disapproved			
Clearance validity period	Start date	**17/07/2019**		End date	**17/07/2020**		
Signature of Chairperson							
Date of signing	**17/07/2019**						
Secretariat Contact Details	Name of contact officers		**Ms Babazile Shongwe**				
	Email address		babazileshongwe@gmail.com				
	Telephone no.		**(00268) 24040865/24044905**				

MINISTRY OF HEALTH
17 JUL 2019
HEALTH RESEARCH REVIEW BOARD
SWAZILAND

APPROVAL CONDITIONS

Ref.	Conditions	Indication of conditions (tick appropriate box)				
1	Implementation of approved version of protocol	✓				
2	Reporting of adverse events within 5 days of occurrence	✓				
3	Submission of progress reporting for multi-year studies	Yr. 1	Yr. 2	Yr. 3	Yr. 4	Yr. 5
		✓	N/A	N/A	N/A	N/A
4	Submission of end of project report (Hard copy)	✓				
5	Submission of end of project report (Soft copy)	✓				
6	Submission of data sets	✓				

LIST OF REVIEWED DOCUMENTS (RENEWAL)

Ref.	Documents	Reviewed documents (tick appropriate box)
1	Completed application form	✓
2	Cover letter	✓
3	Evidence of administrative permission to conduct the research by involved institutions/sites (where applicable)	
4	Detailed current resume or curriculum vitae of Principal Investigator/s including Principal investigators declaration	✓
5	Summary resume or biography for other investigator(s)	✓
6	Evidence of approval/rejection by other Ethics Committees, including comments and requested alterations to the protocol, where appropriate.	
7	Research protocol (see outline in Annex 1)	✓
8	Questionnaires and interview guides (with back-translated versions where applicable)	✓
9	Case report forms (CRFs), abstraction forms and other data collection tools	
10	Participant/subjects Information Statement(s) (where applicable)	✓
11	Informed consent form(s) including photographic and electronic media consent statements.	✓
12	Advertisements relevant to the study (where applicable)	
13	Source of funding and detailed budget breakdown including material and incentives to participants if applicable	✓
14	Notification form for adverse effects/events.	
15	Proof of payment	✓
16	Proof of insurance cover for research subjects in clinical trials or where applicable	
17	Any other special requirements should be stated, if applicable	

ANNEXURE 11: PERMISSION FROM THE SHISELWENI REGIONAL PUBLIC HEALTH MATRON 1

Telegrams:
Telex:
Telephone: (+268 2079269)
Fax: (+268 2078701)

MINISTRY OF HEALTH
P.O. BOX 58
NHLANGANO
SWAZILAND

THE KINGDOM OF SWAZILAND

6 January 2020

Dear: Ms. Jesca Chokani

RE: Request to conduct your research in the Health Facilities in the Shiselweni Region.

Thank you for the request you made to conduct your Masters research entitled ***"Factors associated with non-institutional births in the Shiselweni region of Swaziland"***.

In view of the importance of the study and the fact that the study is accordance with ethical and scientific standards, authority is granted to conduct the study. You are requested to adhere to the specific topic and ethical principles. Kindly share your research findings with the Shiselweni RHMT when your research study is completed.

Yours Sincerely

SISANA NDWANDWE
SHISELWENI REGIONAL PUBLIC HEALTH MATRON 1

ANNEXURE 12: RESEARCH ASSISTANT CONTRACT AND AGREEMENT FORM

Research Confidentiality Agreement

Study: Factors associated with non-institutional births in the Shiselweni Region of Swaziland

I, _____ [Research assistant], agree to assist the principal researcher (Jesca Chokani), with this study by interviewing respondents and recording their responses in the questionnaire provided by the researcher .

I agree that I will:

1. Maintain confidentiality by not sharing the research information with anyone other than the principal investigator of this study.
2. Keep all research information in a secured, while it is in my possession. This includes,
    - keeping all completed questionnaires in a secure location such as sealed envelopes.
    - giving all research information in any form to the principal investigator when I have completed the recording the questionnaires.
    - destroy all research information in any format that is not returnable to the principal investigator upon completion of the data collection phase.

_____ _____

Signature of the research assistant Date

Email:

Phone Number:

_____ _____

Signature of the principal investigator Date

ANNEXURE 13: STATISTICIAN CONTRACT AND CONFIDENTIALITY AGREEMENT FORM

Study: Factors associated with non-institutional births in the Shiselweni Region of Swaziland

I, _____ [name of statistician], agree to assist the principal researcher (Jesca Chokani), with data management and analyses in this study .

In order to maintain confidentiality, I agree to:

I agree that I will:

3. Maintain confidentiality by not sharing the research information with anyone other than the principal investigator of this study.

4. Keep all research information in a secured, while it is in my possession. This includes,

    - keeping all completed questionnaires in a secure location such as sealed envelopes.

    - giving all research information in any form to the principal investigator when I have completed the recording the questionnaires.

    - destroy all research information in any format that is not returnable to the principal investigator upon completion of the data collection phase.

_____ _____

Signature of the statistician Date

Email:……

Phone Number:……

_____ _____

Signature of the principal investigator Date

ANNEXURE 14: TURNTIN ORIGINALITY REPORT

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FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS IN THE SHISELWENI REGION OF SWAZILAND

by

JESCA CHOKANI

Submitted in accordance with the requirements
for the degree of

MASTERS OF PUBLIC HEALTH

in the subject

HEALTH STUDIES

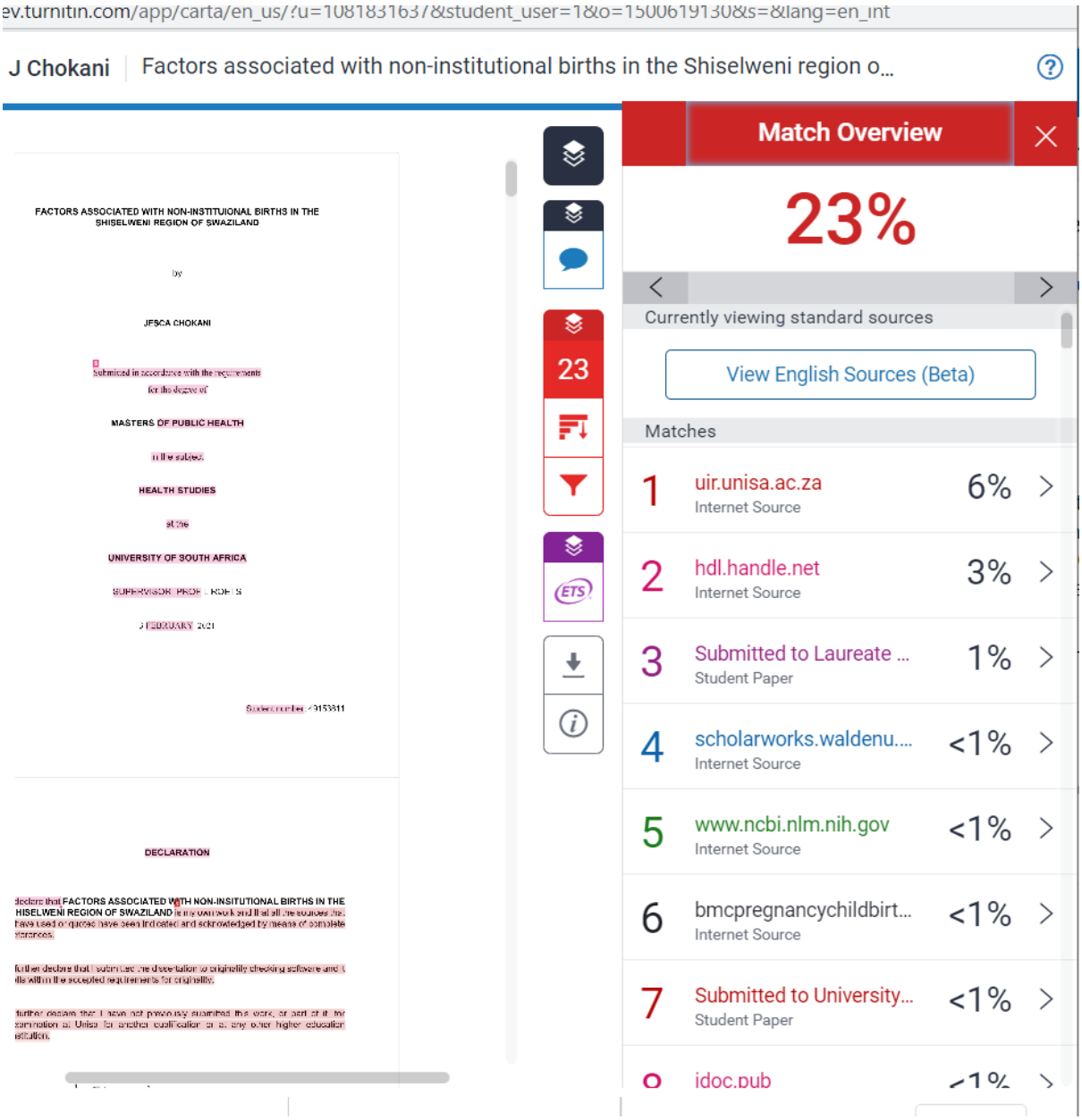
at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF L ROETS

3 FEBRUARY 2021

Student number: 49153811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FACTORS ASSOCIATED WITH NON-INSTITUIONAL BIRTHS IN THE SHISELWENI REGION OF SWAZILAND
by
JFSCA CHOKANI
Submitted in accordance with the requirements
for the degree of
MASTERS OF PUBLIC HEALTH
in the subject
HEALTH STUDIES
at the
UNIVERSITY OF SOUTH AFRICA
SUPERVISOR : PROF L ROHLS
FEBRUARY 2021
DECLARATION
declare that FACTORS ASSOCIATED WITH NON-INSITUTIONAL BIRTHS IN THE HISELWENI REGION OF SWAZILAND
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ANNEXURE 15: EDITING CERTIFICATE

Between the lines editing

Leatitia Romero
Professional Copy Editor, Translator and Proofreader
(BA HONS)

Cell: 083 236 4536
leatitiaromero@gmail.com
www.betweenthelinesediting.co.za

16 February 2021

To whom it may concern:

I hereby confirm that I have edited the article entitled: "FACTORS ASSOCIATED WITH NON-INSTITUTIONAL BIRTHS IN THE SHISELWENI REGION OF SWAZILAND". Any amendments introduced by the author hereafter are not covered by this confirmation. The author ultimately decided whether to accept or decline any recommendations made by the editor, and it remains the author's responsibility at all times to confirm the accuracy and originality of the completed work.

Leatitia Romero

Affiliations

PEG: Professional Editors Group (ROM001)
EASA: English Academy of South Africa
SATI: South African Translators' Institute (1003002)
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REASA: Research Ethics Committee Association of Southern Africa (104)