AN INVESTIGATION ON THE COMPLETENESS OF MATERNAL RECORDS: RECORD KEEPING PRACTICES OF MIDWIFERY NURSING CARE RENDERED TO WOMEN IN A DISTRICT HOSPITAL IN NAMIBIA

by

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DECLARATION

I declare that **AN INVESTIGATION ON COMPLETENESS OF MATERNAL RECORDS: RECORD KEEPING PRACTICES OF MIDWIFERY NURSING CARE RENDERED TO WOMEN IN A DISTRICT HOSPITAL IN NAMIBIA** 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 and that this work have not been submitted before for any other degree at any other institution.

…….

Faith Delmarie Zwartz

15 November 2021

Date

DEDICATION

This dissertation is dedicated to my husband, Nimrod and my children: Zinnadene, Cherizaan and Boston, for their love, support and understanding throughout my studies

I dedicate this work also to my late mother Annie, who passed on during the time of my studies - your prayers carried me through

Lastly, my uncle, Dr Dennis Beukes at the University of Pretoria, who is my academic mentor and family role model - you encouraged me throughout, urging me to reach beyond the sky no matter my circumstances

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ABSTRACT

The importance of recording information in women's records is to support the delivery of good care, clinical decision-making, communication between healthcare workers and continuity of care. It is assumed that good record keeping practices display the quality care rendered; hence the recording of actions by midwives provides evidence of the care they have rendered. A quantitative descriptive retrospective research was conducted to explore and describe the completeness of record keeping practices of the nursing care rendered by midwives during all stages of labour in a maternity ward of a district hospital in Namibia. Seventy-seven maternity records of women who delivered through normal vertex delivery from the 1st of January 2018 to the 31st of December 2018 were reviewed. Data collection was done using a structured checklist to determine adherence to record keeping legislation on completeness of maternity records. However, many areas of incompleteness of completeness in record keeping practices kept by midwives were identified.

Key concepts: *maternity record, record keeping, indicator, quality care, complete, incomplete, poor patient outcome, compromised patient care*

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CHAPTER ONE

ORIENTATION TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND TO THE RESEARCH PROBLEM

Quality healthcare depends on the accurate and chronological recording of the care provided. There is a universal dislike of paperwork among health professionals in general and by nurses in particular (Booyens 2012:132).

The Hospital Standards and Criteria Guideline of Namibia states that patients' records of adequate quality will provide sufficient information for a practitioner to be able to pick up the patient's care as if they had been the main professional responsible for the patient up until that point, i.e., the record should enable seamless and continuous care, in spite of the fact that care is being provided by a series of different health care professionals over time. It should also provide effective communication between all members of the multidisciplinary team (Ministry of Health & Social Services 2018:171).

The Health Professions Council of Namibia (2010: 58 - 59) requires the compulsory keeping of records and that health professionals shall enter and maintain at least the following information for each patient:

- Personal particulars of the patient
- Bio-physical history of the patient, including allergies and other individual characteristics
- The time, date and place of each consultation
- Assessment of the patient's condition
- Proposed clinical management of the patient and responses to the proposed treatment
- The treatment period e.g., medication and dosage prescribed and other interventions
- Details of referrals, if any
- The patient's reaction to treatment or medication, including adverse events
- Special investigation results

- Written proof of informed consent where applicable

In light of the above, any records kept for any patient by health professionals should therefore, contain complete and accurate data as required by the legislation regarding the keeping of medical records.

The importance of recording information in women's records is to support the delivery of good care, clinical decision-making, communication between healthcare workers and continuity of care. Additionally, it is a valuable source for scientific research, quality assurance and transparency of the care provided. Medico-legal risks resulting from omitting or duplicating medication or treatment can be costly to both the client and the service. Unfortunately, accurate record keeping is often neglected and the reason usually cited for this is that there is a shortage of nursing staff. Record keeping is important to ensure effective communication between everyone involved in the delivery of healthcare. Thus, the nurse's role is central. The responses of the patient to interaction and observations made during the time he/she receives treatment are recorded chronologically (Booyens 2012: 132 -133).

The South African Nursing Act 33 of 2005 requires that midwives must keep complete and accurate midwifery records for individual health care users. The scope of practice for registered midwives according to the Namibian Nursing Act 8 of 2004, prescribes that registered midwives must accurately record and maintain a comprehensive account of all midwifery interventions. Registered midwives in Namibia are trained to carry out maternal nursing care according to the nursing process, which is a systematic process of assessing, diagnosis, planning, implementation and evaluation in providing individualised care which will ensure quality of care, and this can only be reflected through keeping complete records of such care. The quality of care will depend, amongst other things, on how thoroughly the midwife has documented the patient's/client's information. The maternity record should describe the health status and nursing care rendered to both the woman and her infant, from the time of her admission to the time of discharge.

The Namibian Nursing Act no. 30 of 1993, Section 4 (c), indicates that a registered midwife omitting or neglecting to keep clear and accurate records of the progress of pregnancy, labour and the puerperium, and all other actions in which he or she performs in connection with a mother and child, shall constitute improper conduct or misconduct in respect of which the board may conduct inquiry and take disciplinary steps. A sizeable number of the South African Nursing Council's disciplinary measures result from inaccurate record keeping (Ngidlana in Booyens 2012:132). Registered nurses in Namibia have had cases of malpractice and litigations in disciplinary hearings being reported through media platforms and some have been sued as they were compromised by their own record keeping of omission. Despite all challenges given as reasons by midwives on poor record keeping, in health care, record keeping needs to be done as an integrated part of care and it is not an option. Challenges need to be addressed accordingly to ensure proof of quality patient care.

The Ministry of Health and Social Services (MOHSS) in Namibia introduced a revised maternity record also known as the 'Green book' to enable midwives to improve on record keeping of women who deliver in health facilities. The revision of the previous maternity record was aimed at reducing the time spent on record keeping, whereby the 'Green book' is designed chronologically in such a way that most information and interventions can only be ticked-off or a few words can be entered, instead of writing lengthy reports, and also aiming to reduce the duplication of information. The record consists of main sections which include general information on the front page, ante-natal history, indemnity, admission during the ante-natal period, observation record ante-natal period, admission for delivery, partograph, summary of delivery, condition of baby after delivery, admission of mother in post-natal, puerperium, admission of baby in the post-natal ward and discharge, and it ends with the physical examination of baby on discharge. The record also contains progress notes on the patient's condition at different intervals, written in narrative format with different entries. The different entries are required to be recorded such as full assessment entries, evaluation entries, interim entries, emergency entries and discharge entries. The record is also designed in such a way as to facilitate the integration of services e.g., PMTCT, etc. Each section has pages whereby progress reports of the woman's

condition, interventions, care, etc. can be recorded. The record is compact, but easy to complete and most information can be ticked-off thereby making it user-friendly and easier to find exact information. This record is standardised and used in all health facilities in Namibia where deliveries are conducted.

The setup of the different levels of hospitals is different i.e., national hospitals have separate units to care for women and babies during different levels of care while at a district hospital all the units and levels of care are merged into one unit. The current audit instruments in use are designed for the national hospital setup and they are structured according to the previous maternity record which is not in use. Three audit instruments are used to audit the maternity nursing care of maternity records as at national hospitals a pregnant woman who comes for delivery during maternal care is admitted in three different units till discharge, while in district hospitals, it is only one unit and a pregnant woman is admitted only once until discharge. The audit instrument therefore, is out-dated and does not meet the auditing needs of a district hospital.

The selected district hospital is one of the three district hospitals in the llKharas region, situated in the southern part of Namibia. It is the largest hospital in terms of population and bed occupancy in the llKharas region and it serves as the referral hospital in the region. The hospital serves a population of 37 203 people and in 2018 it had a total number of 1 536 deliveries (DHIS2 2018). The population for women of child bearing age is estimated at 9027 (DHIS 2018). The district has two (2) Health Centres and five (5) rural clinics. Health Centres are open 24 hours and they are allowed to do normal non-complicated deliveries, while deliveries for clients who are in an advanced first stage of labour are conducted at rural clinics. All these facilities keep the maternity record and in instances whereby a pregnant woman is referred owing to complications, the maternity record is required to accompany the patient as a way to ensure that the history, the care rendered and interventions are available at the health centre of referral, to allow continuity of care and management.

1.2 STATEMENT OF THE RESEARCH PROBLEM

The maternal records kept by midwives are often criticised by regulating bodies because of incomplete and substandard written practices. It is assumed that good record keeping practices display the quality of the care rendered; hence, the recording of actions by midwives provides evidence of the care they have rendered.

In conducting record audits, it has been discovered that the maternity records are incomplete. In 2017, a random patient record audit of 24 patient files was conducted in the maternity ward at Keetmanshoop District Hospital, and it was found out that only about 68% of the records were complete (Keetmanshoop Annual Report 2017). This was not a structured study to look into various aspects of record keeping. However, although it was not a structured study, it provides proof that the quality of care as reflected by the record keeping of nursing care rendered to the patients was below the average of the required standard. This was further proven by numerous unstructured reports which include monthly nursing audits of patient records, maternal, stillbirth and neonatal mortality reviews, quarterly and annual reports, as well as nursing audit meetings in the district hospital where the present study was conducted, which all have revealed the trend of poor record keeping of maternity records. Record keeping standards are based on the standards of The Council for Health Services Accreditation of Southern Africa (COHSASA). The average score to be obtained for health care records to be classified as good record keeping in Namibia is 85% and above, as adopted from COHSASA.

The annual reports do not provide in detail the variables which have been found to be incomplete, thus the present researcher found it necessary to study this phenomenon in detail and highlight the incomplete variables of the records which can help registered midwives to focus on the incomplete aspects of maternity records.

It is against this background that the present researcher developed an interest to do this study, aiming to explore and describe the record keeping practices of the nursing care rendered by midwives during all stages of labour in a maternity ward of a district

hospital in Namibia.

1.3 DEFINITIONS OF KEY CONCEPTS

1.3.1 Conceptual definitions:

1.3.1.1 Records/Maternity record

The HPCSA defines patient records or health records (thesaurus) as any relevant record made by a health care practitioner at the time of or subsequent to a consultation and/or examination or the application of health management. Medical records are a chronologic written account that includes a patient's initial complaint(s) and medical history, physical findings, results of diagnostic tests and procedures, and subsequent developments during the course of the illness (Fortex Medical Dictionary 2012). Maternity record for this study is defined as a comprehensive written account of a pregnant woman's history, progress during labour and well-being of mother and baby from admission until discharge from a maternity unit.

1.3.1.2 Record keeping

Record is a noun. The Oxford Dictionary defines it as a written account of something that is kept so that it can be looked at and used in the future (Oxford 2015: 1248). In this study, record keeping is defined as a complete and accurate writing down of all activities that the midwife has done on a patient.

1.3.1 3 Indicator

An indicator is defined by the Cambridge Dictionary as something that shows what a situation is like or which shows a value or a change in level (2013: 793). For this study, an indicator will give a pointer of the state of completeness of maternity records.

1.3.1.4 Quality care

Quality is defined as the standard of something when it is compared to other things like it; how good or bad something is (Oxford 2015: 1217). De Kock & Van der Walt (2004: 32) define quality care as the care that meets acceptable technical standards as well as the needs and expectations of the user. In this study, quality care refers to the care rendered to woman in the maternity ward according to hospital standards, which meets the needs and expectations of the patient.

1.3.2 Operational definitions

1.3.2.1 Complete

The Oxford Dictionary (2016) defines complete as ‘used when one is emphasising something to mean to the greatest degree’. It is also defined as ‘including parts that are necessary, whole’. For the purpose of this study, complete means that all variables in the record are filled, that it, free of omissions and with no blanks.

1.3.2.2 Incomplete

The Online Oxford Dictionary (2016) defines incomplete as ‘not having everything that it should have, nor finished or complete’. In this study, incomplete refers to those variables in the record that are not filled or not completed or variables that are left blank totally.

1.3.2.3 Poor patient outcomes

Hansson et al (2015: 1) define outcomes as the results of care in terms of patients’ health over time. The authors further indicate that the International Consortium for Health Outcomes Measurement (ICHOM) defines outcomes as the results that people care about most when seeking treatment, including functional improvements and the ability to live normal and productive lives. In this study, poor patient outcomes refer to the negative results of patient care that reflect after incomplete record keeping of

interventions of a patient.

1.3.2.4 Compromised patient care

The Cambridge Advanced Learner's Dictionary (2013: 507) defines 'compromise' as risking and having a harmful effect on something. Compromised patient care in this study means that the health care provided to the sick causes harm or damages to those receiving it.

1.4 AIM OR PURPOSE OF THE STUDY

The purpose of the study is to explore and describe record keeping practices of the nursing care rendered by midwives during all stages of labour in a maternity ward of a district hospital in Namibia.

1.5 OBJECTIVES OF THE STUDY

The objectives of the study are to:

- audit/review maternity records of mothers in a maternity ward of the selected district hospital;
- establish the level of completeness of maternity records of nursing care rendered during all stages of labour at the selected district hospital; and
- give recommendations for midwives to ensure complete record keeping.

1.6 THE RESEARCH QUESTIONS

- How can one check the completeness of maternity records in the selected district hospital?
- What is the level of completeness of maternity records of nursing care rendered during all stages of labour at the selected district hospital?
- What measures can be put in place for midwives to ensure complete record

keeping in Namibia?

1.7 RESEARCH PARADIGM AND RESEARCH METHODOLOGY

A paradigm is a worldview and or a general perspective on the complexities of the world. Paradigms for human inquiry are often characterised in terms of the ways in which they respond to basic philosophical questions, such as, what is the relationship between the inquirer and those being studied? (Polit & Beck 2017: 9). Brink et al (2012: 24) describe a paradigm as a set of assumptions about the basic kinds of entities in the world, about how these entities interact, and about the proper methods to use for constructing and testing theories of these entities. The present researcher's assumption is based on a positivist paradigm as the research is based on reality and cause and effect. Polit and Beck (2015: 9) state that positivists value objectivity and attempt to hold personal beliefs and biases in check to avoid contaminating the phenomena under study.

In epistemology and axiology, the researcher is independent from the population under study and therefore findings will be true and objective. In the methodology of the study, the researcher focuses on objective and quantifiable data which are statistically analysed, as well as the researcher using a large representative sample. Positivism is used in quantitative studies, hence the current researcher used this method in this study as evidence for the study was planned and structured methods were used to gather the required information.

1.8 THE RESEARCH DESIGN

Polit and Beck (2017: 56) define the research design as the overall plan for obtaining answers to the research questions. Research designs indicate how often data will be collected, what types of comparisons will be made, and where the study will take place. The research design is the architectural backbone of the study.

1.8.1 The Design

According to Brink et al (2012: 115), in a retrospective design, the researcher starts with an effect and works backwards to determine what was associated with this effect in the past. A descriptive design is used to gain more information about characteristics within a particular field of study so as to develop a theory, identify problems with current practice, justify current practice, make judgements, or determine what others in similar situations are doing (Burns & Grove 2011: 256).

Quantitative research is an approach for testing objective theories by examining the relationship among variables. These variables in turn, can be measured typically on instruments so that numerical data can be analysed using statistical procedures (Creswell 2014: 2).

The researcher in the current study embarked on a retrospective non-experimental descriptive study using the quantitative research design. The researcher chose this research design to collect objective numerical information on the status of record keeping of the maternity records in a district hospital. A descriptive quantitative method was found to be applicable and it enabled the researcher to collect information for reviewing the current practices on record keeping of maternity records in the selected district hospital, and therefore, detect and describe acts and omissions on the part of midwives. A retrospective study is the best method as the outcome has already occurred as the study focuses on the maternity records of patients who were already discharged, thus record keeping and nursing care have already taken place.

1.8.2 Research Methods

1.8.2.1 Population and sample selection

1.8.2.1.1 Population

A *population* is the entire aggregation of cases in which a researcher is interested. Populations are not restricted to humans and they may consist of, for example,

hospital records in a particular hospital, blood samples at a particular laboratory, and whatever the basic unit, the population comprises the aggregate of elements in which the researcher is interested (Polit & Beck 2017: 249).

Other authors such as Grove et al (2015) define a population as particular groups or individuals or elements, such as people with type 2 diabetes, who are the focus of the research. The target population is the entire set of individuals or elements who meet the sample criteria.

The population for this study will be the in-patient maternity records of all women who delivered by normal vertex delivery in the maternity ward of the Keetmanshoop District Hospital, llKharas region in Namibia during the 1st of January 2018 to the 31st of December 2018. The researcher selected this hospital because it is the largest district hospital in terms of deliveries, population and bed occupancy, which is situated in southern Namibia, and the hospital is utilised as a referral hospital for the southern primary health care facilities and two other district hospitals in the region. The other two district hospitals in the llKharas region are Lüderitz and Karasburg hospitals, who had only 357 and 268 normal vertex deliveries respectively during the period under investigation, while Keetmanshoop district hospital had 935 normal vertex deliveries during the same period. A full year in this study was used in order to get a large representative sample and the most current information was used, therefore, the researcher selected the year 2018. The reason why the researcher choose only normal vertex delivery was because the researcher sought to reduce on the time spent to collect data. Moreover, normal vertex deliveries are usually the ones constituting the majority as the method of delivery compared to caesarean sections at a rate of 15% according the DHIS 2018, and this was also as a way to reduce the variables on the checklist as it was already lengthy.

1.8.2.1.2 Sampling

Sampling is the process of selecting a proportion of the population to represent the entire population (Polit & Beck 2017: 743). Grove et al (2015: 37) describe sampling as a process of selecting participants who are representative of the population being studied. The author further explains that sampling involves selecting a group of people, events, objects or other elements which to conduct a study. Furthermore, a sampling method or plan defines the selection process and the sample defines the selected group of people or elements (Grove et al 2015: 249). Therefore, a sample selected by the researcher in a study should represent an identified population.

In this study, the researcher used systematic sampling which is a basic probability sampling technique. The researcher applied systematic sampling so as to spend less time with sampling. Systematic sampling involves selecting every kth case from a list, such as every tenth (10^{th}) person on a patient list or every twenty-fifth (25^{th}) person on a student roster from which a random sample will be drawn. The desired sample size is established at some number *(n)*. The size of the population must be known or estimated *(N)*. By dividing *(N)* by *(n),* a sample interval *(k)* is established. The sampling interval is the standard distance between sampled elements (Polit & Beck 2017: 257). In this study, the *(N)* is 935 (total number of patients who delivered by NVD during the selected period) and *(n)* is 93 (10% of population). The sampling interval was as follows: $k = 935 \div 93 = 10$.

The following steps were applied in selecting the sample and size as indicated in Brink et al (2012: 135):

- The population is identified as the maternity records of women who delivered by normal vertex delivery in the maternity ward of the selected hospital during the year 1st January 2018 till 31st December 2018.
- The sample size of the accessible population was calculated. According to Namibia DHIS2, in the said period, a total number of 935 women delivered by normal vertex delivery. The researcher applied systematic sampling by selecting every 10^{th} entry from the delivery register, which gave a number of 93 records. This sample size is representative of 10% of all the women who delivered by the method of normal

vertex delivery in the given period.

- A consecutive identification was assigned to each maternity record extracted and used in the sample, starting with record 1 to 93.

The advantages of probability sampling are that all elements in the population have an equal chance of being included in the sample. It also assists the researcher to estimate sampling errors, reduces bias and makes it possible for the researcher to use descriptive statistics.

Inclusive criteria were the maternity records of all state and private women who delivered by normal vertex delivery in the selected hospital during the given period. The women who delivered babies by caesarean section and who delivered at home but got admitted in the selected hospital as well as women who were admitted for problems during the ante-natal period, and those who did not deliver during the mentioned period were excluded from the study. The record keeping required for women who delivered by caesarean section had other variables that were not part of the checklist. Data for women who delivered at home are not always known or available, and most of the time, their maternity records are incomplete. Maternity records of women who were admitted for problems during the ante natal period and those who did not deliver during the given period were not included as most of the data would be scored as ‘not applicable’ on the checklist as these women had not gone through the labour process yet.

A pre-test study was conducted in another district hospital by selecting thirty (30) maternity records with the same criteria as the study population above. The participants of the pilot study did not form part of the research report.

1.8.2.2 Data Collection

The collection of information for a study is called measurement. It is the process by which values are obtained for the characteristics of individuals/population being studied (Ehrlich & Joubert 2014: 111).

Data were collected to describe the completeness of maternity records of women who delivered by normal vertex delivery during a period of one year in the selected hospital.

The data collection instrument that was used as part of the study design was a structured checklist which was prepared in English since this is the official language. All midwives working in the selected hospital were trained in the official language, therefore, no translation of the checklist was required. The checklist included a scoring guide as this was ideal for the study as the collected data would be examined for completeness and therefore would be scored according to it being complete, incomplete and not applicable. A scoring guide is applicable in order to quantify the data. A retrospective record review of maternity records of women who delivered by normal vertex delivery during a period of one year was done. A checklist was adapted from the 'Maternity record' used in all maternity wards in hospitals in Namibia, as well as parts of the existing audit tool for national hospitals in Namibia. The checklist covered all elements in the maternity record starting with general information and ending with discharge information. The tool was pretested on 30 maternity records and the pre-test findings, where necessary, were adapted. The checklist focussed on completeness of maternity records.

The researcher personally collected the data and as such, the researcher did not make use of any assistant. The study took place in the maternity ward of the selected district hospital.

1.8.2.3 Data Analysis

The purpose of data analysis is to organise, provide structure to, and elicit meaning from data. Polit & Beck (2017: 741) define quantitative data analysis as the manipulation of numeric data through statistical procedures for the purpose of describing phenomena or assessing the magnitude and reliability of relations among them.

The researcher used a descriptive study; therefore, descriptive statistics were used to perform basic calculations. The researcher used graphic analysis such as bar graphs, pie charts and frequency distribution tables to present and analyse the collected data. These methods are used in a descriptive study and they are appropriate for nominal data, therefore, they were considered as applicable in the current study. Frequency distribution tables were being used to systematically arrange the numerical data. Representation of data in a graphical way allowed easy interpretation and viewing of compliance to completeness of record keeping as the highest and lowest scores would be easily be seen. The researcher made use of a statistician and data were captured using the computerised software statistical package for social sciences (SPSS version 25). Descriptive statistics was applicable in this study as the researcher was able to describe numerical data and make recommendations for the findings.

1.9 DATA AND DESIGN QUALITY: VALIDITY AND RELIABILITY

It is important in research that the results of the study are meaningful and reflect reality, therefore, the data collection instrument should be tested for the quality thereof. In this quantitative study, the researcher focussed on reliability and validity as measures to ensure the data and design quality of the study.

1.9.1 Reliability of the study

Brink et al (2012: 169) define reliability as the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over time on the same person, or if used by two researchers.

The checklist that was used in this study was developed from and aligned with the maternity record using variables that appear in the record. The researcher conducted a pre-test study to test the reliability of the data collection instrument. The researcher collected the data to exclude possibility of being biased. The maternity records used in the study are legal documents kept by the institution under review, therefore, this

makes the source of the collected data to be a reliable source of information.

1.9.2 Validity of the study

Validity is a quality criterion referring to the degree to which inferences made in a study are accurate and well-founded in measurement, as well as the degree to which an instrument measures what it is intended to measure (Polit & Beck 2017: 747).

The researcher made use of experts to ascertain the validity of the study such as registered midwives to check and verify the variables used for the checklist and to evaluate their relevancy and appropriateness. The data collection instrument was edited according to the received valid feedback. The data collected is valid as the records under review were acquired from the institution after permission had been granted.

1.10 ETHICAL CONSIDERATIONS

The researcher considered and applied all applicable ethical principles and standards in the study whilst dealing with the institution under study. The required permissions were obtained from relevant authorities which include the Higher Degrees committee of the University of South Africa and the Executive Director of the Ministry of Health and Social Welfare Services in Namibia, before the study was conducted.

1.10.1 Protecting the participants

In this study, the researcher used records to obtain data. Confidentiality, anonymity and privacy principles were maintained by the researcher through not reporting any information that can link any of the clients to the data, such as hospital registration numbers and or the names of the clients whose records the information was captured from.

1.10.2 Protecting the rights of the institutions

The researcher first obtained ethical clearance from the Department of Health Studies Research Scientific Committee, University of South Africa. Furthermore, the researcher sought for permission from the Executive Director of the Ministry of Health and Social Welfare Services and the Regional Health Director of the llKharas Health Directorate, to obtain delivery registers and client records for data collection. A copy of the ethical clearance certificate and research proposal were attached to the written application. When permission was granted, the researcher abided to the conditions as stated in the permission letter.

1.10.3 The researcher

The researcher did not manipulate the study design as the purpose of the study was purely to ascertain the current deficiencies in the maternity records of the selected hospital in order to recommend strategies to improve the completeness of record keeping. The researcher did not engage in forgery or fabrication of the research results.

1.11 SIGNIFICANCE OF THE STUDY

The outcomes of the study can raise and or increase the awareness, alertness and understanding of midwives on the importance of improving the quality of records kept. More so, the results of the study may improve the completeness of the maternity records kept in the future and thereby reduce negative consequences such as disciplinary hearings which hail from and are based on incomplete and incorrect record keeping. In addition, the outcomes of clinical record auditing of the maternity records may improve. Moreover, the saying, ‘What is not recorded is not done’ may also become something of the past. The information obtained from this study may also assist midwives to identify gaps in their own record keeping in order for them to improve on the quality of the maternity record as well as case outcomes. It can also assist midwives to reduce legal actions taken against them as a result of incomplete

and or poor record keeping.

From this study's study finding, guidelines on the completion of the maternity record can be developed as well as the revision of such records, while it can assist nurse managers in better utilisation of personnel. The results may assist 'in-charges' and nurse managers to strengthen their supervision regarding patient care based on the proof reflected by complete and correct maternity records.

1.12 SCOPE AND LIMITATIONS OF THE STUDY

The study was done for research purposes and obtaining a master's degree, and it needed to be completed within a limited time; therefore, this study had some limitations. It would have been ideal to compare data from more than one institution, but the researcher is a full-time employee and also had financial constraints to travel from one district to another, therefore the study was limited to Keetmanshoop District Hospital.
The study was limited as the target group could not be reached as there were challenges experienced with patient record management i.e. a number of maternity records could not be traced, thus target of 100% could not be reached. The study focused on the completeness of maternity records, excluding quality, accuracy, etc.

1.13 CONCLUSION

This chapter focused on the background and orientation of the study as well as the research methodology. The next chapter focusses on the literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents a review of the literature on record keeping, also referred to as documentation of patient records, in public health institutions by looking at various studies which were conducted in Africa and other parts of the world. The aim is to critically analyse what is known about the subject matter and to relate the information to the objectives of this study. The literature review highlights the completeness of health records in general as well as the status of record keeping throughout the labour process, and also the types of records including critical parts of maternity records in the health care setting.

A literature review is the process of finding relevant research reports, critically appraising the studies, and synthesising the study results. Reviews include current knowledge of the problem, gaps in the knowledge base and contributions in building knowledge of the problem (Grove et al 2015: 164).

Quality healthcare depends on the accurate and chronological recording of the care provided. A good nursing care record is vital evidence of professional competency. Medical records serve as evidence in cases of litigation, whereby the emphasis is mainly on the accuracy, professionalism and completeness, based on acceptable standards. Any part of care that is not recorded, is regarded as not having been done (De Marinis 2010: 1544). Medical records serve as communication media between healthcare providers to ensure continuum of care. Quality improvement initiatives make reference to medical records of the past so as to compare progress, research activities and education (Sally Austin, Nursing 2011: 26).

2.2 THE MIDWIFE

The International Confederation of Midwives (ICM) defines a midwife as a person who, having been regularly admitted to a midwifery educational programme duly recognised in the country in which it is located, has successfully completed the prescribed course

of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery. All professions have a scope of practice, which is essential to ensure that only persons registered in that profession may perform the acts pertaining to their profession. In essence, the scope of practice of a midwife indicates that the midwife is a responsible and independent practitioner, accountable for her own acts and omissions (Marshall et al. 2016:4 - 5).

The South African Nursing Act 33 of 2005 requires that midwives keep complete and accurate midwifery records for individual health care users. The scope of practice for registered midwives according to the Namibian Nursing Act 8 of 2004, prescribes that a registered midwife must accurately record and maintain a comprehensive account of all midwifery interventions. Registered midwives in Namibia are trained to carry out maternal nursing care according to the nursing process, which is a systematic process of assessing, diagnosis, planning, as well as implementation and evaluation in providing individualised care which will ensure quality of care, and this can only be reflected through keeping complete and accurate records of such care. The quality of care will depend, amongst other things, on how thoroughly the midwife has documented the patient's/client's information. The client's maternal record should describe the health status and nursing care rendered to both the woman and her infant, from the time of her admission to the time of discharge.

The importance of recording information in women's records is to support the delivery of good care, clinical decision-making, communication between healthcare workers and continuity of care. Additionally, it is a valuable source for scientific research, quality assurance and transparency of the care provided. Medico-legal risks resulting from omitting or duplicating medication or treatment can be costly to both the client and the service. Unfortunately, accurate record keeping is often neglected and the reason usually cited for this is that there is a shortage of nursing staff. Record keeping is important to ensure effective communication between everyone involved in the delivery of healthcare. The nurse's role is central. The responses of the patient to interaction and observations made during the time he/she receives treatment are recorded chronologically (Booyens 2012: 132 -133).

The Hospital Standards and Criteria Guideline of Namibia states that patient's records

of adequate quality will provide sufficient information for a practitioner to be able to pick up the patients' care as if they had been the main professional responsible for the patient up until that point. That is, the record should enable seamless and continuous care, in spite of that care being provided by a series of different health care professionals over time. It should also provide effective communication between all members of the multidisciplinary team (Ministry of Health & Social Services 2018:171).

The Health Professions Council of Namibia (2010: 58 - 59) requires the compulsory keeping of records and prescribes that health professionals shall enter and maintain at least the following information for each patient:

- Personal particulars of the patient;
- Bio-physical history of the patient, including allergies and other individual characteristics;
- The time, date and place of each consultation;
- Assessment of the patient's condition;
- Proposed clinical management of the patient and responses to the proposed treatment;
- The treatment period e.g., medication and dosage prescribed and other interventions;
- Details of referrals, if any;
- The patient's reaction to treatment or medication, including adverse events;
- Special investigation results; and
- Written proof of informed consent where applicable.

In light of the above, any records kept of any patient by health professionals should therefore contain complete and accurate data as required by the legislation regarding keeping of medical records.

2.3 RECORD KEEPING OR DOCUMENTATION

The word “record” is a noun, and the Oxford Dictionary defines it as a written account of something that is kept so that it can be looked at and used in the future (Oxford 2015: 1248). Taiye (2015: 1) state that documentation is an integral part of nursing and midwifery practice because effective communication among health professionals is vital to the quality of client care. The standard of care rendered by nurses is determined by effective documentation, without which nurses’ care is not complete. Documentation is a tool of professional practice which should help in the care process of the patient.

2.3.1 Types of records in maternal care

The NDoH of the Republic of South Africa (2015: 24 - 25), describes the standards for the structure and content of a doctor’s obstetric patient record, covering the SABR (situation-background-assessment-recommendation), referral letter, antenatal clinic notes, inpatient notes (acute and follow-up), handover communications and discharge summaries as illustrated below:

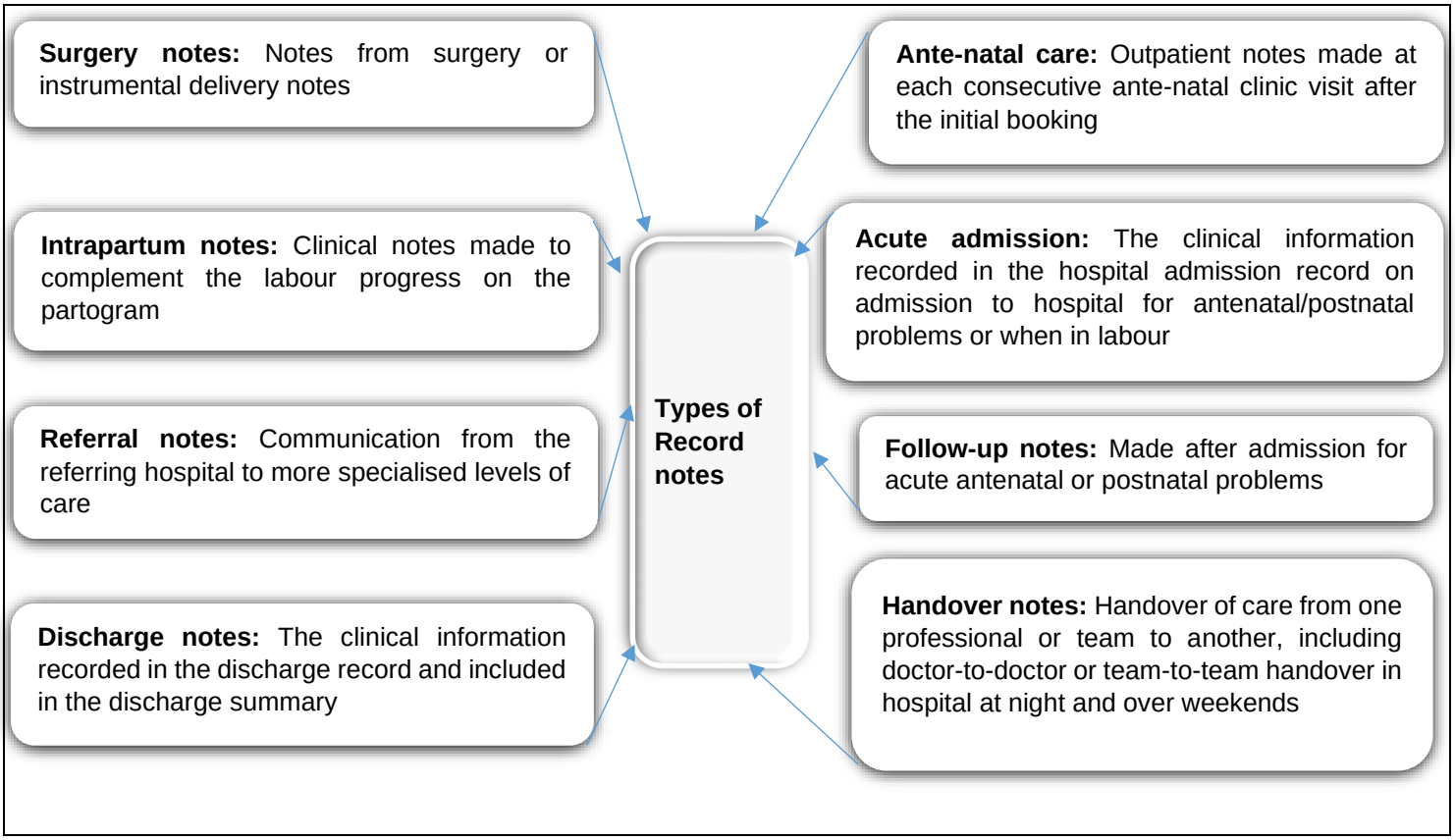

FIGURE 1: Organisation of records standards

2.3.2 The maternity case records

The HPCSA defines patient records or health records (thesaurus) as any relevant record made by a health care practitioner at the time of or subsequent to a consultation and/or examination or the application of health management. Medical records are a chronologic written account that includes a patient's initial complaint(s) and medical history, physical findings, results of diagnostic tests and procedures, and subsequent developments during the course of the illness (Fortex Medical Dictionary 2012). Maternity records were developed to standardise care during pregnancy, labour and delivery as well as to guide the interventions and to keep a comprehensive record of the pregnancy and birth.

Fraser and Cooper (2012: 471) state that the maternity record of labour is a legal document and it must be meticulously kept. The records may be examined by any court for up to 25 years; such records may go before the Nursing and Midwifery Council professional conduct of health committee, and will usually be examined in the audit process of statutory supervision or on behalf of the Clinical Negligence Scheme for Trusts. The records are created to give comprehensive and concise information regarding the woman's observations, her physical, psychological and sociological state, and any problem that arises as well as the midwife's response to that problem, including interventions.

The study of Sibiya et al (2015: 53-58), in KwaZulu-Natal showed negative factors regarding the new maternity case record, and the study findings indicated that it is clear that the new maternity case record is not user-friendly. The negative perceptions of midwives about the understanding of the new maternity case record were identified, and about 99% of the midwives believe that many mistakes and mismanagement of the antenatal care clients emanate from the structure and design of the new maternity case record. The midwives blamed the poor record keeping on the structure of the card. The midwives also complained that the card is complex with too many small boxes to be filled in, which creates a lot of confusion and also results in inaccurate and incomplete documentation.

In The Gambia's capital city, Banjul, and the surrounding Kanifing region maternity hospitals, it was found that mothers universally carried their maternity cards and all that health care providers referred to them (Gustafsson et al 2020: 16). While the recommendations behind women-held documents in maternity services are clear, the finding that simple low-cost steps to improve the information recorded on the documents could be important to consider for this and other resource limited settings. Simple adaptations to the maternity card (such as spaces for test results and risk-status) and their better completion could capitalise on their almost universal use by women and staff to improve continuity of care and safer births (Gustafsson et al 2020: 16). With WHO standards now emphasising the quality of maternity care in hospitals, good handover of clinical information to ensure patient safety is likely to improve

maternal outcomes, since handover of information is the cornerstone of patient safety and quality of care service.

2.4 MAGNITUDE OF THE PROBLEM, WORLDWIDE AND IN AFRICA

A breach in the standards of record keeping may lead to a successful claim of negligence and to lawsuits. Thus, the records maintained by midwives may either assist or prejudice them, while well documented records provide a good defence when malpractice claims are alleged. Therefore, good record keeping protects health professionals from legal actions being taken against them. However, statistics from the Health Professions Councils on court cases are not readily available.

In Italy, nurses have a tendency to do more activities and report only about 40% of them (De Marinis 2010: 1547). Studies conducted in Iran on documentation done by nurses showed that the quality of medical records in the country's hospitals is unsatisfactory. Research that compared world standards with those of Iran revealed that nurses exhibit more desirable quality regarding adhering to documentation principles, and the documents were evaluated as accurate, professional and concise (Vafaei et al 2018: 1527).

Ahmad et al (2019: 149) in Indonesia suggested that web-based midwifery documentation is a more effective method than conventional midwifery documentation. This is because it has different aspects such as ease, speed, security and relevance of data when recording labour data, and therefore the recommendation is that this has to be applied in documenting midwifery care.

2.5 WHAT CAUSES INCOMPLETENESS OF DOCUMENTS?

Increasing workload at health facilities has been cited as one of the reasons why nurses do not complete medical records appropriately in Limpopo South Africa (Shihundla et al 2016: 1). The majority of nursing staff members have not received

any formal training in the policies, procedures, norms and standards for managing records (Marutha et al 2017: 6). Whereas, nurses in Jamaica were noted to spend only about 7% of their time on documentation, and they perceive documentation as time consuming and unessential (Ramraj et al 2018: 17). A lack of time to complete records, increased patients' number and shortages of recording materials were found to be the challenges for nurses working in public hospitals in Limpopo Province, in South Africa (Mutshatshi et al 2018: 1). Another study done in Valiasr (PBUH) Hospital, Birjand, Iran, found that reasons for incomplete records can be described as organisational factors as the most important factors in this area (Shahverdi et al 2018: 3). The most important organisational factors were the assignment of non-nursing responsibilities to nurses and their heavy workload, while the most important personal factors were time limitations during work shifts, assigning higher priority to care provision rather than documentation, and work-related fatigue, and the most important managerial factors were low nurse-to-patient ratio (Shahverdi et al 2018: 3).

There is a universal dislike of paperwork among health professionals in general and by nurses in particular (Booyens 2012:132). The South African Nursing Act 33 of 2005 requires that midwives keep complete and accurate midwifery records for individual health care users. Despite all challenges given as reasons by midwives on poor record keeping, in health care, record keeping needs to be done as an integrated part of care, and as such, it is not an option. Challenges need to be addressed accordingly so as to ensure the smooth running of patient care. Lack of supervision and training remains a challenge especially to far remote health facilities. The midwives in Kwa-Zulu Natal blame poor recording on the structure of the record and the complexity of the record, which has too many small boxes to be filled, which creates confusion and also results in inaccurate and incomplete documentation (Sibiya et al 2015: 55). It is clear from the study, that this new maternity case record was found to be complicated, confusing and not easy to complete for its users, hence records are not completely filled.

2.6 IMPLICATIONS OF INCOMPLETE/MISSING DOCUMENTATION

A sizeable number of the South African Nursing Council's disciplinary measures result from incomplete and inaccurate record keeping (Ngidlana in Booyens 2012:132). The scope of practice for registered midwives according to the Namibian Nursing Act 8 of 2004, prescribes that a registered midwife must accurately record and maintain a comprehensive account of all midwifery interventions.

Missing healthcare documents result in disruptions of service delivery, ranging from delays and lack of continuity in the healthcare delivery (Marutha et al 2017: 6). A study conducted in eThekwini District, KwaZulu-Natal by Sibiya et al (2015: 55), revealed that whilst the overall findings of the record review showed that most of the elements assessed were recorded in the maternity case record, but there were several elements which were discovered to be poorly recorded. Those that were incomplete/poorly recorded include maternal height, MUAC, BMI, gestational age, interpretation and decision making. The findings in the study showed negative factors regarding the new maternity case record and it is clear that the new maternity care record is not user-friendly.

Scott (2016: 1) proffers that the importance of good nursing documentation should not be underestimated, and despite the vast amounts of information and guidance available to practitioners, nursing documentation continues to be poor. In Scott's study (2016), the researcher found that nurses do not appreciate the importance of keeping records until the day when something goes wrong and their documentation is subjected to scrutiny, appraisal and criticism. Often, in the event of a complaint or legal proceedings, the only evidence the nurses will have to defend their actions is the medical notes and records. Nurses are continually risk assessing and reviewing the condition of patients. It is important to ensure that problems, progress or concerns are documented and action taken. The researcher's findings indicate that some nurses do not appreciate the importance of keeping complete and quality records until incidences occur, whereby their accountability is questioned.

2. 7 RECORD KEEPING DURING LABOUR AND DELIVERY

2.7.1 Record keeping during antenatal/prenatal care

Antenatal care is the care given to a pregnant woman from the time conception is confirmed until the beginning of the labour. The midwife facilitates human centred care by providing her with accessible and relevant information to help her make informed choices throughout pregnancy. The foundation of this process is the development of a trusting relationship in which the midwife engages with the woman and listens to her story (Marshall et al 2016: 133).

A study conducted by Dladla-Ibe (2017: 40), in Chris Hani Baragwanath Academic Hospital yielded results that could be connected to the previous author in the above section, whereby the researcher concluded that it was commendable that the documentation of most of the variables was close to the 100% documentation recommended by the national guidelines of SA. The study showed that there is still much improvement which is needed in the documentation of some aspects of the antenatal record. The researcher recommends that more frequent audits of antenatal care are needed following this one to check for any improvements in the areas of concern. There also needs to be ongoing in-service training to both nurses and doctors on documentation of the mother's antenatal card.

A study done by Whitehead et al (2018: 1), found prenatal information in selected community hospitals in Atlanta, Georgia, to be only moderately completed, and concluded that incomplete record keeping may have an influence or may impede patient care, resulting in unnecessary tests or procedures or inappropriate medical care.

2.7.2 Importance of record keeping during the stages of labour

Marshall et al (2014: 264) describe labour as the process by which the foetus, placenta and membranes are expelled through the birth canal. However, labour is much more than a purely physical event. The authors' further state that what happens during labour can affect the relationships between the mother and the baby, and can

influence the likelihood and/or experience of future pregnancies. Labour is divided into three stages of labour, namely the first, second and third stages. During these stages of labour, the mother and baby need to be monitored through observation and different interventions and decisions take place. Therefore, it is important that whatever observation, intervention and decisions were done and taken during the labour process are recorded for communication between health professionals and for continuity of care. Record keeping is part of the nursing process and it is a basic, systematic and chronological process for nurses and midwives to ensure a good outcome.

Fraser et al (2012: 459) define the stages of labour as follows*:*

The first stage of labour is categorised in 3 phases i.e., latent phase, active phase and transitional phase. The *latent phase* is prior to the active firs0t stage of labour and this may last 6 - 8 hours in first time mothers, when the cervix dilates from 0cm to 3-4cm, and the cervical canal shortens from 3cm long to <0.5cm long. The *active first stage* is the time when the cervix undergoes more rapid dilatation. This begins when the cervix is 3-4cm dilated and in the presence of rhythmic contractions, this phase is complete when the cervix is fully dilated. The *transitional phase* is the stage of labour when the cervix is from around 8cm dilated until it is fully dilated. There is often a brief lull in the intensity of uterine activity at this time.

The second stage of labour is that of expulsion of the foetus. It begins when the cervix is fully dilated; in physiological labour, the woman usually feels the urge to expel the foetus. It is complete when the baby is born.

The third stage of labour is that of separation and expulsion of the placenta and membranes; it also involves the control of bleeding. It lasts from the birth of the baby until the placenta and membranes have been expelled.

The midwife's record of labour is a legal document and as such, it must be meticulously kept. A summary of good record keeping is provided below as identified by Marshall et al (2014: 296).

- Records should be as contemporaneous as possible;

- Each entry should be authenticated with the midwife's full signature with the name printed underneath;
- Records should be comprehensive but concise and consist of the woman's observations; her physical, psychological and sociological state and any problem that arises as well as the midwife's response and any subsequent interventions;
- The records should be kept in chronological order as their accuracy provides the basis from which clinical improvements, progress or deterioration of the woman or foetus can be judged;
- The record is shared between the midwife and obstetrician and details of any consultation with other members of the multi-professional team should be clearly documented by the midwife including the time and nature of the consultation;
- The obstetrician is also responsible to record their findings, timing of visits and any prescriptions made as the same standards apply to all practitioners;
- The midwife usually enters in the records, the ante-natal care details, the summary of the labour, and initial details about the health of the baby; and
- A midwife must ensure that all records are stored securely and should not destroy or arrange for their destruction.

2.7.3 Partograph as an important record keeping tool for labour monitoring

The midwives who care for a woman during labour are responsible for recording information on the progress of labour. This progress of labour needs to be charted on a partograph. The partograph is a graphic record of the progress of labour that helps caregivers to detect whether labour is progressing normally or not, indicates when augmentation of labour is appropriate and assists in recognising cephalo pelvic disproportion (CPD) long before labour becomes obstructed. The partograph assists midwives in the early decision making about the transfer and or termination of labour. It also increases the quality and regularity of all observations on the foetus and the mother during labour and aids in the early recognition of problems with either (Nolte 2008: 4). According to Marshall et al (2016: 295), the partogram remains an integral

part of intrapartum record keeping. The charts are usually designed to allow for recordings at 30 minutes' intervals.

The study of Mukisa et al (2019: 7) conducted in Mulago National Referral and Teaching Hospital, Kampala, Uganda, revealed a low proportion for completed partographs and that partographs were inadequate. Health workers in rural Uganda were overwhelmed by the number of expectant mothers and other staff responsibilities resulting in incomplete partographs. The findings of low partograph utilisation are similar to a study in Addis-Ababa, Ethiopia, which showed a poor completion rate of the modified WHO partograph during labour in public health institutions. The correct completion of the partograph was very low and the researcher concluded that this reflected poor management of labour or simply inappropriate completion of the instrument (Yisma et al 2013: 1&7).

The above study is in line with similar studies in Dar-Es Salaam which showed that only two parameters of the WHO standard partograph had been completed in the review by Mukisa et al (2019: 7). The study of Mukisa et al (2019: 7) concluded that the level of partograph completion and use in Mulago National Referral Hospital was low, and the researchers concluded that the apparent lack of complete documentation of the partograph parameters in the study may have led to delayed detection and undertaking of urgently required interventions for the mothers and babies, thereby leading to high stillbirth rates. The study identified the need for the government to invest more in health care as a way to overcome the challenges with regards to partograph utilisation in order to improve maternal and especially infant outcomes.

Furthermore, a study conducted by Fernandes and Stumpher (2016: 78) on the experiences of midwives' usage of the partogram in Namibia in regional hospitals found that although the midwives displayed a positive attitude in using the partograph, they experienced obstacles such as lack of skills or insufficient knowledge amongst midwives. The study also revealed that the document was time consuming given the unrealistic staff/patient ratio and a lack of proper equipment. The researchers recommended in-service training as a way to ensure standardised plotting and management to address the staff/patient ratios.

In the private sector, a study conducted in a private hospital in South Africa by Yasbek and Jomeen (2019: 133), concluded that the completion of the partogram for midwives was not a challenge possibly due to the frequent in-service training on partogram use provided by clinical facilitators and unit managers. However, it was found that the high caesarean section rate was a concern, possibly due to obstetricians not using or basing their clinical decision-making on the partogram. However, the findings cannot be generalised to all private hospitals as only one (1) private hospital took part in the study.

The study conducted in Bloemfontein, South Africa, by Brits et al (2020: 6), indicates that more than 70% of the partograms scored more than 75% for completion. However, critical components that influence maternal and foetal death such as identification of foetal distress, maternal well-being and progress of labour were lacking. These are important quality measures in record keeping that were lacking for addressing issues of quality of care in maternity settings.

2.7.4 Record keeping of a woman in labour during hospitalisation

Good quality nursing care is guided by the nursing process which includes five stages, namely, Assessment, Diagnosis, Planning, Implementation and Evaluation. Each step in the nursing process needs to be recorded, otherwise if not recorded, it indicates that it was not done.

When a woman arrives in the maternity department, the midwife will perform a screening assessment by means of an interview and performing a physical examination. The midwife will also review any laboratory test results and diagnostic findings to determine the health status of the mother and the foetus, and subsequently the progress of the labour process. *General information* of the patient is captured as it helps in planning the care of the patient and this produces a baseline of what the midwife intends to plan, while the findings on admission serve as a baseline for assessing progress from admission until delivery.

Personal particulars, e.g., name and age, help to identify the patient. Age in particular, is important since it helps to identify whether the patient is a minor and thus would need consent for certain health procedures such as an emergency operation, in order for prompt responses and interventions to be planned and carried out as per the identified risk. Home address and telephone numbers, as well as next of kin are necessary in terms of the support system of the patient. The information is useful to trace relatives for instances in which a minor patient needs consent for operation, or the patient becomes severely sick.

During pregnancy, both the mother and the foetus may be affected by a medical condition, or the health of both may be altered by the pregnancy, and if untreated, there may be serious consequences for the woman's health (Fraser et al 2012: 270). A patient's *medical history* forms a baseline for treatment and prepares the midwife psychologically for what to be expected or anticipated in order to plan possible interventions. For example, a history of hypertension will alert the midwife to plan to do hourly measurements of the patient's blood pressure since there is a link between Pregnancy Induced Hypertension (PIH) and eclampsia.

Certain conditions are genetic in origin, whilst others are familial or related to ethnicity and some are associated with the physical or social environment in which the family lives. Diabetes, although not inherited, leads to a predisposition in other family members, particularly when they become pregnant or obese. Hypertension has a familial component and multiple pregnancy has a higher incidence in certain families (Fraser et al 2012: 273). *Family history* is important to be recorded during pregnancy to anticipate an occurrence with the baby and to plan care/interventions.

Surgical history provides information on operations carried out on the patient. It is important to obtain information related to the type of operation, the date when the operation was carried out and the reason why it was carried out, as certain operations may have an effect on the progress of labour.

Marshall et al (2016: 138) state that previous childbearing history is important in considering the outcome of the current pregnancy and also in relation to how the woman feels about the future. *Obstetric and Gynaecological history* provides a picture

of the status of the patient's reproductive organs. The patient may have experienced hormonal problems, or an untreated sexually transmitted disease which may have an effect on the baby, or previous traumatic births. It is important to know the number of pregnancies, stillbirths, abortions as well as premature or complicated deliveries as this may repeat or put the patient at risk.

An accurate record during labour provides the basis from which clinical improvement, progress or deterioration of the mother or foetus can be judged; therefore, it is required that notes are kept chronologically. The maternity record is shared between the midwife and the obstetrician, who on their part make notes of findings, timing of visits and any prescriptions made. The same standards apply to all practitioners. The midwife usually enters the summary of the labour and initial details of the baby (Fraser et al 2012: 472). Records in the health care setting should be seen as continuity of care by which any other health professional involved in the care of the patient should be able to interpret findings and patient condition through reading the records.

2.8 RECORD KEEPING AUDITING AS A QUALITY ASSESSMENT TOOL

The Oxford Dictionary (2015: 81) defines an audit as an official examination of the quality and standard of something. Clinical audits form part of the continuous quality improvement process and consist of measuring a clinical outcome or a process against well-defined standards set on the principles of evidence-based medicine (DoH 2018: 2).

A study by Sinni et al (2016: 142-147) done in 52 different countries, found that the high rates of unavailable data from the health records should be a major concern for both individual clinicians and the organisation. Documentation is fundamental to the transfer of clinical information between care providers, particularly when large components of care, such as in pregnancy, may be provided in the community by non-hospital staff. The study identified compelling system failures that are likely to be replicated in other maternity services but that could be readily overcome with integrated information management systems such as those afforded by an electronic

medical record. The interpretations of the study suggest that omissions in the health record reflect omissions of care which may be perceived as extreme. The authors acknowledge that omissions in documentation do not prove that care was not provided. However, it is difficult to argue that care was offered or provided if there is no documented evidence for it.

A study done in rural Tanzania by Nyamtema et al (2011: 4) in Tanzania revealed that the audit of the study identified a wide range of sub-standard care for severe maternal morbidities in rural Tanzania. Although it was impossible to state with certainty how many reverse maternal morbidities might have been saved through focused courses of actions, the presence of at least one category of sub-standard care of all severe morbidities suggests that the vast majority of these resource limited countries are preventable if more investments for maternity care are made. The researcher further found that health worker related sub-standard care in 61% - 69% of patients with severe morbidities in health facilities suggests inadequate knowledge, skills, attitudes, morale and responsiveness to obstetric complications.

Similarly, a study conducted by Landry et al (2014: 7) found that 10% or more of the data were missing from more than three sites. Most of the women who had been referred arrived without notes or a partograph. The authors concluded that incomplete, inaccurate and inaccessible medical records have the potential to adversely impact decision making and care. Improved record keeping could facilitate routine monitoring, reporting and clinical audits that might help the facility staff to identify deficiencies in care. The authors further state the findings of the study indicate a pressing need to improve record keeping across study sites and referring facilities.

2.9. CONCLUSION

The key findings from the literature review reflect incomplete and unsatisfactory record keeping due to increasing workload and lack of time as having various implications and as such, much improvement is needed. The following chapter entails the details of the research design and methodology used in this study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The chapter outlines the research design and methodology used in the research. Moreover, the methodology consists of an explanation of the choice of research and the implementation of the data collection method. Furthermore, the sampling aspect of the study, data collection, data analysis, application of validity and reliability of the research instrument, as well as the ethical aspects pertaining to the study are included in the chapter.

3.2 RESEARCH DESIGN

Polit & Beck (2017: 56) define the research design as the overall plan for obtaining answers to the research questions. Research designs indicate how often data will be collected, what types of comparisons will be made, and where the study will take place. The research design is the architectural backbone of the study.

The researcher in this study used a quantitative, non-experimental, descriptive and retrospective design in order for the researcher to achieve the research objectives and address the research problem.

3.2.1 Quantitative research

Quantitative research is an approach for testing objective theories by examining the relationship among variables. These variables in turn, can be measured typically on instruments so that numerical data can be analysed using statistical procedures (Creswell 2014: 2).

The researcher collected objective numerical information on the status of record keeping of the maternity record, reviewed the current practices of record keeping of

the maternity record and detected as well as described the acts and omissions on the maternity record of midwives. The researcher remained objective, meaning that her feelings, values and personal perceptions did not influence the measurements on the completeness of the record keeping of the maternity record. The study focused on objectivity by using a structured checklist to determine the completeness of the record keeping in the maternity record. The process followed in this study was highly structured, hence strict control was exercised in the sampling techniques to ensure the validity and reliability of the instrument and data analysis.

3.2.2 Non-experimental design

Non-experimental research designs allow no manipulation of the independent variable, therefore there are no interventions, nor is the setting controlled. The study is carried out in a natural setting and phenomena are observed as they occur (Brink et al 2012: 112).

The study was conducted in a hospital setting whereby the maternity records of patients who delivered in the selected hospital were reviewed for completeness of record keeping as kept by midwives. Completeness refers to the filling of all data elements as it appears in the maternity record.

The major purpose of a non-experimental research is to describe the phenomena and explore and explain the relationships between the variables (Brink et al 2012: 159). Furthermore, non-experimental approaches are useful in acquiring more information and knowledge which is difficult, unethical, or even impossible to employ in an experimental approach (Brink et al 2012: 112). In this study, there was no manipulation or intervention, but only a description of the completeness of the maternity record.

3.2.3 Descriptive design

Descriptive designs are used in studies where more information is required in a particular field through the provision of a picture of the phenomenon as it occurs

naturally. These designs describe the variables in order to answer the research question, and there is no intention of establishing a cause-effect relationship. Descriptive designs may be used to identify problems with current practice; to justify current practice, make judgements or determine what other professionals in similar situations are doing (Brink et al 2012: 112). According to Burns et al (2015: 33), descriptive studies are normally conducted with large numbers of study participants in a natural setting without the manipulation of the situation.

The researcher found a descriptive design to be appropriate for this study as it enabled the researcher to gain the necessary information from a large sample of maternity records required to determine the level of completeness of maternity records and detected and described acts and omissions on the part of midwives in a maternity ward in a specific hospital. The research question on the 'how' was addressed by the researcher through applying a descriptive design.

3.2.4 Retrospective design

Studies with a retrospective design are the ones in which a phenomenon existing in the present is linked to phenomenon that occurred in the past. The signature of a retrospective study is that the researcher begins with the dependent variable and then examines whether it is correlated with one or more previously occurring independent variables. Furthermore, not all retrospective studies can be described as using a case-control design (Polit & Beck 2017: 204) as in the case of this study as sometimes researchers use a retrospective approach to identify risk factors for different amounts of an outcome rather than case-controls.

Brink et al (2012: 115) define a retrospective design as a study which deals with an effect and works backwards to determine what was associated with the past. The definition by Brink et al (2012) is more applicable to this study; therefore, the researcher applied a retrospective study as the best method because the outcome has already occurred as the study focussed on maternity records of patients who were already discharged, thus record keeping and nursing care had already taken place.

The study involved the use of a checklist in reviewing the completeness of maternity records.

3.3 RESEARCH METHOD

Research methods involve the techniques used to structure a study and to gather and analyse information in a systemic fashion (Polit & Beck 2017: 743). The research methods included in this study consist of the study population, sampling, data collection methods, data processing, data analysis as well as strategies which enhance scientific and methodological integrity.

3.3.1 Population and sampling

Sampling involves selecting a group of people, events, behaviours or other elements with which to conduct research (Gray et al 2017: 515). A researcher must choose in an appropriate manner the objects, persons and events from which the actual information needs to be drawn. Therefore, the researcher needs to define the population and sample. The study of each element in the population would generally take too long and be impractical and costly. The researcher thus works with samples.

3.3.1.1 Population

A population is the entire aggregation of cases in which a researcher is interested. Populations are not restricted to humans and they may consist of, for example, hospital records in a particular hospital or blood samples at a particular laboratory; thus, whatever the basic unit, the population comprises of the aggregate of elements in which the researcher is interested (Polit & Beck 2017: 249). Other authors such as Grove et al (2015) define a population as particular groups or individuals or elements, such as people with type 2 diabetes, who are the focus of the research. The target population is the entire set of individuals or elements who meet the sample criteria.

The researcher selected in-patient maternity records of all women who delivered by normal vertex delivery in the maternity ward of Keetmanshoop District Hospital, llKharas region in Namibia, during the 1st of January 2018 to the 31st of December 2018 as the population, as this met the criteria of the researcher's interest. The researcher selected this hospital because it is the largest district hospital in terms of deliveries, population and bed occupancy, which is situated in southern Namibia and the hospital is utilised as a referral hospital for the southern primary health care facilities and two other district hospitals in the region.

The researcher outlined the eligibility criteria as follows:

The *inclusive criteria* for the study population were selected from the maternity records of all state and private women who delivered by normal vertex delivery in the selected hospital during the given period.

The exclusion criteria consisted of the records of all women who delivered babies by caesarean section and who delivered at home although they were later admitted in the selected hospital, as well as women who were admitted for problems during the ante-natal period, who did not deliver during the mentioned period. The record keeping required for women who delivered by caesarean section has other variables that did not form part of the checklist. Data for women who delivered at home are not always known or available, and on most of the times, their maternity records are incomplete. Maternity records of women who were admitted for problems during the ante natal period and did not deliver during the given period were also excluded, as most of the data would be scored as 'not applicable' on the checklist as these women had not go through the labour process during the time of conducting the study.

3.3.1.2 Sampling

Sampling is the process of selecting a proportion of the population to represent the entire population (Polit & Beck 2017: 743). Grove et al (2015: 37) describe sampling as a process of selecting participants who are representative of the population being

studied. The author further explains that sampling involves selecting a group of people, events, objects or other elements which to conduct a study. Furthermore, a sampling method or plan defines the selection process and the sample defines the selected group of people or elements (Grove et al 2015: 249). Therefore, a sample selected by the researcher in a study should represent an identified population.

In this study, the researcher used systematic sampling which is a basic probability sampling technique. The researcher applied systematic sampling to spend less time with sampling. The researcher found systematic sampling as the best method as its advantages are that all elements in the population have an equal chance of being included in the sample, it could assist the researcher to estimate sampling errors, reduces bias, and made it possible for the researcher to use descriptive statistics. Systematic sampling involves selecting every kth case from a list, such as every tenth (10th) person on a patient list or every twenty-fifth (25th) person on a student roster from which a random sample will be drawn. The desired sample size is established at some number (n). The size of the population must be known or estimated (N). By dividing (N) by (n), a sample interval (k) is established. The sampling interval is the standard distance between sampled elements (Polit & Beck 2017: 257).

In this study, the (N) is 935 (total number of patients who delivered by NVD during the selected period) and (n) is 93 (10% of population). The sampling interval was calculated as follows: k= 935÷93=10, thus every tenth maternity record was selected to be reviewed by the researcher.

The *sampling process* included the steps as set out by Brink et al (2012: 135) and these were as follows:

- The in-patient delivery register of the selected hospital was used to select the maternity records for the period under review as indicated by the researcher (1st January 2018 to 31st December 2018);
- Every tenth entry in the in-patient delivery register was identified and listed by the researcher;

- In Namibia, the patients maternity record after delivery are kept safely in the record room and they are handled by administrative officers working at the reception of the health facilities. The researcher gathered the identified and listed maternity records from the record room through registering and signing out all the selected records; and
- Each selected record which formed part of the sample was assigned a consecutive number starting at number 1 and this was in order to ensure the confidentiality of the patients so that none of the selected records could be identified with a specific patient.

The researcher was unable to acquire the sample size (93 maternity records), as some of the records identified and selected from the in-patient register could not be found through the registry process from the record room. The researcher therefore reviewed only 78 records that she could acquire, which was 84% of the initial sample size.

3.3.1.3 Ethical issues related to sampling

Brink et al (2012: 32) state that a researcher is responsible for conducting research in an ethical manner from the conceptualisation and planning phases through the implementation phase to the dissemination phase. The Nuremberg Code of 1947 was the first set of guidelines drawn up to protect the rights of research participants. This code mandates voluntary consent, justification of the research for the good of society with an appropriate balance of risk and benefit, adequate protection of participants from risk or harm, the participant's right to withdraw from experimentation and adequate scientific qualification for researchers (Brink et al 2012: 33).

3.3.1.3.1 Protecting the participants

In this study, the researcher used patient records to obtain data from. Confidentiality, anonymity and privacy principles were maintained by the researcher by not reporting any information that would link any client to the data, such as hospital registration numbers or names of the clients whose records the information would be captured

from. Each sampled maternity record was assigned a unique identifier number which did not include names or registration numbers as assigned by the selected hospital.

3.3.1.3.2 Protecting the rights of the institution

Firstly, the researcher obtained ethical clearance from the University of South Africa's Department of Health Studies Research Scientific Committee, before commencement with the research. Secondly, after approval from the tertiary institution, the researcher obtained permission from the Executive Director of the Ministry of Health and Social Welfare Services, and the Regional Health Director of the llKharas Health Directorate, to use delivery registers and client records for data collection in the research. The conditions under which permission was granted were adhered to by the researcher.

The checklist was completed on the premises of the selected hospital in a secured room with limited access. The records were not removed from the institution as a way to ensure that no unauthorised persons could gain access to the records. The same numbers of the maternity records as assigned by the researcher were used to mark the checklist so as to make the data capturing easy and to avoid the double entry of the same checklist.

3.3.2 Data Collection

The collection of information for a study is called measurement. It is the process by which values are obtained for the characteristics of individuals/population being studied (Ehrlich & Joubert 2014: 111).

3.3.2.1 Data collection approach and method

The data collected during this research investigated the completeness of maternity records of women who delivered by normal vertex delivery during a period of one year in the selected hospital. The data collection instrument that the researcher used as part of the study design was a structured checklist in English as this is the official

language. The checklist included a scoring guide as this was ideal for the study as the collected data were examined for completeness and therefore scored according to complete, incomplete and not applicable. A scoring guide was applicable in order to quantify the data collected.

3.3.2.2. Development and testing of the data collection instrument

The researcher collected data to investigate the completeness of maternity records of women who delivered by normal vertex delivery during a period of one year in the selected hospital. The checklist was formulated from the 'Maternity record' used in all maternity wards of hospitals in Namibia, as well as parts of the existing audit tool for national hospitals in Namibia. The checklist covered all elements in the maternity record starting with general information and ending with discharge information. The researcher conducted a pre-test of thirty (30) maternity records from a period of three (3) months at the selected hospital to test the data collection instrument. The checklist was edited and adapted according to all the findings during pre-test process.

3.3.2.3 Characteristics of the data collection instrument

The data collection instrument that the researcher used as part of the study design was a structured checklist. The checklist included a scoring guide as this was ideal for the study as the collected data were examined for completeness and therefore scored according to complete, incomplete and not applicable. A scoring guide was applicable in order to quantify the data collected.

3.3.2.4 Data collection process

Brink et al (2012: 148) state that the process of data collection is of critical importance to the success of a study. Without high-quality data collection techniques, the accuracy of the research conclusions is easily challenged. The researcher was guided by questions such as the what, why, how, who, where and when.

The researcher obtained permission from authorities of the Ministry of Health and Social Services as well as authorities from the selected hospital to obtain data and also for accessing patient records. The annexures for permission and approval thereof are attached (annexure A & B). After permission, the researcher followed the sampling process as set out by Brink et al (2012: 135). A list of the identified maternity records was submitted to the administrative officer responsible for safekeeping of hospital records at the selected hospital with the permission letter, in order for the researcher to access the maternity records. The records were signed out by the researcher from the record room. Retrospective data were collected from seventy-eight (78) maternity records which accounts for 84% maternity records of patients who were admitted during the year 2018 in the selected hospital, and these were reviewed for completeness. The initial sample size of ninety-three (93) records was not obtained as fifteen (15) maternity records could not be found from the Record room of the selected hospital. The data were collected in a secured room and records were kept in a lockable cabinet for security purposes. The researcher collected the data by herself through making use of a checklist. The review of each record took about 30 minutes and the duration of data collection process took slightly over three (3) weeks. No patient names or registration numbers of the records were used, instead a unique identifier number for each checklist was used. Data were collected until all the sampled records were reviewed. Upon completion of the data collection, the maternity records were handed back to the same administrative officer and signed off.

3.3.2.5 Ethical considerations related to data collection

Ethics in research refers to a system of moral values that is concerned with the degree to which research procedures are adhered to professionally, legally and socially through obligations to study participants (Polit & Beck 2017: 727). The researcher in this study applied all applicable ethical principles when the study was conducted as well as applying for permission from authorities to conduct research. No patient records were removed from the institution during the period of data collection. All the sampled records were handed back to the institution according to their policy after the completion of the data collection process.

3.3.2.5.1 Protecting the participants

In this study, the researcher obtained data from patient records. Confidentiality, anonymity and privacy principles were maintained by the researcher who did not include any information that could be linked to the patients such as hospital registration numbers or names of the clients. The sampled maternity records were kept secure when not in use.

3.3.2.5.2 Protecting the rights of the institutions

The researcher obtained ethical clearance from the University of South Africa's Department of Health Studies Research Scientific Committee. The researcher obtained permission from the Executive Director of the Ministry of Health and Social Welfare Services and the Regional Health Director of the llKharas Health Directorate, to obtain delivery registers and client records for data collection. The researcher strictly followed the conditions as stated in the permission letter.

3.3.2.5.3 The researcher

The researcher followed the research proposal as approved by the university, without forgery or fabrication of the research results. The researcher-maintained objectivity during the data collection process and completed the checklist as it was structured from the information in the maternity records.

3.3.3 Data analysis

The purpose of data analysis is to organise, provide structure to, and elicit meaning from data. Polit & Beck (2017: 741) define quantitative data analysis as the manipulation of numeric data through statistical procedures for the purpose of describing phenomena or assessing the magnitude and reliability of relations among them. The researcher made use of the services of a statistician from the University of Namibia, and data were captured using the computerised software statistical package

for social sciences (SPSS version 25). The researcher made use of graphic analysis, and presented the data through bar graphs, pie charts and tables. The researcher used a descriptive study; therefore, descriptive statistics were used to perform basic calculations. The researcher found the descriptive study to be applicable and as such, the study allowed the researcher to describe numerical data and formulate recommendations for the findings.

3.4 RIGOUR OF THE STUDY: VALIDITY AND RELIABILITY OF THE STUDY

3.4.1 Validity of the study

Validity is a quality criterion referring to the degree to which inferences made in a study are accurate and well-founded in measurement, as well as the degree to which an instrument measures what it is intended to measure (Polit & Beck 2017: 747). The researcher involved registered midwives from the institution to review the data collection instrument so as to evaluate the appropriateness and relevance of the instrument by comparing it with the maternity records. The feedback was incorporated in the tool, and feedback was received mostly with regards to the exclusion criteria as indicated.

3.4.2 Reliability of the study

Brink et al (2012: 169) define reliability as the degree to which the instrument can be depended upon to yield consistent results if used repeatedly over time on the same person, or if used by two researchers. The data collection tool was aligned with the maternity record and the existing official record audit tool of the institution. Only variables from the maternity records were used. The sampled records were legal documents from the selected hospital, thus the data collected were from a reliable source.

3.5 SUMMARY

The chapter described in detail the methodology adopted for this study in order to address the research question. It outlined the stages of the research methodology which is applicable in a quantitative research, highlighted data quality through THE validity and reliability measures, and finally discussed the ethical considerations in the study. The next chapter focuses on the presentation and discussion of the research findings.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

4.1 INTRODUCTION

This chapter presents the results of the study from the reviewed maternity records. The purpose is to summarise numerical data in an interpretable format, in order to answer the research questions.

The collected quantitative data are presented in tables and graphs. Furthermore, the presentation of quantitative data is categorised according to groups of variables such as socio-demographic data and ANC history amongst others.

4.2 DATA MANAGEMENT AND ANALYSIS

The researcher developed and used a checklist with rating scales to assess the completion of variables in the maternity record in a district hospital. Variables assessed for completeness included socio-demographic data, ANC history, labour and delivery, puerperium care, neonatal care and discharge of both mother and infant.

The observations were rated as (2) for those variables recorded/completed, and (1) for variables not completed or not recorded. The researcher targeted 93 maternity records for the period under assessment, though the researcher managed to collect data from 77 maternity records only as the other records were missing from the archive at the district hospital and as such they could not be traced. This represents 83% of the proposed target.

Data was analysed done by a statistician using SPSS version 25. The researcher is going to present the analysed data in this chapter, using bar graphs, pie charts and frequency distribution tables to showcase the magnitude of the problem.

4.3 RESEARCH RESULTS

Seventy-seven maternity records were reviewed through the checklist which was designed by the researcher. The checklist was designed based on the Namibian Maternity Record. Although the maternity record is also used by medical officers to record their findings in the progress notes during visits and the physical examination part of the new born, the record is mainly completed by registered midwives.

4.3.1 Socio-demographic data

This sections focused on: name of the health facility, district, region, surname, first name, registration number, date of birth, age, identity document, citizenship, language, religion, occupation, marital status, residential address, postal address, telephone number (house), telephone number (work), mobile telephone number, name of next of kin (1 and 2), relationship to next of kin (1 and 2), residential address (1 and 2), telephone number (1 and 2), state patient, booked or unbooked, private patient, booked or unbooked, if private, state name of doctor, telephone number of doctor, and name and number of medical fund.

The data are recorded on admission to a health facility when the woman comes when labour commences. The information comprises of the general information of the facility and the client such as identification, information about addresses and details of next of kin in case of any emergency.

According to table 4.1, the data representing the identification of the facility in terms of name, district and region were completed between 85.7% (n=66) and 81.8% (n=63). The incomplete information on the maternity records for identification of the facility makes it difficult to trace back where the client was admitted and managed. Similarly, if data for the identification of the client with regards to name, surname, age, date of birth, identification number and registration number is not recorded, this implies that midwives are unable to identify clients. The study results indicate that from all the records, that the identification of the clients by surname was 88.3% completed with 11.7% not being recorded/not completed, whilst 79.2% with regards to the first name was completed, with 20.8% of the clients' first names not being completed.

Furthermore, 80.5% of clients have records identified with the facility registration number while 19.5% could not be identified with the registration number as reflected on the hospital file. Completed information reflected 76.6% and 79.2% on the maternity records for date of birth and age of the clients, with 23.4% and 20.8% having missing data respectively.

Data recorded as complete related to citizenship, language, religion, occupation and marital status ranged between 81.8% - 88.3%, with a mean of 84.4%. Information on contact details such as residential and postal addresses were fairly well completed at 80.5% and 81.8% respectively, with 19.5% and 18.2% incomplete contact details. For variables on contact details for telephone numbers, it was found that mobile telephone numbers were better completed at 83.1%, compared to landlines at residence and at work which reflected 75.3% and 76.6% respectively. Missing information on telephonic contacts may hamper services of link to care to be followed-up for post-natal care or services to be rendered by community health workers.

As part from emotional and psychological support, companion in labour is advocated, whether it is the husband, partner, friend or family member. Marshall et al (2016: 293) proffer that the fact that women should be encouraged to have support by birth partners of their choice is well recognised. Ideally, the companion should be involved in pre-labour preparations and decision-making, have participated in compiling a birth plan and be aware of all the available options. Thus, information required on next of kin is equally important to be completed in full. The maternity record gives the option to provide information of at least 2 next of kin names.

Table 4.1.: Socio-demographic data

	Completed		Incomplete	
Variable	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Name of health facility	n= 66	85.7%	n= 11	14.3%
District	n= 65	84.4%	n= 12	15.6%
Region	n= 63	81.8%	n= 14	18.2%
Surname	n= 68	88.3%	n= 9	11.7%
First Name	n= 61	79.2%	n= 16	20.8%
Registration Number	n= 62	80.5%	n= 15	19.5%
Date of Birth	n= 59	76.6%	n= 18	23.4%
Age	n= 61	79.2%	n= 16	20.8%
Identity Document	n= 64	83.1%	n= 13	16.9%
Citizenship	n= 63	81.8%	n= 14	18.2%
Language	n= 65	84.4%	n= 12	15.6%

Religion	n= 65	84.4%	n= 12	15.6%
Occupation	n= 65	84.4%	n= 12	15.6%
Marital status	n= 68	88.3%	n= 9	11.7%
Residential address	n= 62	80.5%	n= 15	19.5%
Postal address	n= 63	81.8%	n= 14	18.2%
Telephone number (house)	n= 58	75.3%	n= 19	24.7%
Telephone number (work)	n= 59	76.6%	n= 18	23.4%
Mobile telephone number	n= 64	83.1%	n= 13	16.9%
Name of next of kin (1)	n= 62	80.5%	n= 15	19.5%
Relationship to next of kin (1)	n= 57	74.0%	n= 20	26.0%
Residential address (1)	n= 58	75.3%	n= 19	24.7%
Telephone number (1)	n= 49	63.6%	n= 28	36.4%
Name of next of kin (2)	n= 49	63.6%	n= 28	36.4%
Relationship to next of kin (2)	n= 52	67.5%	n= 25	32.5%
Residential address (2)	n= 55	71.4%	n= 22	28.6%
Telephone number (2)	n= 65	84.4%	n= 12	15.6%
State patient	n= 67	87.0%	n= 10	13.0%
Booked or unbooked	n= 63	81.8%	n= 14	18.2%
Private patient	n= 67	87.0%	n= 10	13.0%
Booked or unbooked	n= 61	79.2%	n= 16	20.8%
If private, state name of doctor	n= 60	77.9%	n= 17	22.1%
Telephone number of doctor	n= 59	76.6%	n= 18	23.4%
Name of medical fund	n= 57	74.0%	n= 20	26.0%
Membership number	n= 62	80.5%	n= 15	19.5%

The variables in the above table as completed with the highest scores at 88.3% (n=68) are surname of the client and marital status, and the variables least completed are telephone number of next of kin (number 1) and the name of the next of kin (number 2) at 63.6% (n=49). The study reflected that from the maternity records assessed, details with regards to the identification of the next of kin by name, surname, address, relationship and telephone number scored between 63.3% and 80.5% complete, for the 1st option and between 63.3% and 84.4% complete for 2nd next of kin.

In addition, the district hospital admits state as well as private patients; therefore, under general information on details of private doctor this was recorded as well as details on medical aid scheme to contact in case the private doctor needs to be called or alternatively if a private client is to be referred and transported for obstetric complications to another point of care. More importantly, information on ANC bookings is to be completed to establish if the client attended ANC and what is to be expected when they are admitted for labour and delivery. The data representation for booked and unbooked state and private clients reflected that for state clients, 81.8% of data

was recorded with 18.2% not being recorded. For private clients booked or unbooked, 79.2% of the variables were completed and 20.8% was not completed.

4.3.2 Ante-natal history

4.3.2.1 Obstetric history

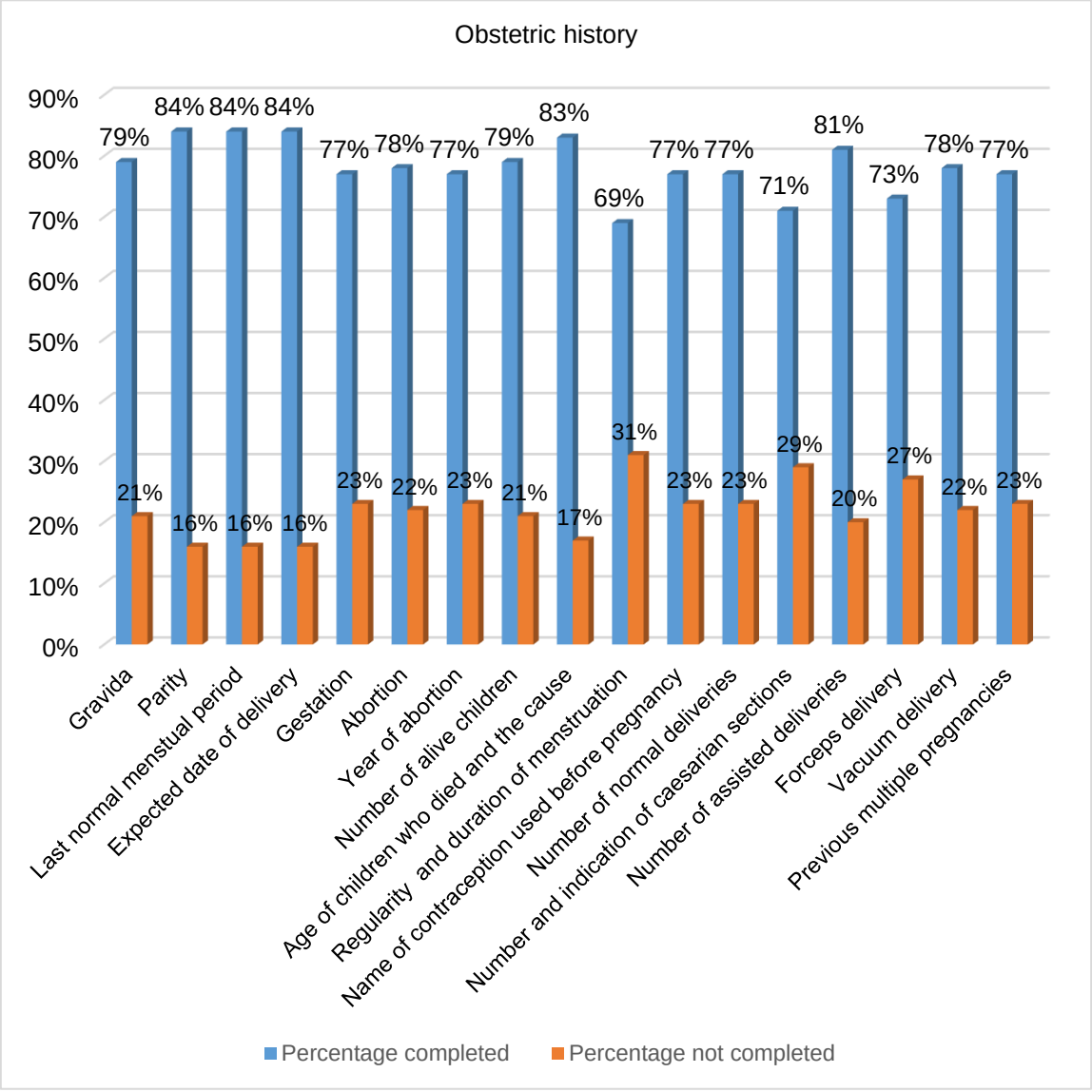

Figure 4.1: Obstetric history

The set standard for Namibia with regards to record keeping required that patient records should at least be completed scoring 85% and above. Figure 4.1 indicates that none of the variables recorded met the set standard. The variables mostly

completed were parity, LNMP, EDD, age of children who died and the cause as well as the number of expected deliveries, between 84% (N=65) and 81% (N=62), with a mean of 65. The variables not completed with the highest percentage were regularity and duration of menstruation at 32%. Fraser et al (2012: 270) state that previous childbearing experiences have an important part to play in possible outcome predictions of the current pregnancy. A pregnancy loss may have affected the way in which the woman accepted it at the time, perhaps grieving the loss of hopes and expectations of a pregnancy. The incomplete variables under obstetric history as reflected may not enable midwives and medical officers to predict a possible outcome of the current pregnancy. A study done by Whitehead et al (2018: 1), found prenatal information in selected community hospitals in Atlanta, Georgia, to be only moderately completed and concluded that incomplete record keeping may have an influence or may impede patient care, thereby resulting in unnecessary tests or procedures or inappropriate medical care.

4.3.2.2 Gynaecological history

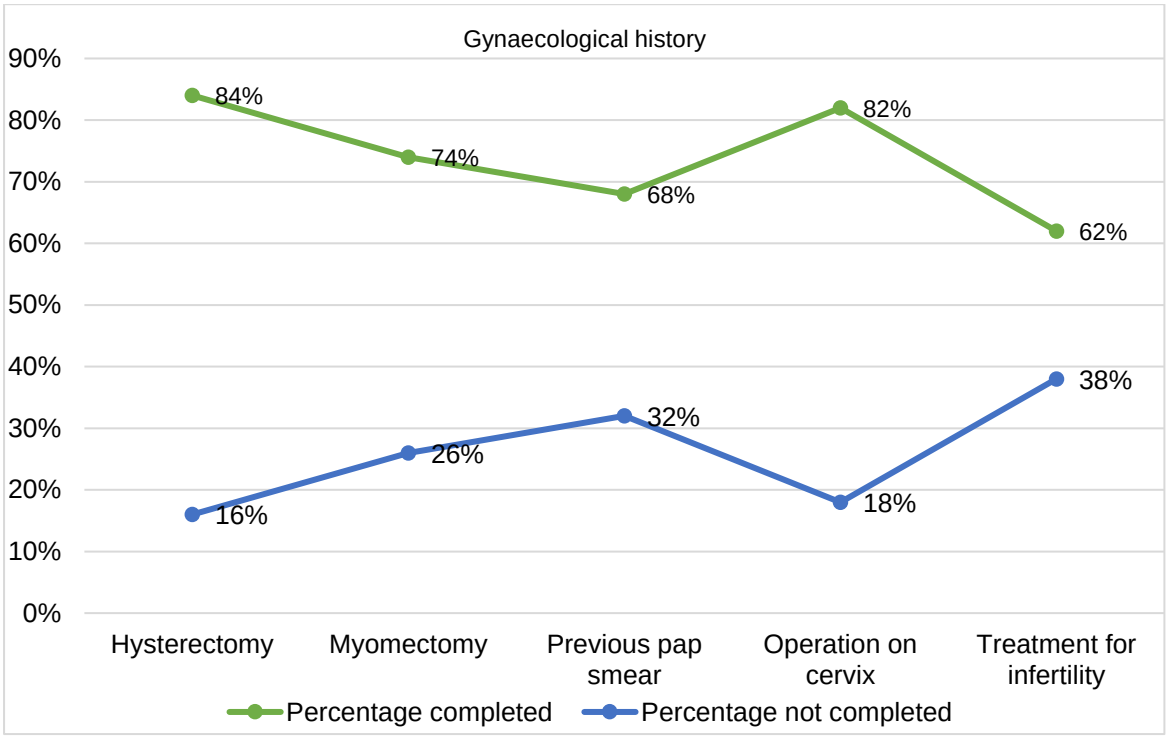

Figure 4.2: Gynaecological history

The above figure illustrates that history on hysterectomy and operation on cervix were the most completed with 84% and 82% respectively; followed by myomectomy at 74%, with previous pap smear at 68% and treatment for infertility being the least at 62%.

4.3.2.3 Investigations done on pregnant women during ANC

According to Adnan Alkhatib (2018: 280 – 283), first antenatal screens usually include complete blood count, blood group and antibody screen, rubella antibody status, syphilis serology, Hepatitis B serology and HIV abs testing. Additional testing in early pregnancy may be added to the first antenatal screen such as varicella, Chlamydia and vitamin D tests. The authors describe the importance of screening tests during ANC as reflected in the following statements.

Anaemia is the most common medical disorder, especially in underdeveloped countries, which increases maternal morbidity and mortality. Gestational age should be considered when assessing haemoglobin, as levels decrease during pregnancy due to haemodilution caused by the increased plasma volume. The lower limit for haemoglobin is usually 12 g/dL, but for pregnant women, the lower limit is usually reported as 10 g/dL.

Identifying ABO blood group, rhesus D status and red cell antibodies in pregnant women is important to prevent “haemolytic disease of the new-born” in subsequent pregnancies.

All pregnant women should be screened for syphilis, as mothers infected with syphilis can experience long-term morbidity and the complications for pregnancy are significant; 70 to 100% of infants will be infected and one-third will be stillborn.

Up to 85% of infants born to mothers infected with hepatitis B (particularly mothers who are HBeAg positive, i.e., with active infection), will become carriers and will be more likely to develop chronic liver disease, including cirrhosis, liver failure or liver cancer. The transmission of the hepatitis B virus from mother to infant can be prevented by the administration of the hepatitis B vaccine and immunoglobulin to the infant at birth, therefore screening is important.

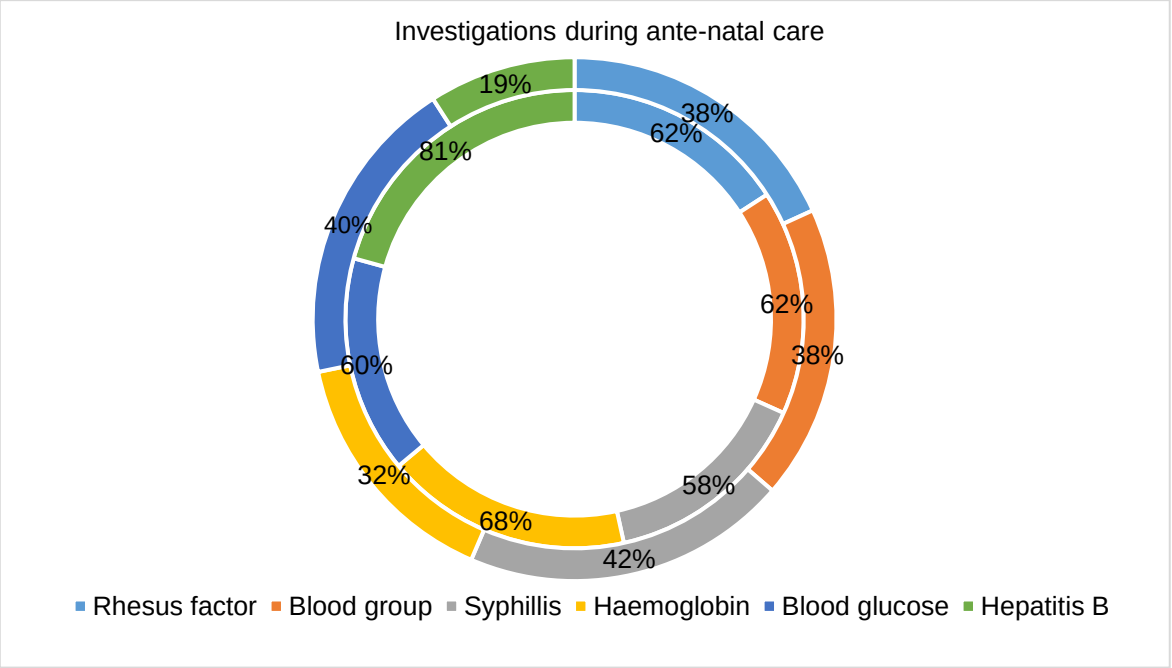

Figure 4.3: Investigations done on the women during ANC

The inner circle in figure 3 represents completeness in record keeping of the investigations performed during the ANC, while the outer circle represents the missing/ incomplete information. As illustrated in above figure, Hepatitis B was amongst the variable that was best completed at 81%. The rest of the variables fall within the range of 58% and 68% of completeness. The variable that was the poorest completed at 42% was for syphilis screening. A study done by Ngxongo et al (2016: 4), revealed that the best recorded during ANC were all tests and procedures that were due in the first visit consultation. With regards to the follow-up visit, all repeat tests were recorded to have been conducted in due time in most reviews. In another study done by Whiteheads et al (2018: 1-7) in a community hospital, it was revealed that the results of many routine laboratory tests such as serology, venereal disease research laboratory (VDRL) and rapid plasma reagin (RPR) were missing in up to 40% of the records.

4.3.2.4 Tetanus vaccine status

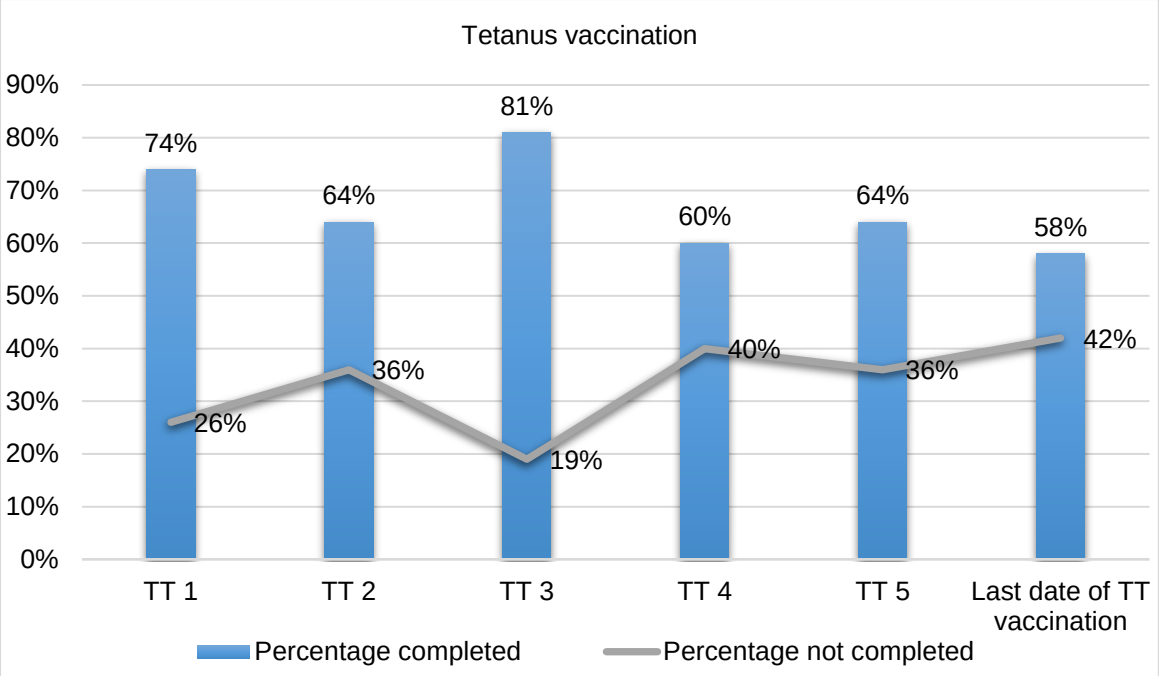

Figure 4.4. Vaccination status

The tetanus vaccine dose as reflected in figure 4 indicates that TT3 was the best completed at 81% (n=62), followed by TT1 at 74% (n=57). Last date of vaccination was poorly recorded at 58% (n=45).

4.3.2.5 Medical history

Myles (2012: 270) states that during pregnancy both the mother and the foetus may be affected by a medical condition, or a medical condition may be altered by the pregnancy, and if untreated there may be serious consequences for the woman's health. Major medical complications such as diabetes and cardiac conditions require the involvement and support of a medical specialist.

Table 4.2 Medical history

Variable	Variable completed		Incomplete variables	
	Frequency	Percentage	Frequency	Percentage
Allergies	n= 46	59.7%	n= 31	40.3%
Cardiac disease	n= 53	68.8%	n= 24	31.2%
Chronic respiratory disease	n= 48	62.3%	n= 29	37.7%
Diabetes Mellitus	n= 50	64.9%	n= 27	35.1%
Renal disease	n= 49	63.6%	n= 28	36.4%

Anaemia	n= 49	63.6%	n= 28	36.4%
Hypertension	n= 46	59.7%	n= 31	40.3%
Tuberculosis	n= 49	63.6%	n= 28	36.4%
Epilepsy	n= 57	74.0%	n= 20	26.0%
Thyroid disease	n= 56	72.2%	n= 21	27.3%
Previous DVT	n= 53	68.8%	n= 24	31.2%
Mental health disorders	n= 56	72.2%	n= 21	27.3%
Current treatment	n= 55	71.4%	n= 22	28.6%

Various medical conditions were assessed for completeness of record keeping as reflected in Table 4.2. The variables most completed were history of epilepsy, thyroid disease, mental disorders and current treatment, which varied between 74% and 72% (n=57 to n=56), and compared to these variables were incomplete values between 26% and 27% (n=20 to n=27).

The variables least completed were allergies and hypertension with values at 59.7% (n=46), and with 40% (n=31) not being recorded.

The rest of the variables namely, cardiac disease, chronic respiratory disease, diabetes, renal disease, anaemia, tuberculosis and history of previous DVT ranged between 62% and 69% (n=48 to n=53). Furthermore, the value of percentages of these variables not completed indicated between 31% and 38% (n=24 to n=29).

In a study conducted by Sinni et al (2016: 144) in a metropolitan maternity unit, it was revealed that on *standard 4 (a): Medical and family history and physical examination,* there were 224 (63%) records that were non-compliant with this standard. Ten (3%) women had no record of a medical history being taken, and in nine (2%) women, there was no record of a family history being taken.

4.3.2.6 Surgical history

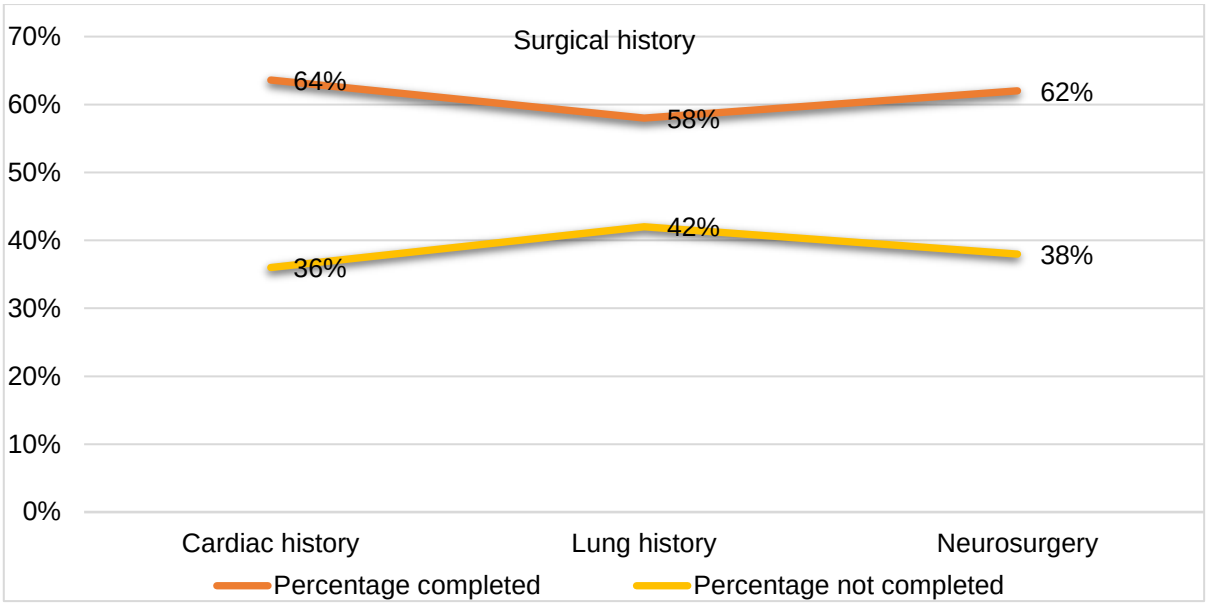

Figure 4.5 Surgical history

The Namibian version of the maternity record requires only three variables to be completed under surgical history during ante-natal care as reflected in figure 5. Cardiac history was completed at 64% (n=49) and not completed with 36% (n=28), whereas lung history was the poorest completed with 58% (n=45) and not recorded with a value of 42% (n=32). Lastly, history of neurosurgery had 62% (n=48) of records completed, while 38% (n=29) of the records were not completed.

4.3.2.7 Family history

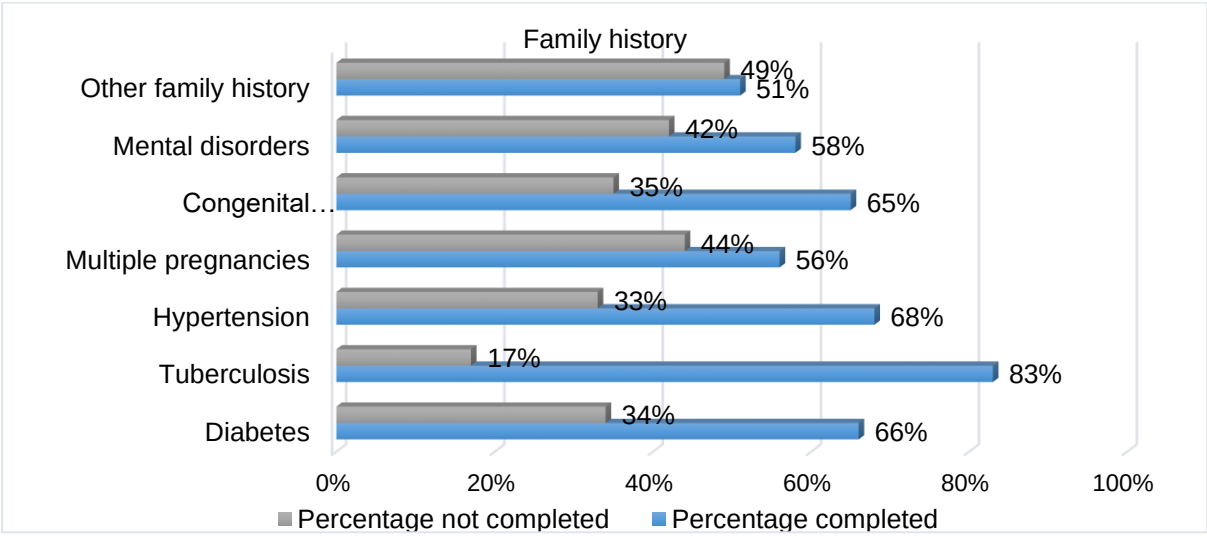

Figure 4.6 Family history

Tuberculosis was found to be completed fairly well at 83% (n=64), with only 17% (n=13) of records not completed. Other family history aspects such as multiple pregnancies and mental disorders fell amongst the variables least completed, indicating between 51% to 58%.

4.3.2.8 Social history

The effects of excessive maternal alcohol on the foetus are marked, particularly in the 1st trimester when foetal alcohol syndrome can develop, which is characterised by restricted growth, facial abnormalities, central nervous system problems, and behavioural and learning difficulties, and these are entirely preventable. Similarly, effects of smoking are associated with low birth weight, intellectual impairment, respiratory dysfunction, sudden infant death syndrome and premature birth (Marshall et al 2014: 140). If social history is not recorded, possible congenital abnormalities cannot be anticipated.

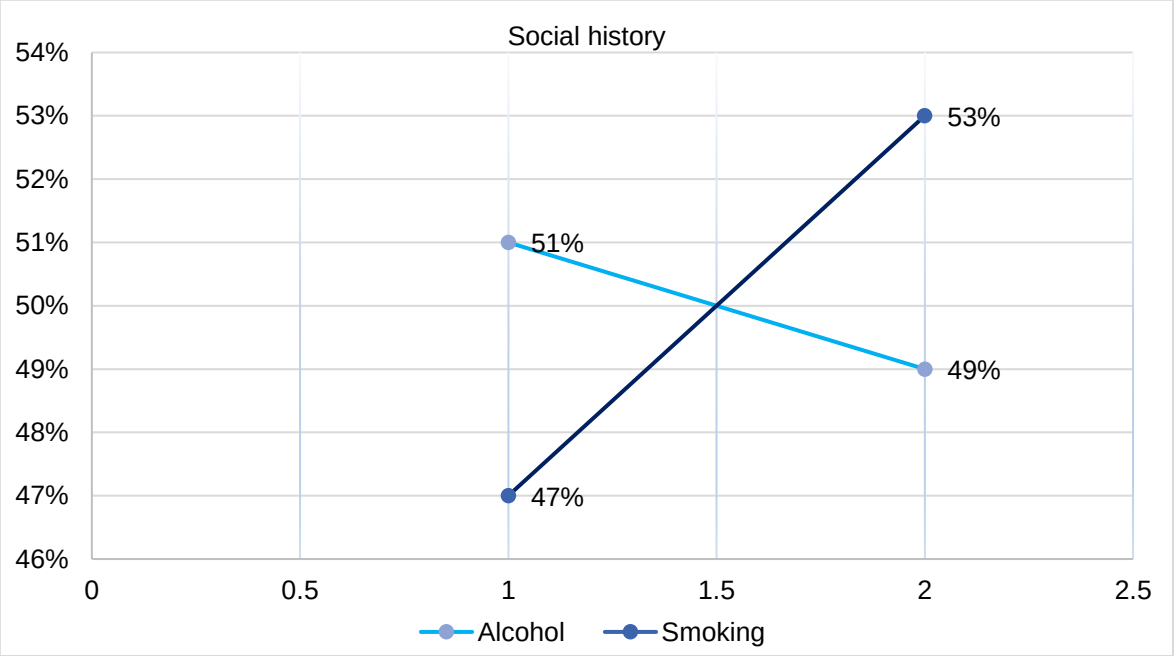

Figure 4.7. Social history

In figure 4.7, on the axis, line 1 represents data completed while 2 represents the variables not completed. Both history of alcohol and smoking of the women were poorly recorded at 51% and 47% respectively. Close to 50% of social history variables were not completed.

The study of Dhalwani et al (2013: 3) conducted in the United Kingdom primary health care showed that a record of smoking status at any point during the gestational period was present in 76,569 (28%) of the 277,552 pregnancies. Of the 76,569 pregnancies in which smoking status was recorded, 913 (1.2%) only had a recording for smoking cessation drug prescription with no accompanying Read codes indicating smoking status. In 56,605 (20.4%) pregnancies, women had their smoking status recorded only once during the gestational period, whereas in 19,964 (7%) pregnancies, smoking status was recorded more than once.

4.3.2.9 HIV/AIDS history

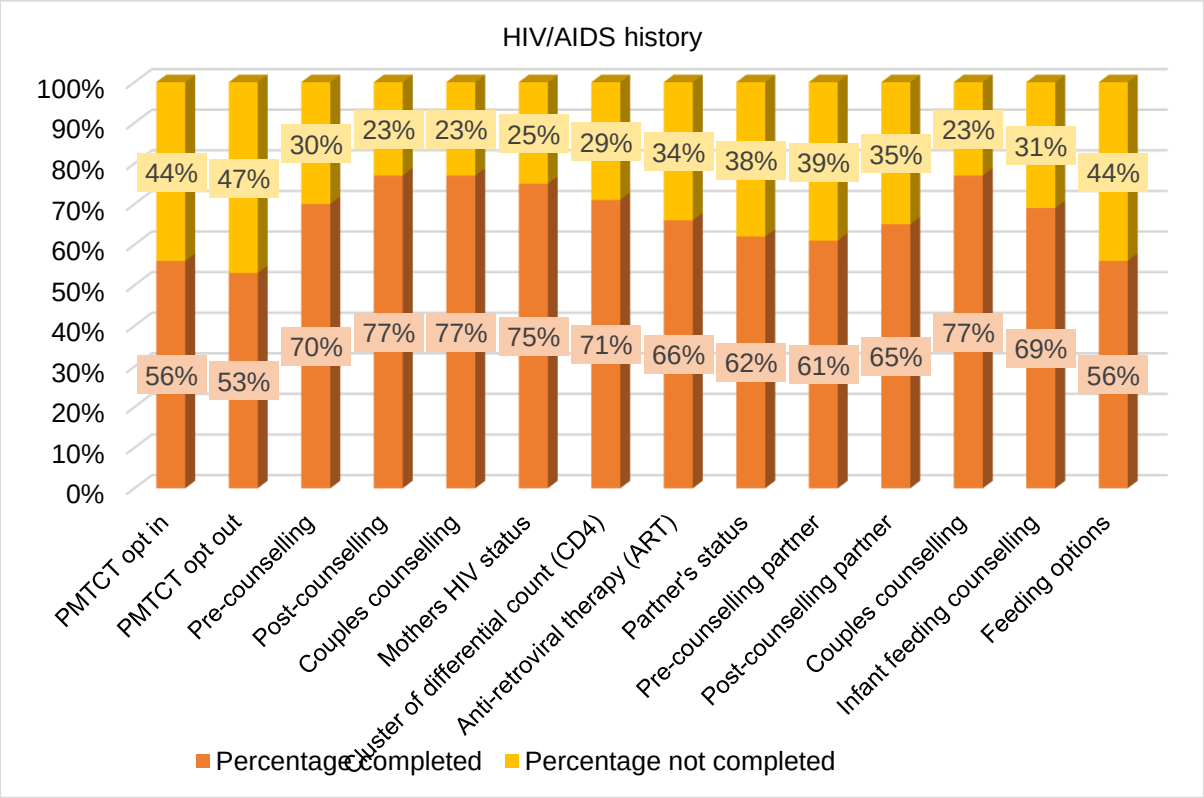

Figure 4.8. HIV/AIDS history

The DoH guidelines (2007: 7) as part of their guidelines for maternal care recommend that all pregnant women should be offered information on screening for and appropriate management for non-communicable and communicable diseases of which HIV/AIDS forms part. According to the guideline routine, counselling and voluntary testing for HIV is an essential screening investigation during ANC and this is recommended to be done during the first ANC visit. In the figure above, the completeness of the records reviewed showed that post-test counselling of the pregnant women, the mother's HIV status, CD4 count and couples counselling appeared amongst those variables to be best completed ranging between 70% and 77%, while opt-in for PMTCT, opt-out for PMTCT and feeding options were the variables with lower percentages in terms of completeness between 44% and 47%. Whiteheads et al (2018: 6) state that HIV testing results were available for more than 80% of the records reviewed at community hospitals during their study.

4.3.3 Risk factors in pregnancy

According to the WHO report of 2009 on Maternal and Child Health in Namibia, health risks during delivery are generally understood as pertaining to the fact proper medical attention and hygienic conditions during labour and delivery can significantly reduce the risk of obstetric complications, infection and death. The overall physical condition of the pregnant woman plays a significant role in ensuring an uncomplicated delivery process. In Namibia, according to the DHS of 2006/2007, nearly 60% of births occurred in rural areas. Statistics also show that about 81% of all births took place in a health facility. To narrow this down, the report indicated that in the ||Kharas region where the current study was conducted, 93.7% of women delivered in health facilities. Therefore, risk factors in pregnant women should early and continuously be assessed and identified to ensure that the best options are discussed and an appropriate birth plan developed.

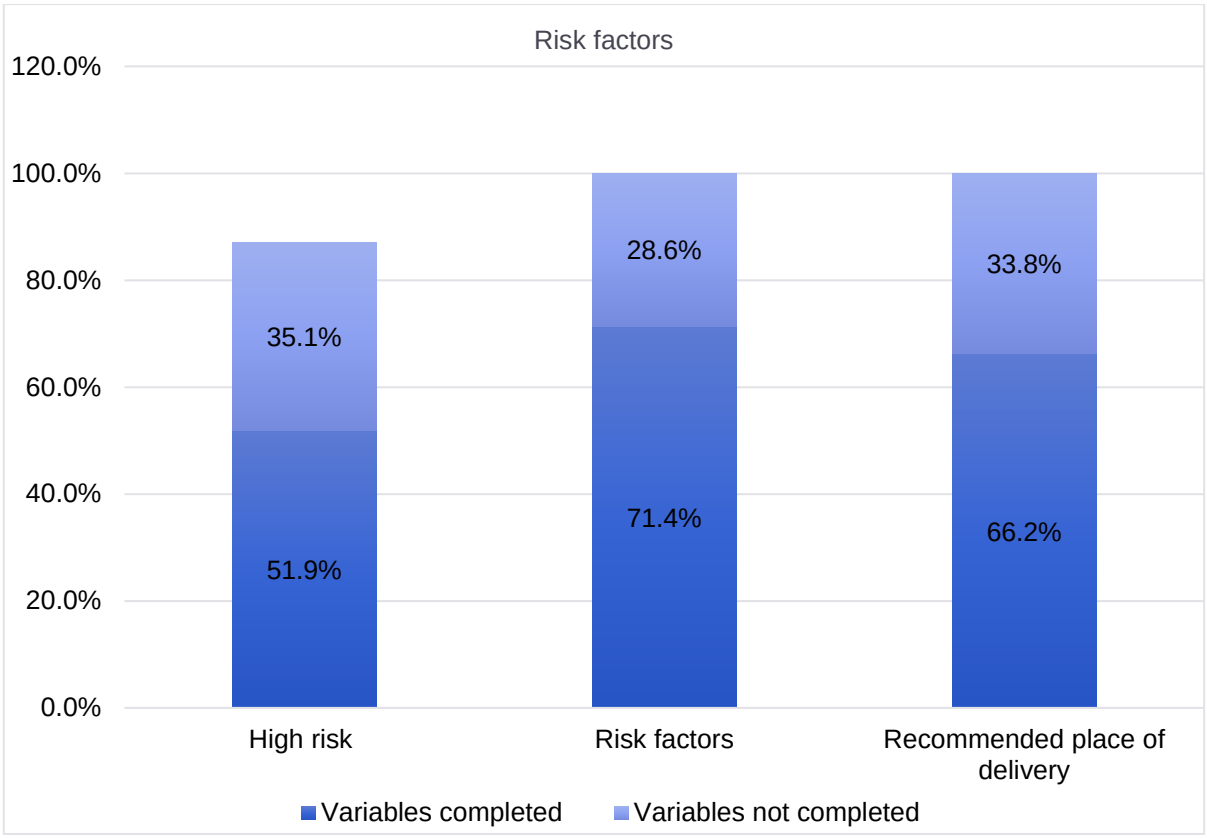

Figure 4.9 Risk factors in pregnancy

The graphic presentation above indicates that risk factors and the recommended place of delivery were fairly recorded as the variables with the highest values at 71.4 and 66.2% respectively, in contrast to the identification of a high-risk pregnancy on the maternity records with the lowest completion with slightly over half of the records at 51.9% having been completed. Midwives at ANC facilities need to improve recording when high risk factors are identified as such crucial information is important to be completed. This also brings one back to the fact that continuity of care should be practiced, and where there are gaps in record keeping, the next level of care can still be keeping complete records of such an important indicator by taking history and noting down such vital information. In a study done by Gustafsson et al (2020: 8), it was revealed that from the 97/103 (94.2%) that was brought for the study, only 29/97 (29.9%) had their status recorded as high-risk on their cards. When risk statuses were available on the card, it was normally part of the obstetric history section or written on top of the card in red and there was no dedicated space for this information. The records reviewed in this study similarly compared with this finding as midwives used

to record high-risks when writing progress notes, although there was a duplication at times.

4.3.4 Indemnity

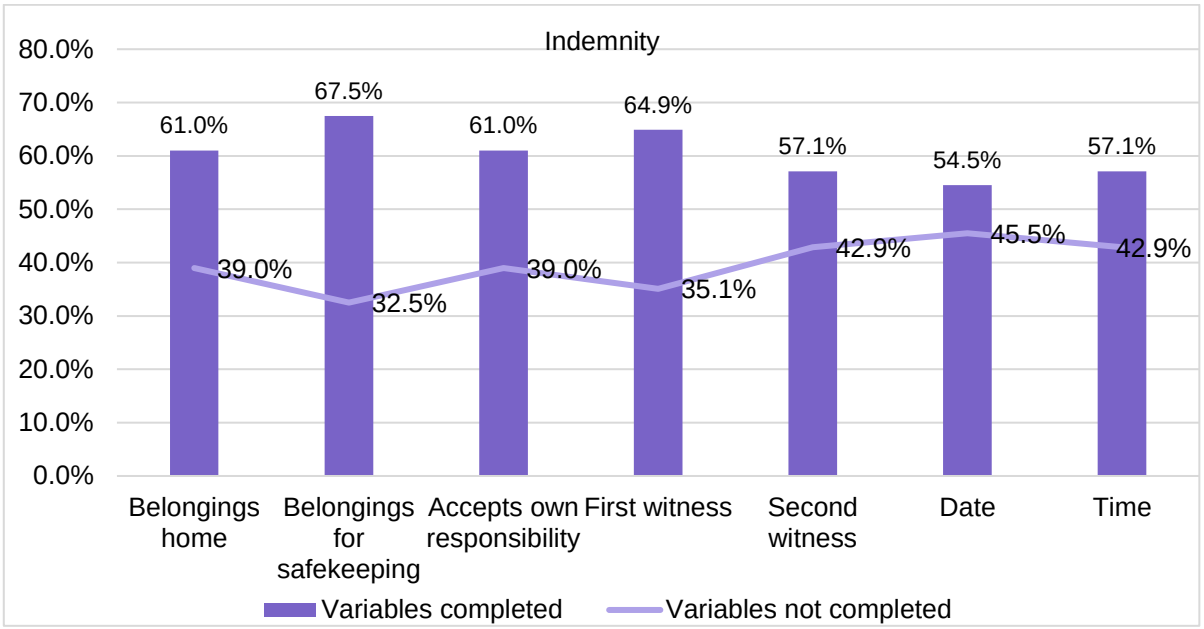

Figure 4.10

In the bar graph above, belongings for safekeeping were completed the most at 67.5%, while belongings to be sent home and accept own responsibility for belongings scored equally in terms of completeness of record keeping at 61%. The variables with the highest score which were found to be completed were the second witness and the time indemnity record which was to be completed, followed by the date of recording of indemnity section on the maternity record at 54.5%. Record keeping for the safekeeping of the client's/patient's belongings, regardless of the option the client may choose, needs to be strengthened in the maternity ward of Keetmanshoop hospital.

4.3.5 Admission for delivery

4.3.5.1 General aspects during reception in the maternity ward

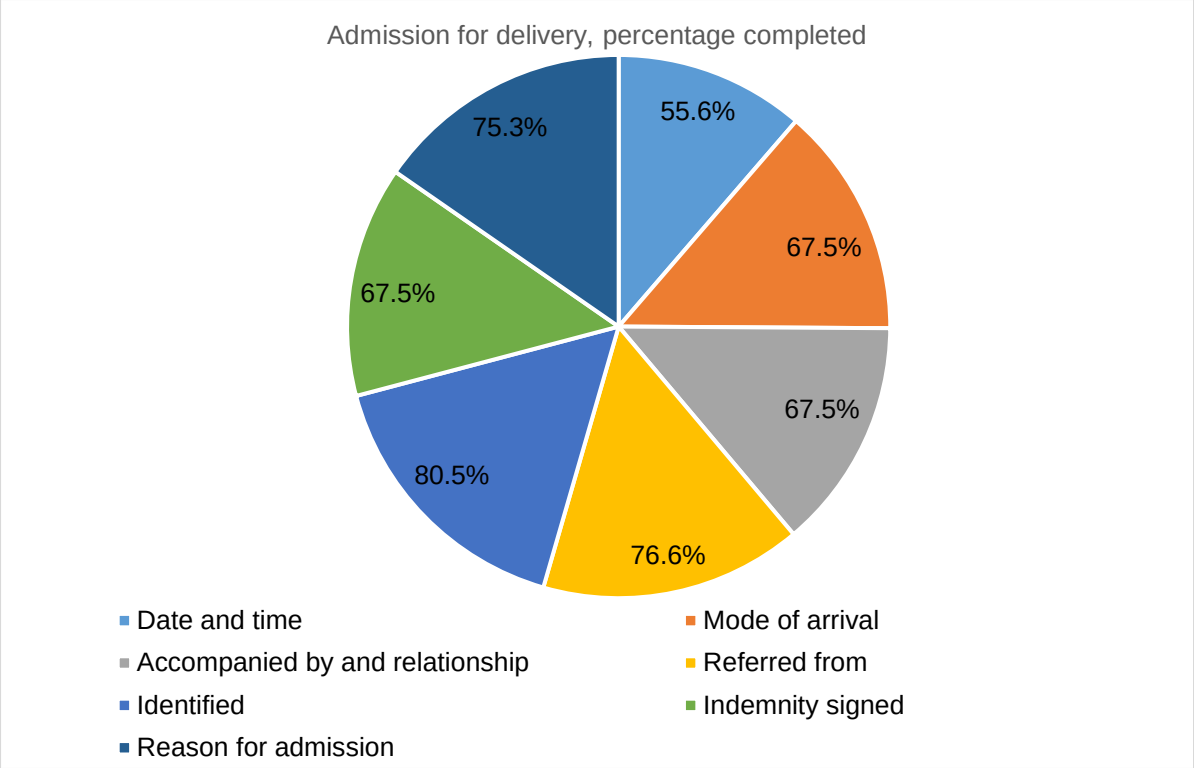

Figure 4.10 (a) Admission for delivery

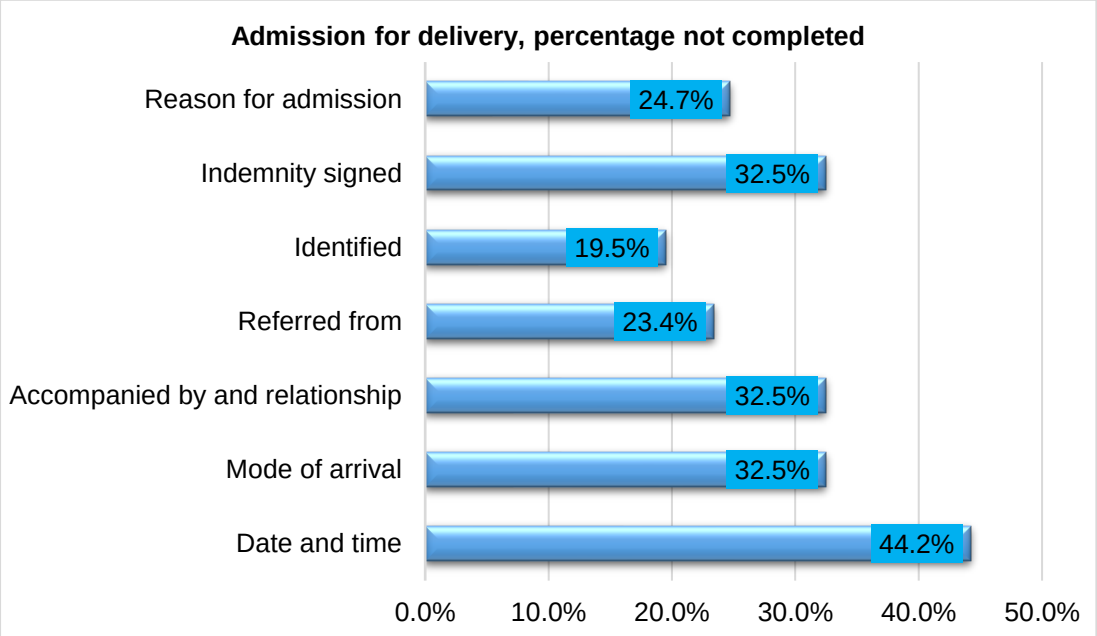

Figure 4.10 (b) Admission for delivery

The pie-chart and bar graph sketch out the proportion of completed and not completed records at a maternity department for all women during admission for delivery. At a

glance, in terms of completed records (figure 4.10, a), women identified (n=62) had the largest portion which represented 80.5%, whilst date and time (n=43) had the least completed at 55.8%. Interestingly, mode of arrival, accompanied by and relationship with had absolute values of 52 stood at 67.5%. However, other completed files scored more than three-fifths. On the flipside, records not completed (figure 4.10, b) had lower figures with the highest percentage on date and time (n=34) at 44.2% and the lowest at 19.5% on women identified (n=15). Furthermore, the mean stood at 32.5% as represented by mode of arrival (n=52) and accompanied by and relationship at n=52. To recapitulate, the performance of completed records on admission for delivery showed that nurses fulfilled their duties though more supervision is needed in proper record keeping.

4.3.5.2 Observations on admission

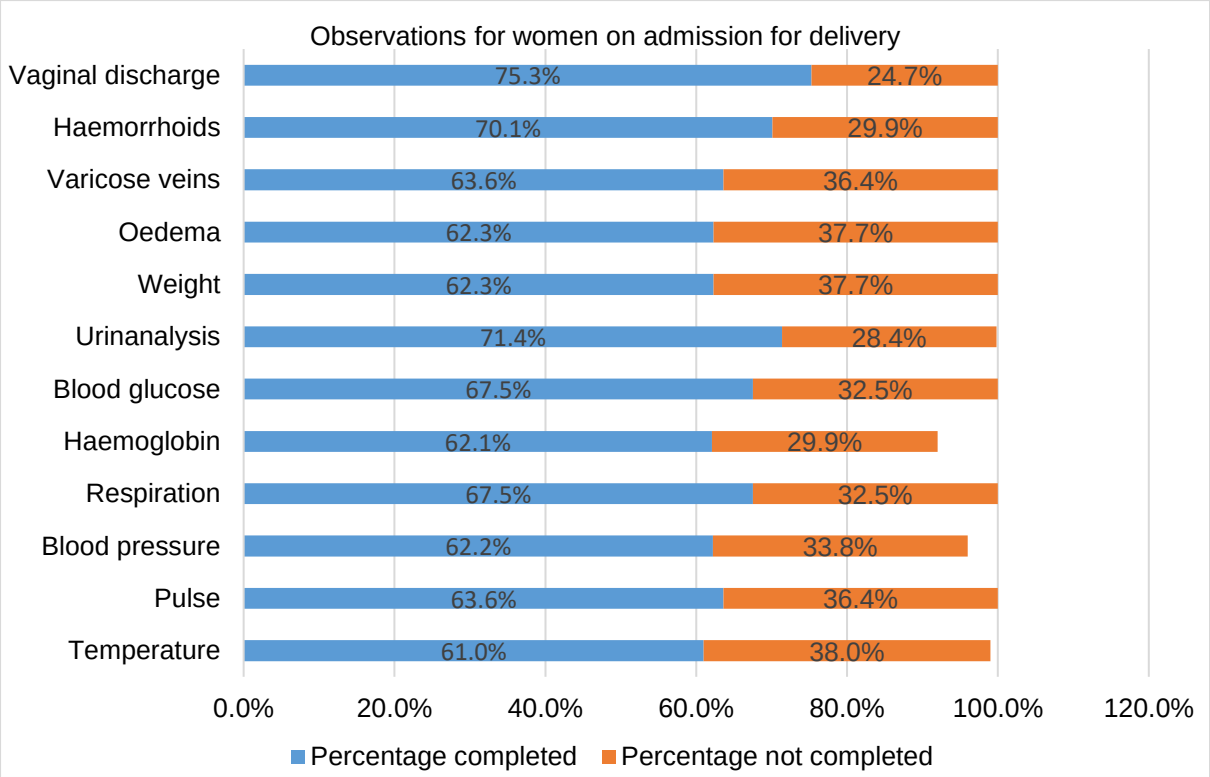

Figure 4.11 Observations done on admission for delivery

The bar graph depicts information on observations carried out on patients' files during admission for delivery. These routine observations included vital signs such as temperature, pulse, respiration and blood pressure as well as physical examination which further comprises of vaginal discharge, haemorrhoids, varicose veins, oedema plus point of care tests carried out on patients consisting of urine, blood glucose and haemoglobin tests. These were classified under completed and not completed patient records. On completed records, most observations were carried out and recorded on routine observations with a scale ranging from 61% to 75.3%. On the other side, the routine observations not recorded in the 77 patient records had a score percentage which ranged from 24.7% to 38%. Overall, most observations carried out were recorded on reviewed records, though nurses' behaviours on record keeping needs to be sensitized and in-house trainings conducted. The study conducted in KwaZulu-Natal, eThekwini district, by Sibiya et al (2015: 57) found that all 50 records from the six PHC facilities studied had no record of maternal weight, MUAC and body mass index (BMI). Similar to the other five PHC facilities included in the study, the other elements namely symphio-fundal height (SFH), foetal presentation, tetanus toxoid given, discussion of labour and transport arrangements were recorded in more than 50% of the records.

4.3.5.3 Abdominal examination on admission

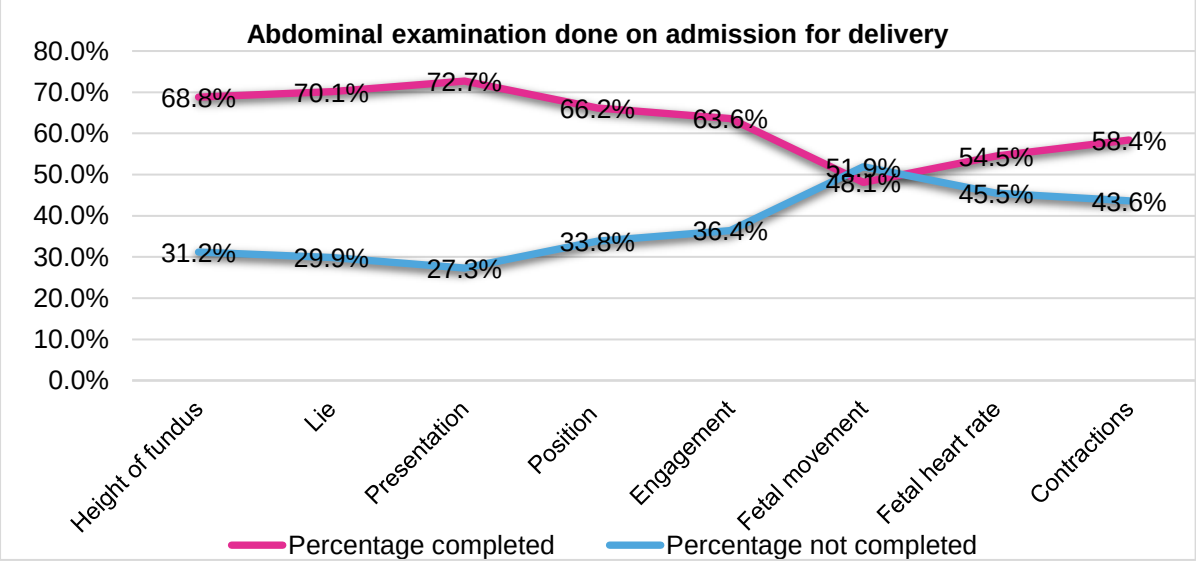

Figure 4.12 Abdominal examination of mothers on admission for delivery

The line graph compares completed and in complete data on abdominal examination conducted on patients on admission for delivery. At a quick glance, on completed records, presentation of the foetus had the highest proportion of 72.7%, whereas foetal movement was at the lowest with 51.9%, the mean measured at was 63.6%, which represents the engagement of the presenting part. In contrast, the highest percentage of not completed records was on foetal movement at 48.1%, whereas the lowest was noted on presentation of the presenting part which stood at 27.3%. To sum up, information above might be a reflection on how nurses lack information and techniques in conducting proper record keeping in maternity records. The study conducted in India at government hospitals of Karnataka, the researcher noted that there was only a modest increase such that about 25% to 50% of women had care documented on correct gestational age calculation and abdominal examination including fundal height, foetal presentation and duration as well as frequency of uterine contractions (Mony et al 2016: 6).

4.3.5.4 Vaginal examination on admission

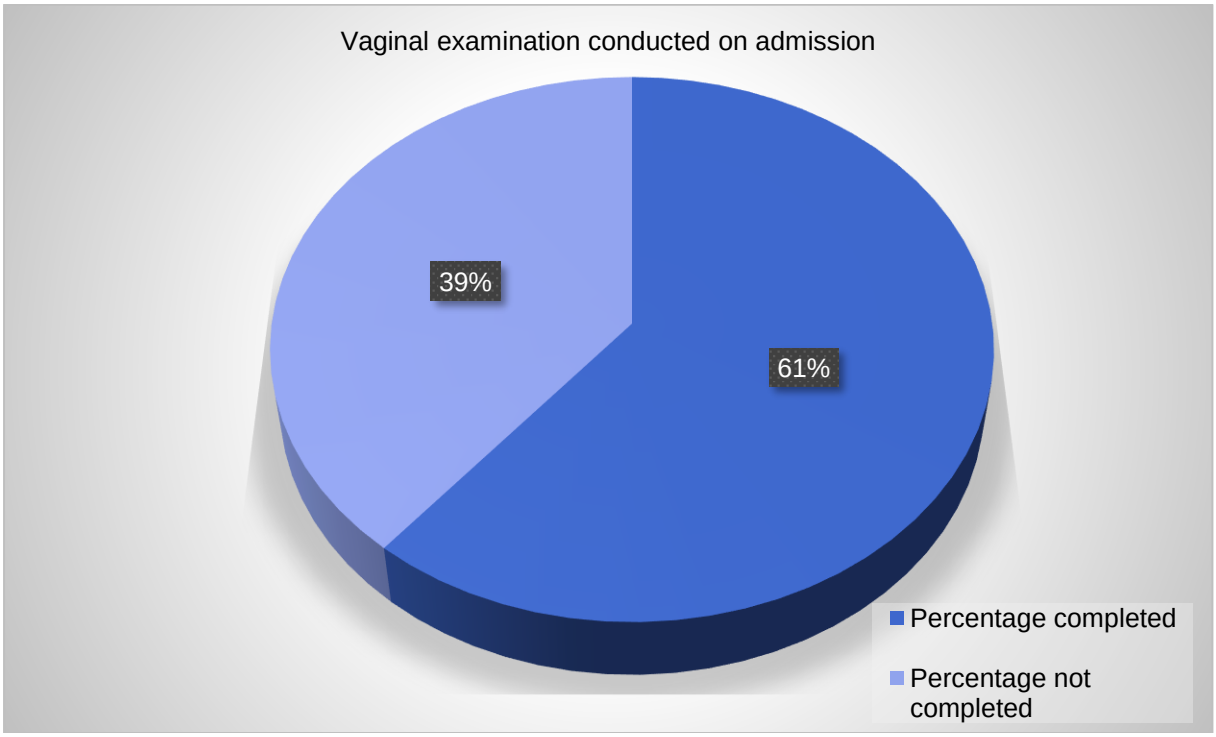

Figure 4.13 Vaginal examination of mothers on admission for delivery

The pie chart denotes information gathered on how vaginal examination was conducted and recorded on patients' files as completed and not completed records. Of interest, most vaginal examinations (61%) were on completed records, whilst 39% files were not completed. Thus, it is clear that nurses perform their activities but documentation challenges arise possibly due to lack of knowledge on medical terms required to describe findings noted while conducting examinations, or uncertainty about findings. Mony et al (2016: 1-7), in a study conducted in India at the government hospitals of Karnataka indicated that of the 12 308 women, about 67% had their care documented for the following parameters, expected date of delivery (EDD), foetal heart rate per abdominal examination, per vaginal examination, as well as findings on cervical dilatation and presence and absence of amniotic membranes.

4.3.6 The partograph

4.3.6.1 General data recorded on the partograph on admission for delivery

Table 4.3 General information on partograph

Variable	Completed		Incomplete	
	Frequency	Percentage	Frequency	Percentage
Date and time starting	n=54	70.1%	n=23	29.9%
By whom	n=47	61%	n=30	39%
Gravida	n=46	59.7%	n=31	40.3%
Parity	n=45	58.4%	n=32	41.6%
Position	n=49	63.6%	n=28	36.4%
Duration of labour on admission	n=56	72.7%	n=21	27.3%
Membranes	n=60	77.9%	n=17	22.1%
Date and time of rupture	n=55	71.4%	n=22	28.6%

The above table represents figures on general data of the partograph that include time, by whom, gravida, parity, duration of labour on admission, membranes, date and time, and position, to be filled on maternity records during admission for delivery. Therefore, collection of data was classified as completed and incomplete record keeping of client records. All the completed records figures were above 50%, with recordings on membranes standing at 77.9%, surpassing the listed and parity being the lowest at 58.4%. In comparison, not completed patients records in categories listed above, most

records keeping was on parity with 41.6% whilst collection of data on membranes stood at 22.1 %. Mukisa et al (2019: 1 - 8) in a study conducted in referral and teaching hospitals in Kampala, Uganda found, that 79.1%, 52.7% and 53.2% of the partographs relating to the mother's age, gravida and parity respectively had been entered. This result compares fairly with the outcome in this study on the said variables.

4.3.6.2 Four hourly plotting of the partograph

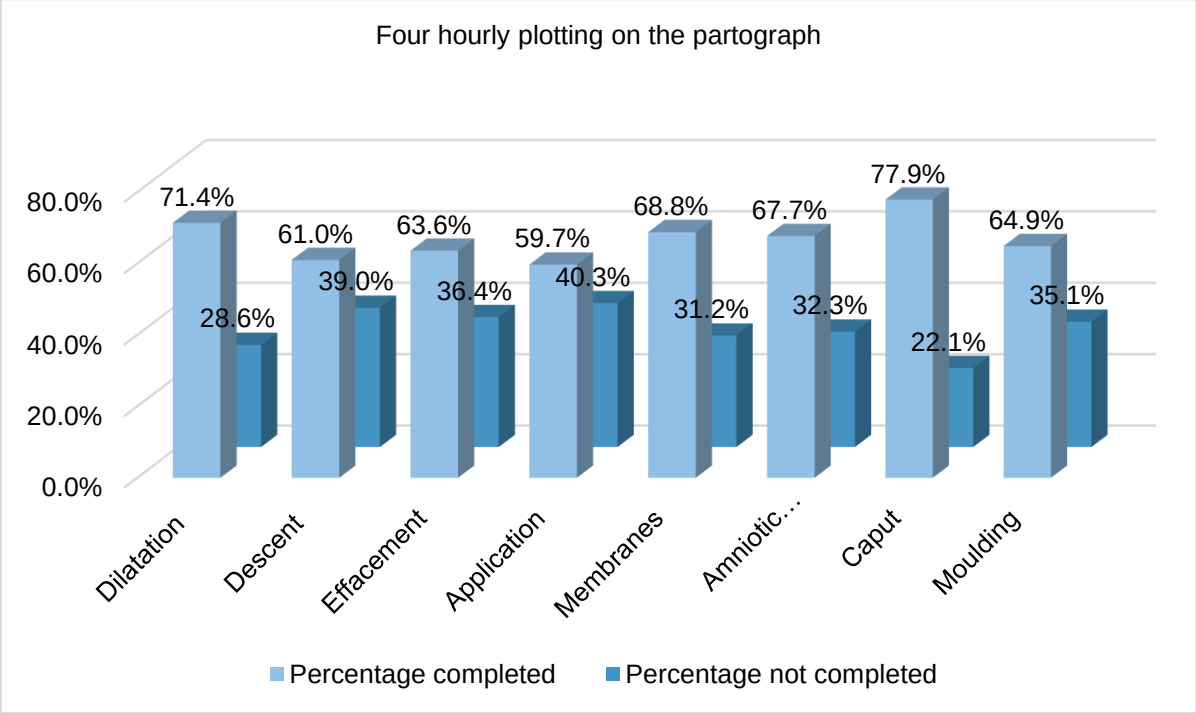

Figure 4.14 Four hourly monitoring of women in labour

The bar graph shows figures of 4 hourly plotting of the partograph which ranges from moulding, caput, amniotic fluid, membranes, application of presenting part, effacement of the cervix, descent and cervix, and this information is classified as completed and not completed records. It is clear that input in plotting recordings of the caput with 77.9% had the highest, while the least measured at 59.7% was on plotting of application of presenting part on completed patients' records. However, in terms of not completed patients' records, application of presenting part (40.3%) had the most proportion of uncompleted data compared to caput standing at 22.1% being the lowest

in figures of information not completed on patients' records. Yisma et al (2013: 2 – 7) conducted a study in public health institutions in Ababa in Luganda, and revealed that n=364 (86.7%) of the 420 WHO modified partographs, the status of membranes was recorded only in 113 (26.9%) of the partographs reviewed while this was not recorded at all in 307 (73.1%) records. Measurement of cervical dilatation was recorded in 248 (59.1%) of the partographs but almost half at 110 (44.4%) of these records were substandard, while cervical dilatation was not recorded in 172 (41.4%) of the partographs. Furthermore, uterine contractions were recorded in 189 (45.0%) cases while this was recorded to the standard in 87 (20.7%) of the partographs, and sub-optimally recorded in 144 (34.3%) of the partographs. Descent of the presenting part was not recorded in 353 (84.0%) of the reviewed partographs. For the variable of moulding of the foetal head in Yisma et al (2013) study it shows that 364 (86.7%) of the 420 records reviewed were not recorded up to the recommended standard.

It is worth noting that the 4 hourly plotting of the partographs were not done properly and hence these affect patients continued care due to the fact that midwives' duties operate on a shift basis. Therefore, the 4 hourly plotting of the partograph should be prioritised so as to monitor the progress of labour. Overall, with the introduction of the partograph which has been in use for more than 40 decades, such practice by nurses of not completing patients' records is a clear indication that the purpose of the partograph which is showing a pictorial view of how labour is progressing was not well kept.

4.3.6.3 Two hourly monitoring of progress of labour on the partograph

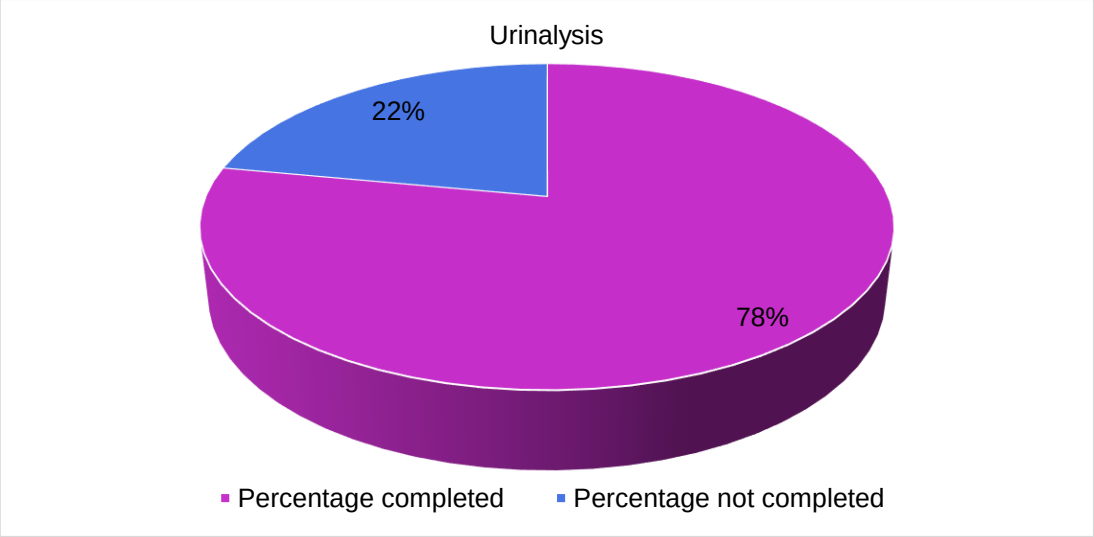

Figure 4.15 Two hourly monitoring of women in labour

The pie chart denotes information in figures of completed and not completed patient records on the partograph of 2 hourly urine recordings. The percentage of completed records was above three quarters (78%) whereas that of not completed files was below a quarter (22%). It is thus clear that urine monitoring is done and recorded though records remain blank and as such input should be filled in so that abnormalities can be detected while monitoring the pregnant mother in labour.

4.3.6.4 Half hourly monitoring of mother and foetal well-being on the partograph

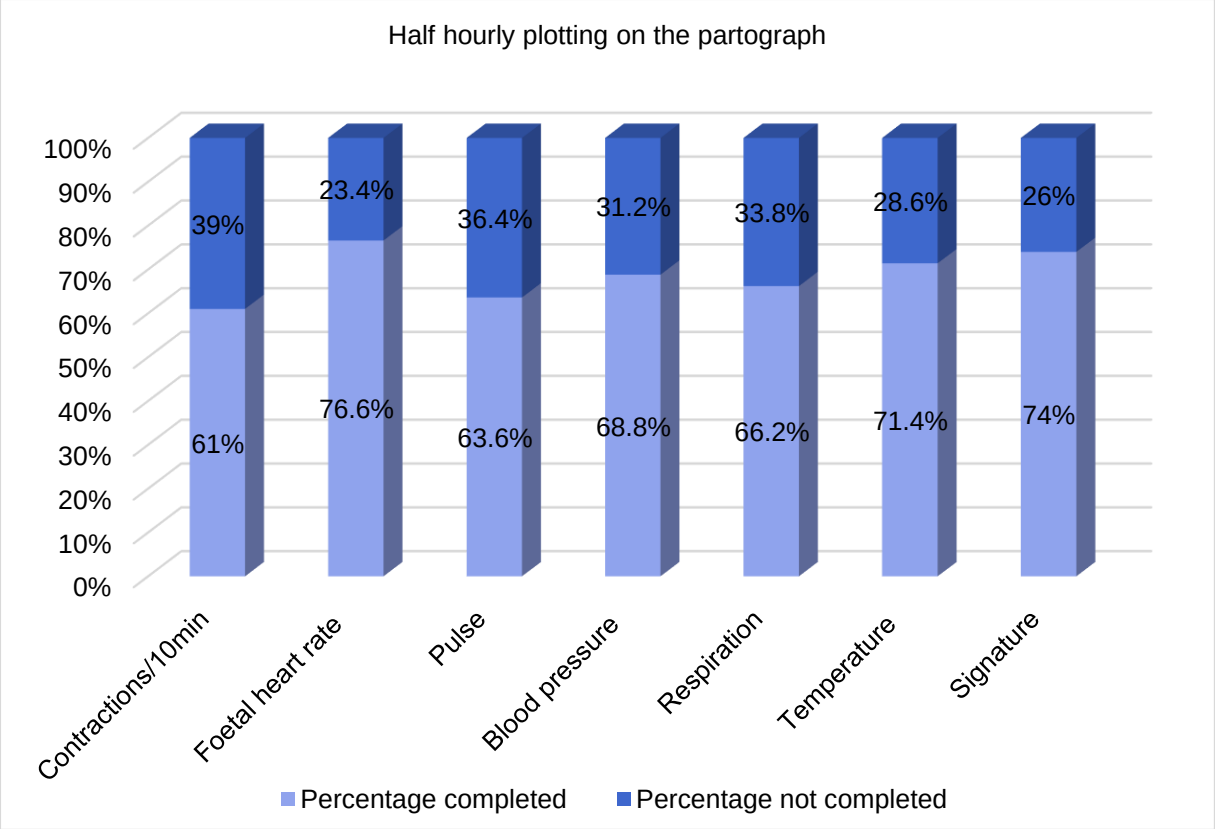

Figure 4.16 Half hourly monitoring of women in labour

The components on the half hourly recordings range from contractions/10 min, foetal heart rate, pulse, blood pressure, respirations, temperature and signature. On completed records, the half hourly observations were recorded with scores ranging from 61% (contractions/minutes) up to 76.6% (foetal heart rate), whereas on variables not completed, foetal heart rate at 23.4% being the lowest and contractions recorded at (39%) as the highest on information input. It can be concluded that most half hourly recordings are done but nurses still fail to manage the pictorial view of the purpose of the partograph in monitoring the well-being of both mother and foetus during the labour process. This study results compares closely to the study conducted by Yisma et al (2013: 2 - 7) in public health institutions, in Ababa, Luganda, as indicated by the researcher upon review of 420 maternity records of the WHO modified partographs across all the health units. The foetal heart rate was not recorded in n=175 (41.1%) and the records were judged to be substandard in n=117 (27.9%) while recorded up to the recommended standard in n=129 (30.7%) of the partographs reviewed. In contrast, Mukisa et al (2019: 1 - 8) in a study conducted in a referral and teaching

hospitals in Kampala, Uganda, found that the three sections namely, foetal monitoring, labour progress and maternal monitoring on the partograph had different rates of documentation with the maternal monitoring parameters having the lowest (25.7%) and foetal monitoring having the highest at 33.7%. The researcher further stated that within each category; major omissions were identified. For instance, for the labour progress, only 5.6% were recorded and temperature was recorded 11.8% of the time.

4.3.6.5 Medicines and intravenous fluids recorded on the partograph

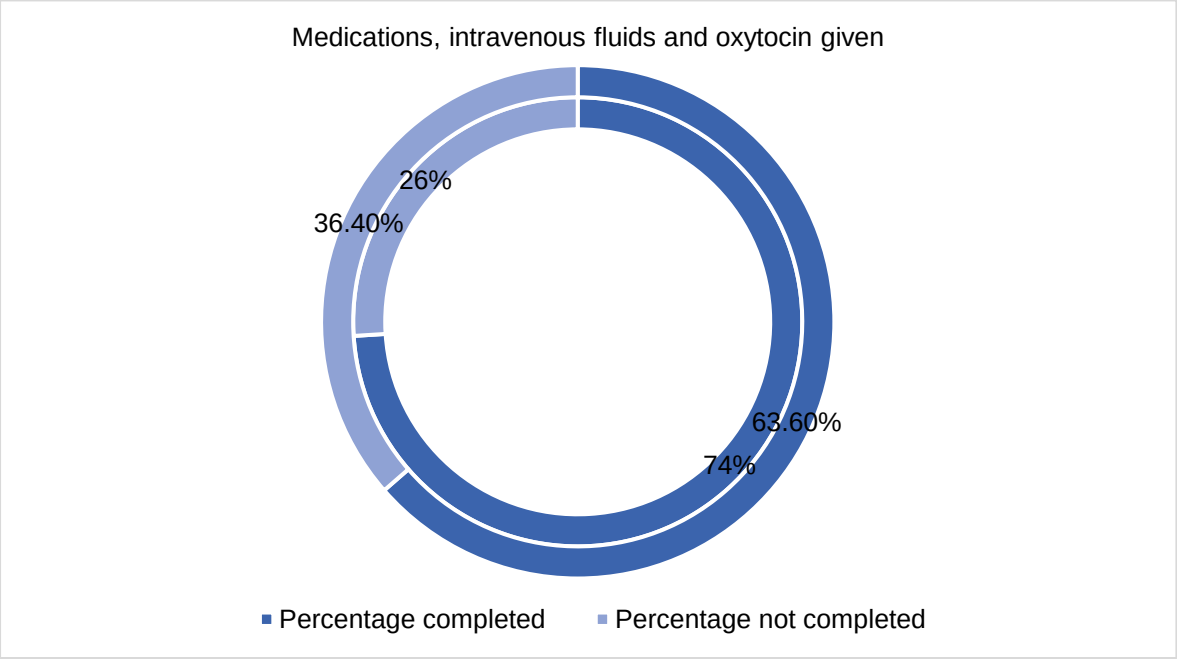

Figure 4.17 Therapeutic interventions during monitoring of labour

The pie chart represents variables on medication, intravenous fluids and oxytocin given to women during the 1st stage of labour. The inner circle represents oxytocin U/L drops per minute, while the outer circle represents medication and intravenous fluids. The variable which was best completed at 74% represents medication and intravenous fluids, while completeness value for oxytocin was 63.6%. Complete data for the variables ranged between 26% and 36.4% with oxytocin being the poorest recorded.

The only variable which gave an idea of the completeness of the whole partograph with regards to record keeping 'partograph completely plotted until the end of the 1st stage of labour' in this study was completed at 3/5th rated at 70%, while only 30% was found to be not completed. A study conducted by in five low-income countries revealed

that no partographs were found in patient files at both Guinea sites, and less than 2% of patient records at the Bangladesh site had partographs. The majority of patient files from the Niger sites included a partograph; however, at two of the sites, fewer than 3% were completed correctly (Landry et al 2014: 3).

4.3.7 Summary of delivery

4.3.7.1 Identification of the practitioner conducting normal delivery

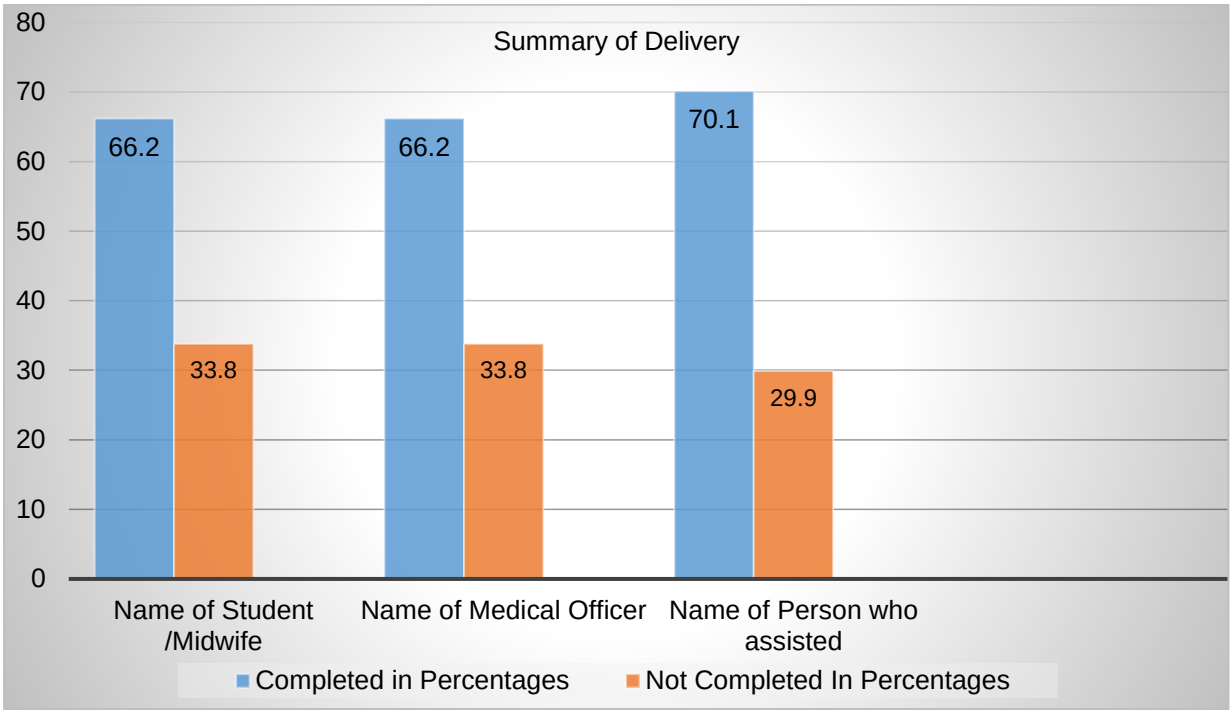

Figure 4.18 Identification of practitioner conducting delivery

It can be seen from the bar graph that a summary of delivery completed records with name of student/midwife and name of medical officer were the same at 66.2%, while the name of person who assisted had a difference of 3.9%, being significantly high at 70.1%. In comparison to the variables not completed, the description on the summary of delivery (name of student/midwife and name of medical officer), the percentages considerably stood similar at 33.8%, though the name of the person who assisted was low with 3.9% of records. However, such practices of not filling in complete variables shows that somehow midwives do not want to be held accountable of their actions. Supervisors need to impose strict penalties for clinicians to be held accountable for their actions.

4.3.7.2 The normal delivery process

Table 4.4 Delivery process

Variable	Completed		Incomplete	
	Frequency	Percentage	Frequency	Percentage
Commence of 2nd stage	n=51	66.2%	n=26	33.8%
Commence of 3rd stage	n=49	63.6%	n=28	36.4%
Time, of commence of 3rd stage	n=57	74.0%	n=20	26.0%
Total duration of labour	n=53	68.8%	n=24	31.2%
Type of delivery	n=51	66.2%	n=26	33.8%
Position of baby at birth	n=52	67.5%	n=25	32.5%
Perineum	n=52	67.5%	n=25	32.5%
Episiotomy done	n=60	77.9%	n=17	22.1%
Perineal tears	n=56	72.7%	n=21	27.3%
1st degree	n=54	70.1%	n=23	29.9%
2nd degree	n=63	81.8%	n=14	18.2%
3rd degree	n=55	71.4%	n=22	28.6%
Lacerations	n=53	68.8%	n=24	31.2%
Cervical tears	n=53	68.8%	n=24	31.2%
Local anaesthesia	n=65	84.4%	n=12	15.6%
Suturing material	n=65	84.4%	n=12	15.6%
Type of sutures	n=63	81.8%	n=14	18.2%
Sutured by	n=68	88.3%	n=9	11.7%
Signature	n=61	79.2%	n=16	20.8%
Placenta: method of delivery	n=62	71.3%	n=15	19.5%
Oxytocin 0.5mg IMI	n=59	76.6%	n=18	23.4%
Weight of placenta	n=61	79.2%	n=16	20.8%
Placenta: normal or abnormal	n=64	83.1%	n=13	16.9%
If abnormal, specify	n=63	81.8%	n=14	18.2%
Placenta: complete or incomplete	n=65	84.4%	n=12	15.6%
If membranes incomplete specify	n=65	84.4%	n=12	15.6%
Cord knots: true or false	n=65	84.4%	n=12	15.6%
Blood vessels (arteries & veins)	n=68	88.3%	n=9	11.7%
Cord length	n=62	80.5%	n=15	19.5%
Cord implantation	n=67	87.0%	n=10	13.0%
Estimated total blood loss	n=65	84.4%	n=12	15.6%
Postpartum haemorrhage	n=63	81.8%	n=14	18.2%
Examined by 1	n=70	90.9%	n=7	9.1%
Examined by 2	n=61	79.2%	n=16	20.8%

The table above illustrates that 16 out of the total chosen 34 variables scored between 80.5% and 90.9% when rated according to completeness, reflecting that slightly less than half of the variables were completed well above 80%. As shown by the table, the variables which fell under this category were: 2nd degree tear, local anaesthesia, suturing material used, type of suture used, sutured by placenta: normal or abnormal, if placenta abnormal - specify, placenta: complete or incomplete, if membranes

incomplete - specify cord knots: true or false, blood vessels (arteries & veins), length of cord, cord implantation, estimated total blood loss, postpartum haemorrhage and examined by whom (practitioner 1).

The variables with the lowest completion score between 66.2% and 68.8% were: commencement of 2nd stage of labour, commencement of 3rd stage of labour, total duration of labour, type of delivery, position of baby at birth, perineum, lacerations and cervical tears.

On the other hand, not completed records percentages ranged from 9.1% to 34.6%, which is significantly low in comparison to other completed records percentages. The variables are suggestive of higher incomplete record keeping were in chronological order as follows: sutured by, blood vessels (arteries & veins), cord implantation and examined by whom (practitioner 1) at 13%, with 11.7% and 9.1% respectively. In general, the way the completed patient record on the progress of labour shows that nurses' potentials though their behaviours need to be reinforced. Mukisa et al (2019: 1 - 8), in a study conducted in referral and teaching hospitals in Kampala, Uganda, noted during the 3rd stage of labour, parameters such as date and time, mode of delivery, baby details such as sex and outcome of birth, cry at birth, initiation and timing of breastfeeding and birth weight. For the remaining components of care, less than 67% of women had their care documented. For some parameters, about 50% to 70% of women had their care documented for general examination (including blood pressure, pulse and height) as well as estimation of volume of blood loss during delivery.

4.3.7.3 Mother's condition after delivery

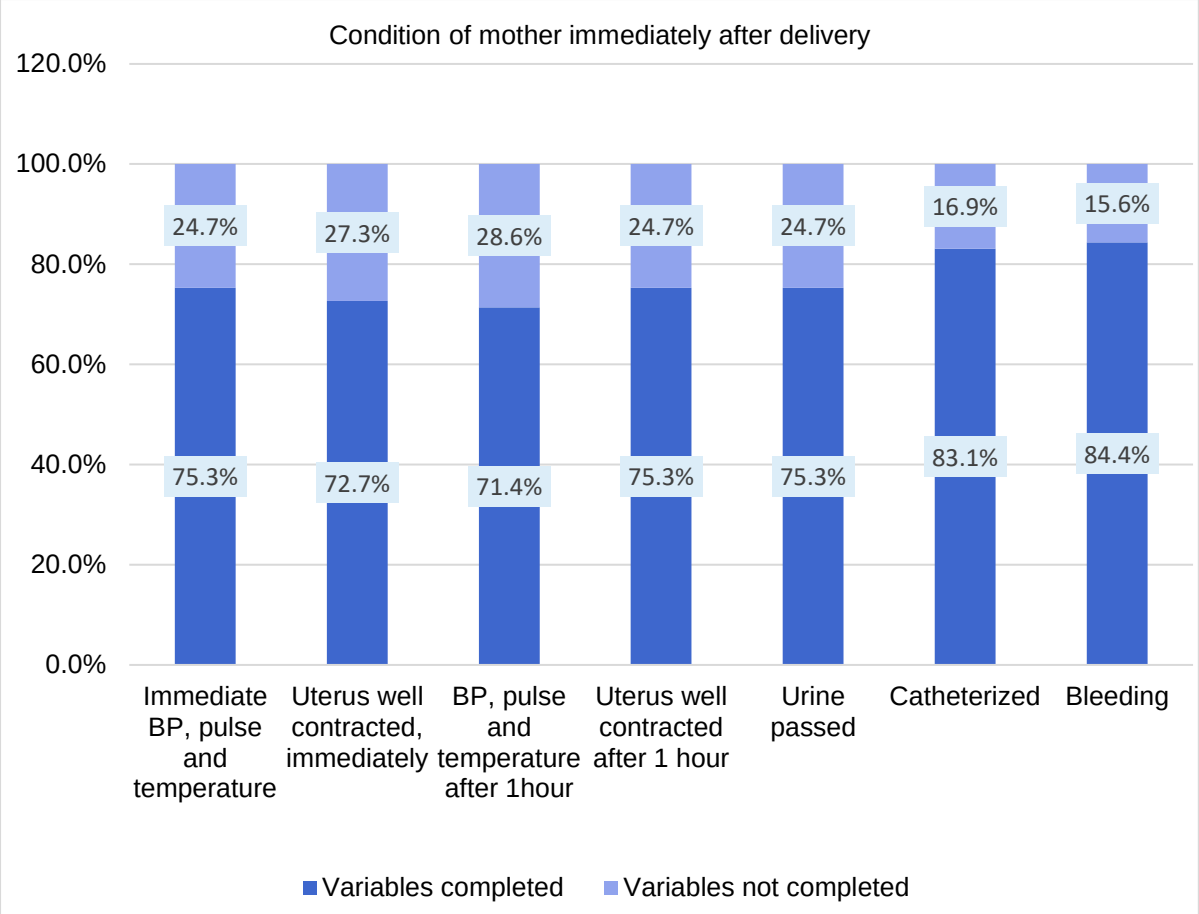

Figure 4.19 Monitoring of mother immediately after delivery

The bar graph denotes data on mothers' condition after delivery and as one can see, it is clear that the percentages of mothers' condition monitoring on completed patient records were more than 60% but below 85%. It is also notable that the records score remained significantly low at 16.9% (catheterisation variable) and higher at 28.6% (vital signs) on the rating of not completed patient records. The above graph shows that record keeping of care of the mother soon after delivery was well taken care of, though record keeping was a major challenge and if sepsis cases rise, failure of documentation indicates that clinicians won't be able to identify the causes.

4.3.7.4 Condition of baby immediate after delivery

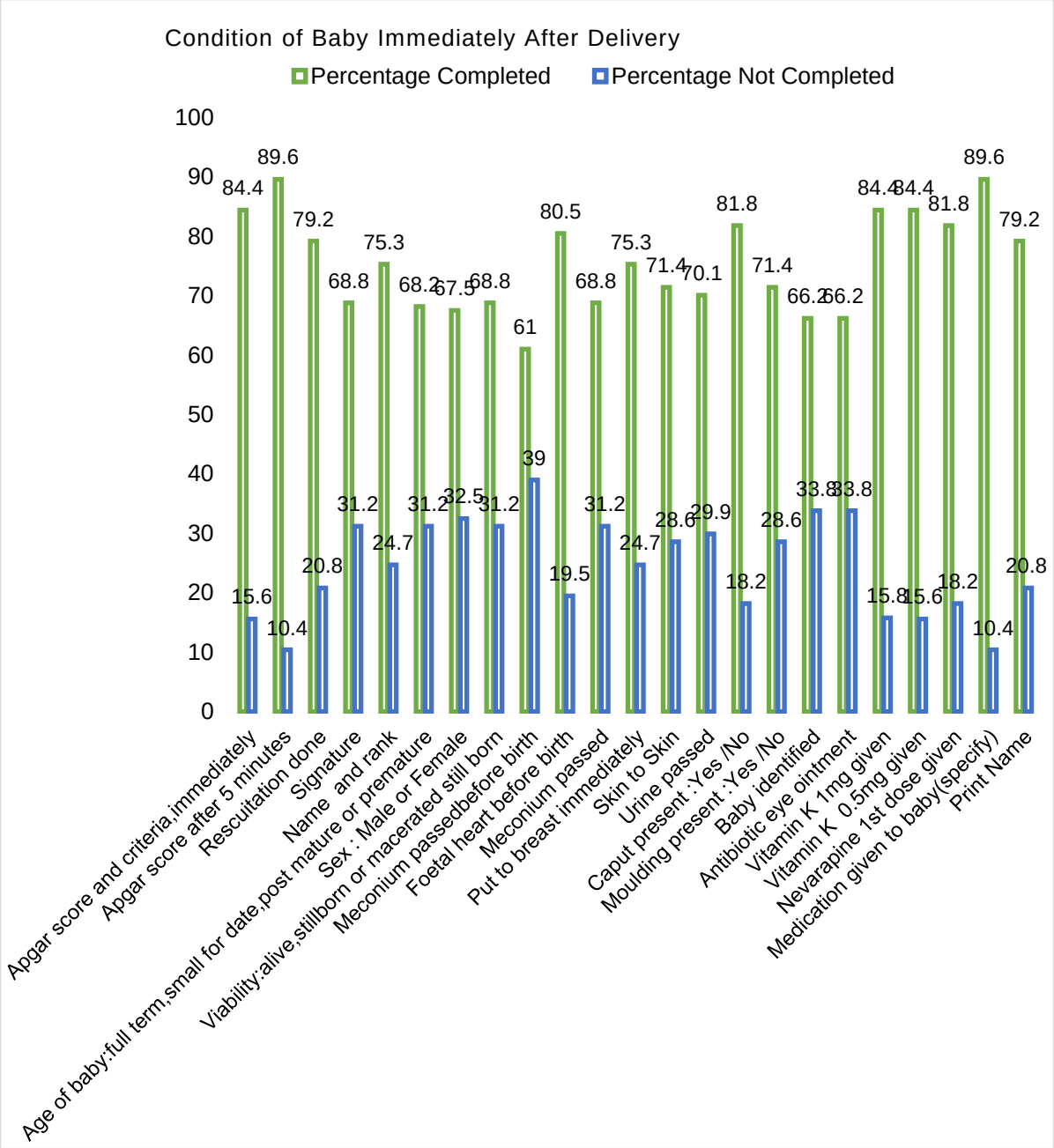

Figure 4.20 Condition of the baby immediately after delivery

The bar graph above gives a description of information on how patient records were compiled as complete and not completed. Of interest is that the information gathered was on how data was filled in on the condition of the baby soon after delivery. Furthermore, it was noted that the ratio of completed files was well gathered with score marks in percentages ranging from 61% to 89.6%. This practice is evidence that

midwives are doing a great job though their practice needs to be reinforced so that areas with low scores on completed files can be adjusted upwards. On the flipside, not completed files remain a challenge with some areas of concern remaining to be prioritised with regards to the care of the new baby. Overall, percentages observed on not completed files ranged from 10.4% and 39%, with the need for personnel still maintaining the same pattern of neglecting their duties when it comes to data input.

4.3.8 Admission of mother in post-natal

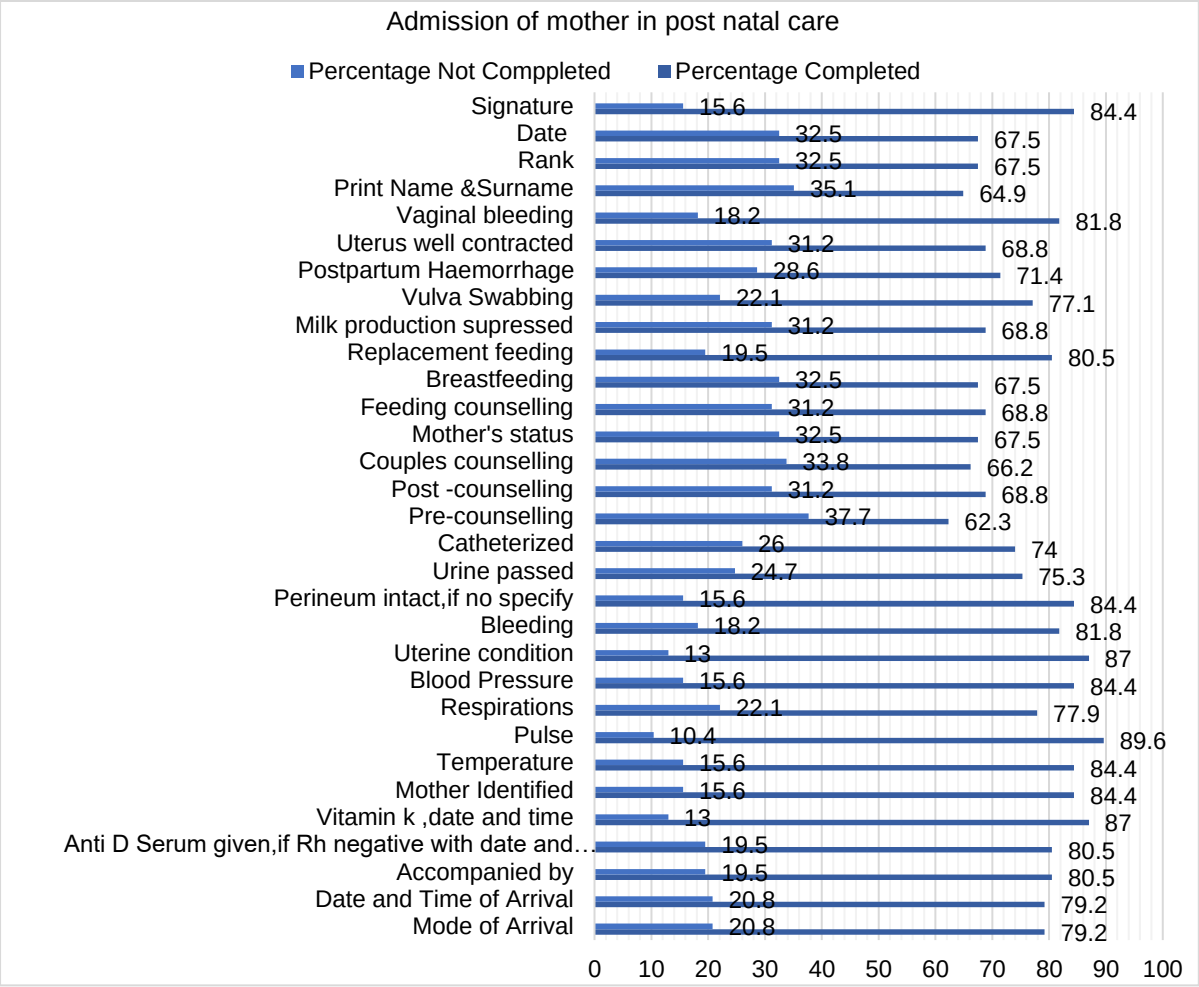

Figure 4.21 Admission of mother in post-natal

The above bar graph sketches out information on the admission of the mother in the post-natal care, on how patient records were completed and not completed. However,

after evaluating the above percentages, it was clear that the lowest score of 62.3% for pre-test counselling for HIV/AIDS investigation and the highest stood considerably high at 89.6% for measuring the pulse rate of the mother on admission in the post-natal. The most noticeable difference was that the lowest score observed on this checklist was 10.4 %, though the highest score was 37.7% on not completed patient records, for the same variables as for those completed. Although this trend shows that nurses have behaviours of not completing their work, in other terms work not being documented, it is considered undone.

4.3.9 Puerperium

WHO recommends that at each subsequent postnatal contact, enquiries should continuously be made about general well-being and assessments regarding the following: fundal height, temperature, heart rate, urination and urine incontinence, bowel function, healing of any perineal tear wound, headache, fatigue, back pain, perineal pain and perineal hygiene, breast pain, uterine tenderness and lochia. Blood pressure should be measured shortly after birth, and if normal the second measurement should be within 6 hours (WHO 2015: 5). In this study, variables assessed for completeness of record keeping matched most of the required variables and therefore met WHO guidelines.

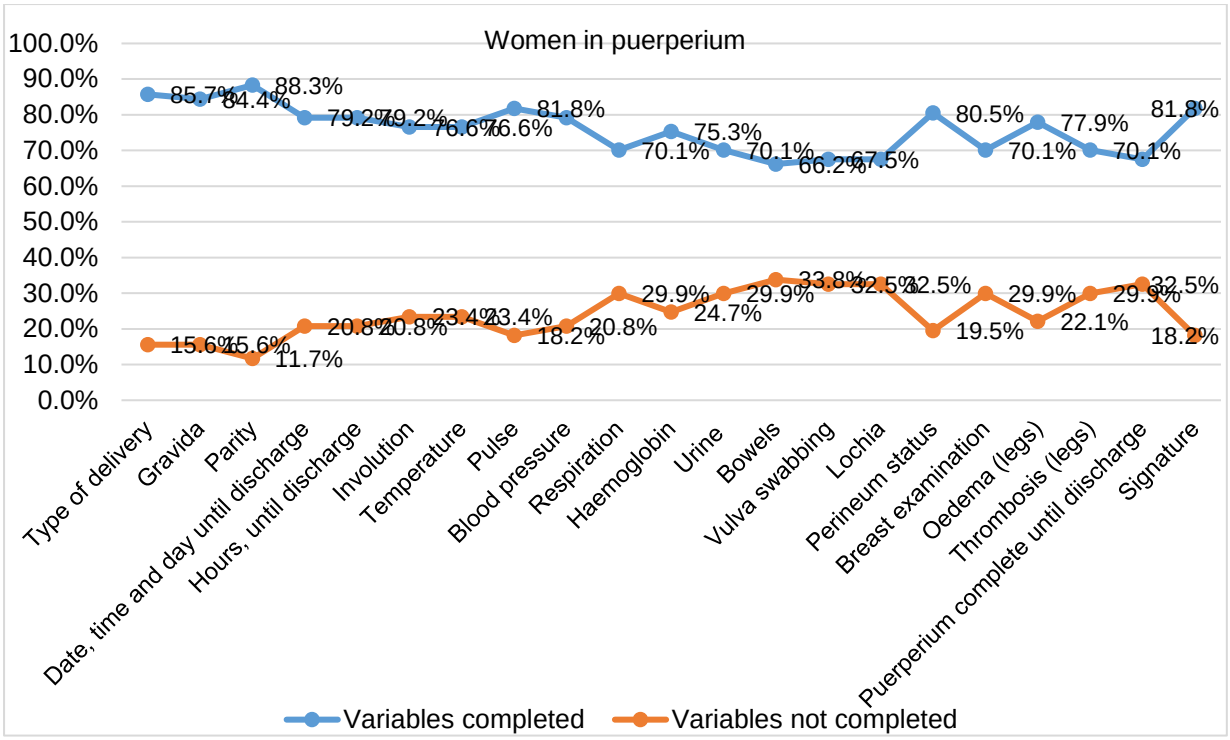

Figure 4.22 Monitoring of mother in puerperium

As shown in above line graph, 6/21 (29%) of variables best completed were: type of delivery, gravida, parity, blood pressure, perineal tear wound and signature of service provider. The variables' highest incomplete scores were for puerperium fully complete until discharge and vulva swabbing at 32.5% and 33.8%.

4.3.10 Admission of baby in post-natal ward

4.3.10.1 General condition of the baby

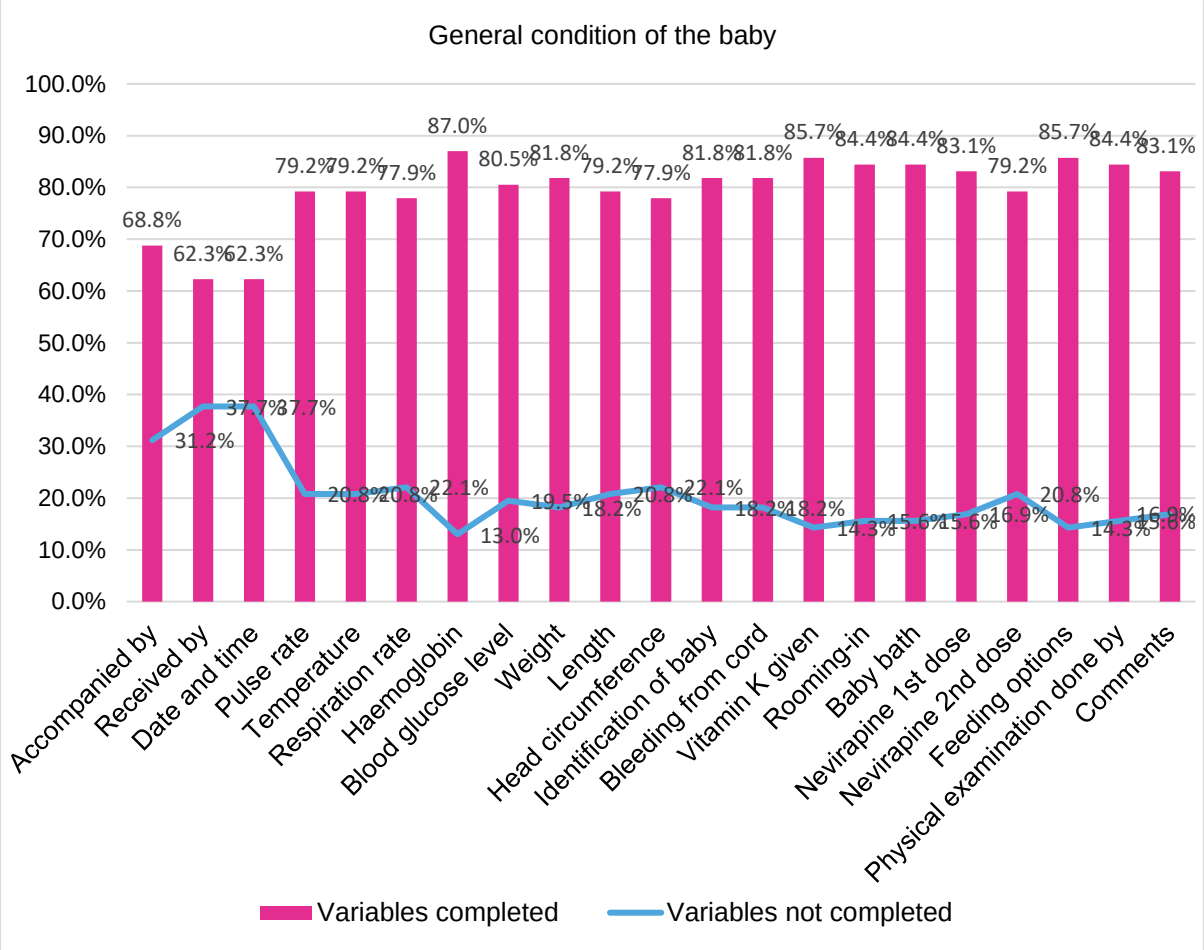

Figure 4.23 Examination of baby in neonatal unit

About 57% of all the variables reviewed in figure 4.23 scored above 80% but below 90% for completeness. These variables were haemoglobin, blood glucose level, weight, identification of baby, bleeding from cord, vitamin K given, rooming-in, baby bath, Nevirapine 1st dose, feeding options, physical examination done by and comments. The variables poorest completed were received by and date and time entering neonatal unit as they both scored 37.7% for uncompleted records.

4.3.10.2 Four hourly observation chart of the baby

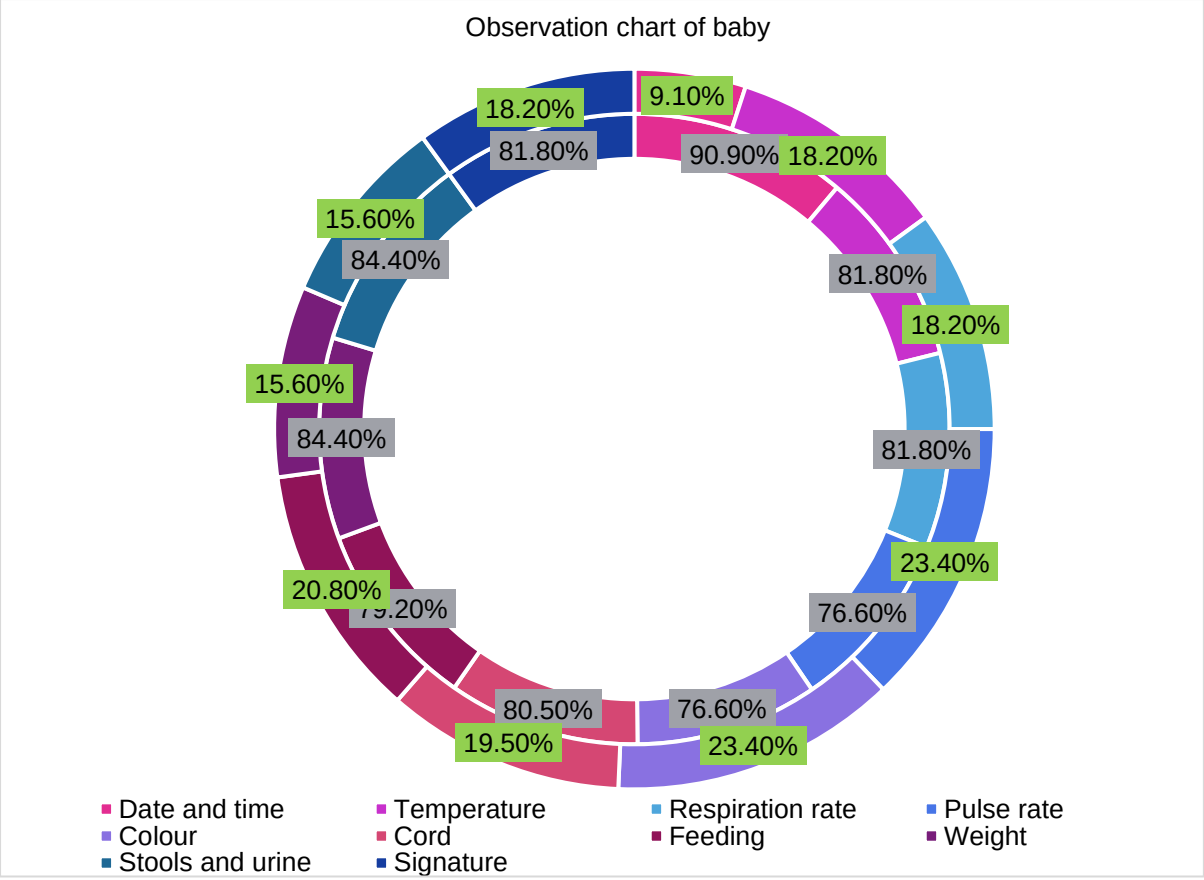

Figure 4.24 Monitoring of baby in neonatal unit

The variable best completed as presented by the above figure was date and time on the observation chart of the new born baby at 90.9%. This was followed by feeding, pulse rate and colour of the skin between 76.6% and 79.2%. The differences between vital signs monitoring such as temperature, respiration rate and pulse rate: monitoring of baby's pulse rate was the lowest scored at 76.6%. This is suggestive of the fact that midwives will not be able to notice the abnormal heart rate or possible condition that affects the heart for some of the neonates, if such practices of incomplete record keeping continues.

4.3.11 Progress report entries

Evaluation of the care is required to be documented in the patient's or client's medical records. This forms part of the 5 stages of the nursing process. Ackley et al (2017: 10) state that evaluation occurs not only at the end of the nursing process but throughout

the process. Evaluation of intervention is in essence, another nursing assessment, hence the dynamic feature of the nursing process. Nurses are to evaluate how clients respond to other multidisciplinary interventions and their assessment of the clients' response and progress. The nurses documenting the evaluation of the client's response will be helpful to the entire health team. Hence, midwives need to record the condition, response and progress throughout the labour process through assessment, evaluation, emergency, interim entries and discharge report entries.

Table 4.5 Progress reports

Variable	Completed		Incomplete	
	Frequency	Percentage	Frequency	Percentage
Date and time of report	n=69	89.6%	n=8	10.4%
Assessment report entries	n=62	80.5%	n=15	19.5%
Evaluation report entries	n=65	84.4%	n=12	15.6%
Emergency report entries	n=61	79.2%	n=16	20.8%
Interim report entries	n=67	87.0%	n=10	13.0%
Discharge report entries	n=67	87.0%	n=10	13.0%
Signature	n=66	85.7%	n=11	14.3%

In table 4.5, it was noted that the majority of the variables were completed fairly well. Date and time of report, interim report entries, discharge report entries and signature were the variables which were up to the required standard according to the COSASA standard of 85%, varied between 85.7% to 89.6%, while only emergency report entries stand at 79.2% for completion rating. All the variables appeared to be fairly well completed. The variable with the highest incompletion value was unquestionably the emergency report entries with a value of 20.8%. This can be justified by the fact that not all women admitted to a labour unit always require an emergency entry (not applicable to all cases, unless there is an event) or it is simply sometimes overlooked or forgotten to make such an entry depending on the severity of the event. De Marinis (2009: 1), indicated in a study done in an Italian hospital, that only 40% of nursing activities observed were included in the nursing records (37% of the assessment entries and 45% of the interventions), meaning that nurses carry out more activities than they report. Contrarily, Landry et al (2014) reported that at 4 of the 9 sites, at least nine out of ten caesarean sections were identified as emergency in the patient files (96%, 99% and 100%) at Niger A, B and C, and 94% at Guinea A, and at two other

sites more than three in four were classed as emergency (75% at Guinea B and 86% at Uganda B). Emergency interventions represented a smaller percentage of all caesarean sections at Uganda A (60%) and in Mali.

4.3.12 Discharge of mother and baby

Kurth et al (2016: 13) in their study conducted in the region of Basel, Switzerland, concluded that returning home from hospital with a new-born child is a challenge that results in significant needs for practical support and health monitoring for mother and child. To meet their needs, new parents desire integrated care services, a 24-hour helpline, home visits by qualified health professionals and the possibility of domestic support. It is therefore, important to examine both mother and baby thoroughly when they are ready to be discharged for home care. This will ensure the midwife and the mother to establish a discharge plan and ensure a support structure at home and in the community.

4.3.12.1 Condition of mother on discharge

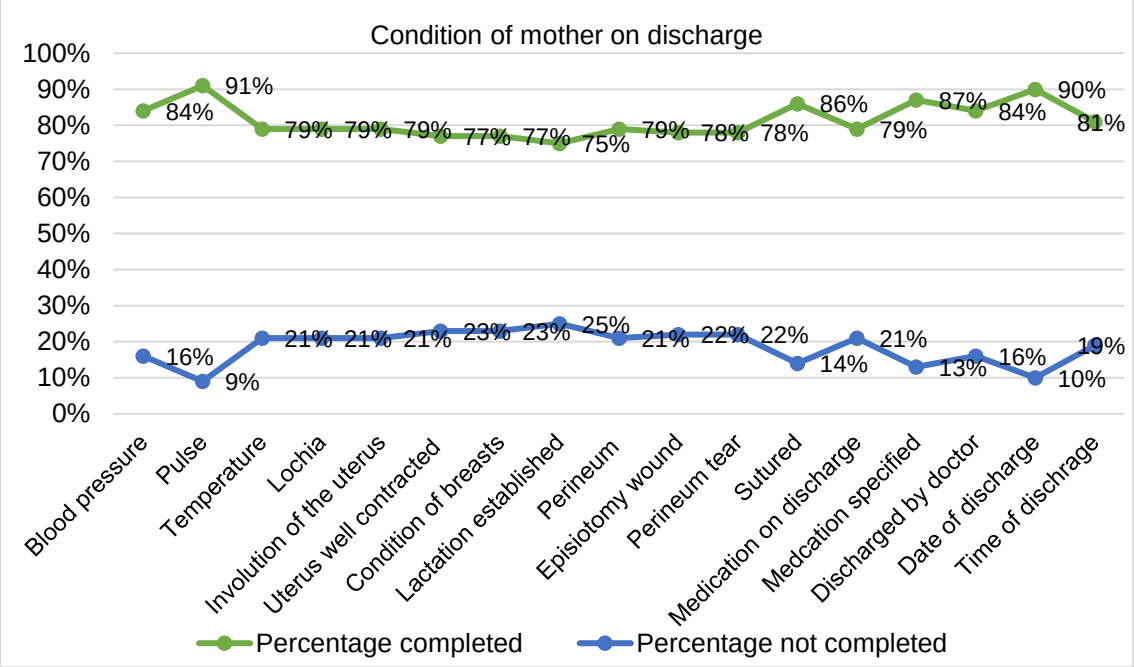

Figure 4.25 Examination of mother on discharge

Completeness on discharge of mother fairly completed between 75% and 91% and remained consistent. Temperature of the mother, and date of discharge amongst the variables best completed above 90%. Most of the variables appeared to be completed below 80% but above 70%.

4.3.12.2 Health education on discharge

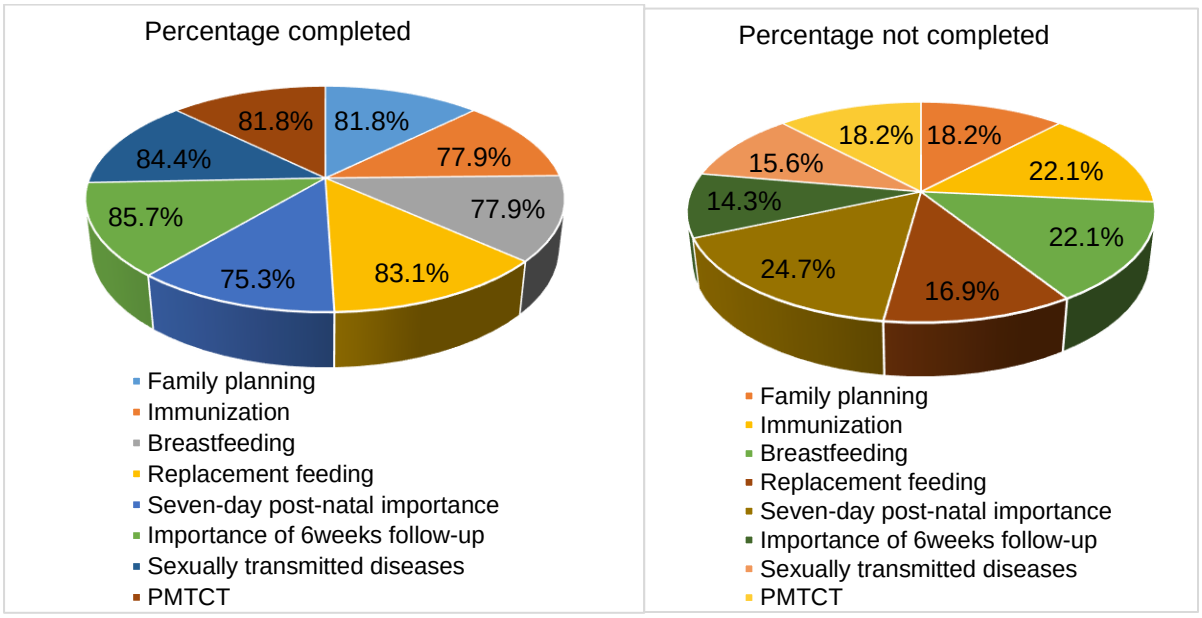

Figure 4.26 Health education to mother on discharge

The topics required to be covered during health education to the mother when ready for discharge were greatly completed ranged between highest at 85.7% and lowest at 75.3%. The importance of seven-day postnatal education to the mother was found to be the only variable slightly neglected and not well recorded as it scored 24.7%. Health education is an important strategy to especially young mothers and those who had their 1st babies, in order for them to know what to expect and what is to follow when the mother is at home. More emphasis is necessary on record keeping during the 7-day postnatal visit to nearest health facility.

4.3.12.3 Appointments for follow-up care

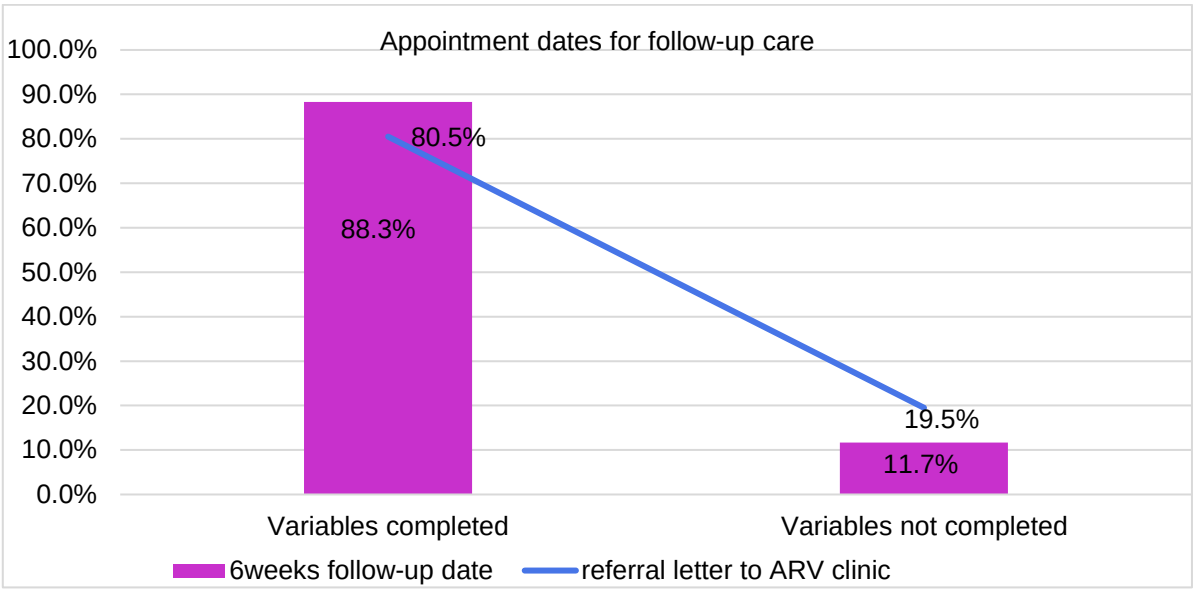

Figure 4.27 Follow-up care

The variables under appointment dates for follow-up care after discharge from maternity unit were well recorded with 6 weeks post-natal care and referral letter to the ARV clinic when appropriate at 88.3% and 80.5% respectively. The maternity records could be used as a reference to ensure a link to care to the PNC and ARV care after discharge for more than 80% of the women who delivered during the period when records were reviewed as they were fairly well kept.

4.3.12.4 Condition of baby on discharge

Table 4.6 Condition of baby on discharge

Variable	Completed		Incomplete	
	Frequency	Percentage	Frequency	Percentage
Physical examination done	n=65	84.4%	n=12	15.6%
Weight	n=60	77.9%	n=17	22.1%
Condition of the cord	n=69	89.6%	n=8	10.4%
Medication given	n=65	84.4%	n=12	15.6%
BCG given	n=65	84.4%	n=12	15.6%
Polio given	n=65	84.4%	n=12	15.6%
Name of service provider	n=63	81.8%	n=14	18.2%
Signature	n=69	89.6%	n=8	10.4%
Date and Time	n=61	79.2%	n=16	20.8%

As can be observed from the above table, a majority of the variables were well completed at 80%, ranging from 81.8% to 89.6%. Variables such as physical examination done, medication given as well as immunisation at birth (both BCG and Polio) scored equally at 84.4% with 65 out of 77 maternity records having been fully completed. Similarly, variables such as the condition of the cord and the signature of the service provider scored equally with the highest score at 89.6% (n=69) of the records. The weight of the baby stood out as the variable rated as the highest with incomplete data at 22.1%, while the rest of the variables with incomplete data ranged between 10.4% 20.8%. It can be concluded that record keeping done during discharge of the baby was well kept as the majority of the variables were fairly well completed.

A study by Gooden et al (2021: 7), which was conducted in The Gambia, found that the discharge checklist had an average of items completed at 35%. All but five items were better recorded on the maternal records compared to any other document: date of discharge, name of staff who issued the document, date of next appointment, vaccinations and medications of the women that had documents at discharge (n=211; 99%), and the number of items completed ranged from 5 to 22 (mean=17; standard deviation=3.04).

4.3.13 Examination of new born baby by medical officer

All neonates should be examined by either a paediatrician, obstetrician, general practitioner, advanced neonatal nurse practitioner or midwife with appropriate training. This is to identify any possible birth defects or any other condition that may exist or may arise (Fraser et al 2012: 775).

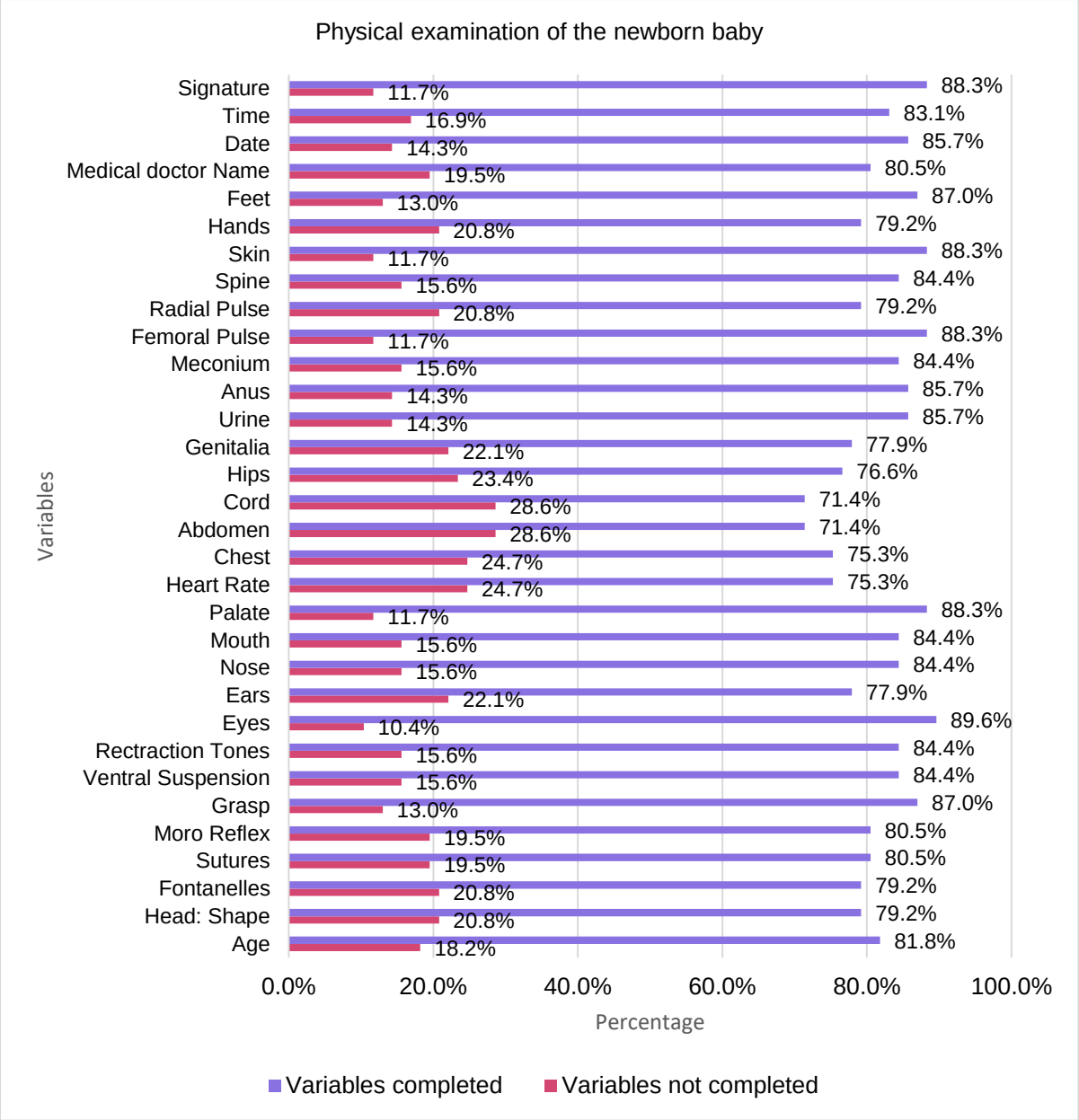

Figure 4.29 Physical examination of the baby on discharge

The variables which scored the highest in terms of completion of record keeping were the examination of the baby's age, sutures, moro reflex, grasp reflex, ventral suspension, retraction tones, eyes, nose, mouth, palate, urine, anus, meconium, femoral pulse, spine, skin, feet, name of medical doctor, date and time and lastly signature ranging between 80.5% and 89.6%. The variables with the highest scores were 21 variables out of 33 variables, meaning that more than half of the variables were completed fairly well. The rest of the variables such as shape of the head, fontanelles, ears, heart rate, chest, abdomen, cord, hips, genitalia, radial pulse and

hand examinations were completed between 71.4% to 79,2%. Compared to variables found to be completed with the highest scores were examination of the abdomen and cord at 28.6% followed by heart rate and chest examination at 24.7%.

4.4 OVERVIEW OF RESEARCH FINDINGS

The socio-demographic information required to be scored according to completeness in this study show that midwives were able to identify the demographic location and name of the health facility where the women gave birth as well as the identification of the client by name and surname close to and above 80%. The age, date of birth and identification number recorded in the maternity records scored around 75%. Completeness for information on contact details of client and next of kin is below 65%, that is, between 60 – 64%.

ANC history was relatively well recorded, with obstetric and surgical history being above 80% completed. The variables under gynaecological history: history of papsmear and treatment for infertility rated at 68% and 62% respectively. Hepatitis B was amongst the variables of investigations during ANC was well completed at 81%, while other investigations such as blood group (62%), haemoglobin (68%), blood glucose (60%) and STI screening had the lowest at 58%. Tetanus vaccination status as follow-up doses is to be reported (TT1 – TT5) as it was noted that its level of completeness fluctuates between 80% and 60%.

Three variables best completed under medical history was noted at 74% with the lowest rated at 59.7%. Close to 50% of social history variables, i.e., smoking and alcohol use, were found not to have been recorded. These are variables in the whole maternity record which seem to have been poorly recorded. Screening for HIV/AIDS in pregnant women was fairly well completed as these were between 70% and 77%, while feeding options were the poorest completed at around 45%. Midwives recorded in 71% of the maternity records on risk factors during pregnancy, while recommended place of delivery was lowest at 66.2%.

Monitoring the progress of labour using the partograph reflected that while midwives conducted pelvic and vaginal examination, aspects such as cervical dilatation, descent of presenting part, effacement of the cervix and application of presenting part which determines the status of progress of labour scored the highest record of completion at only 71.9% and lowest at 59.7%. Keeping complete records of these important variables during the progress of labour may be associated with lack of skills as well as the uncertainty in the findings of the outcome after examination. Delayed decision-making can result in such situations if the progress of labour is not fully completed in the client's maternity records. Equally, with regards to the variables found during half hourly monitoring of the vital signs of the woman and the foetus, the majority scored between 60 and 69% with only foetal heart rate reaching up to 76.6%. Incomplete and inconsistent vital signs recording may not give a clear picture of the condition of both the woman and the foetus as midwives usually work in shifts and they may wonder as to what transpired with vital signs when they were not recorded and this can hamper continuity of care.

During the process of delivery, record keeping was well kept when variables scored between 80 and 90%, probably one of the stages which scored the best with minimum lower scores. Significantly, names of practitioners in attendance whether it was the actor or a witness, scored about 60% on the scale. In this particular setting under review, the majority of the time is the same for the midwife/service provider who attends to the women from admission throughout the labour process, delivery and admission to the post-natal unit, probably feeling it as a duplication to keep on printing or signing on each space in the whole document as it is required at the end of almost each heading in the maternity record.

An examination of the mother and baby immediately after delivery was recorded between a scale of 80 and 89%. Record keeping was seen as important immediately after delivery and kept close to the required standard, showing that the outcome of the delivery process was well reflected in the maternity records.

Discharge records on the examination of mother and baby scored well above 80%, which shows that midwives regard the importance and a final opportunity to ensure the mother-baby pair is in good health and without risk and is ready for discharge.

The gaps of incomplete records and variables in this study can negatively influence especially in the areas where decision-making and care is vital. When record keeping is poor it raises questions such as: Was care optimally provided, or was the information not documented seen as insignificant? Usually, poor record keeping is a result of overwhelmed staff due to shortages and high work volume. Of concern noted during the study some variables in the maternity record is duplicating of nature. Furthermore, separate records for pregnant women are kept in Namibia for ANC and labour and delivery in two separate documents such as the ANC card and again the maternity records, while in some other countries only one maternity record is kept which the woman keeps and midwives already start documenting information at the ANC in the same document and it is continued for labour and delivery. Therefore, Namibia should consider designing such a record so as to minimise time for the same service provider copying information from the ANC card onto the maternity record with the little time at his/her disposal.

4.5 SUMMARY

This chapter presented findings from the maternity records which were reviewed and the level of completeness and incompleteness of all the variables from the maternity record. The quantitative data analysis of complete and incomplete variables indicates that during labour, delivery and discharge, there are some gaps in the record keeping by midwives. Chapter 5 focusses on the conclusion and recommendations of the study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The chapter represents the research design, the summary and interpretation of the research findings as generated in chapter 4, the conclusion, contributions of the study, limitations of the study and the recommendations in relation to the research objectives.

The study was based on the following research objectives:

- To audit/review maternity records of mothers in a maternity ward of the selected district hospital;
- To establish the level of completeness of maternity records of nursing care rendered during all stages of labour; and
- To give recommendations for midwives to ensure complete record keeping.

The study intended to find answers for the following research questions:

- How can one check the completeness of maternity records in a district hospital?
- What is the level of completeness of maternity records of nursing care rendered during all stages of labour?
- What measures can be put in place for midwives to ensure complete record keeping in Namibia?

5.2 RESEARCH DESIGN AND METHOD

5.2.1 Research Design

Polit & Beck (2017: 56) define the research design as the overall plan for obtaining answers to the research questions. Research designs indicate how often data will be collected, what types of comparisons will be made, and where the study will take place. The research design is the architectural backbone of the study.

The researcher in this study used a quantitative, non-experimental, descriptive and retrospective design in order for the researcher to achieve the research objectives and address the research problem.

5.2.1.1 Quantitative research

Quantitative research is an approach for testing objective theories by examining the relationship among variables. These variables in turn, can be measured typically on instruments so that numerical data can be analysed using statistical procedures (Creswell 2014: 2).

The researcher collected objective numerical information on the status of record keeping of the maternity record, reviewed the current practices of record keeping of the maternity record and detected as well as described the acts and omissions on the maternity record of midwives. The researcher remained objective, meaning that her feelings, values and personal perceptions did not influence the measurement on the completeness of the record keeping of the maternity record. The study focused on objectivity by using a structured checklist to determine the completeness of record keeping in the maternity record. The process followed in this study was highly structured, hence strict control was exercised in the sampling techniques to ensure the validity and reliability of the instrument and data analysis.

5.2.1.2 Non-experimental design

Non-experimental research designs allow no manipulation of the independent variable, therefore no intervention, nor is the setting controlled. The study was carried out in a natural setting and phenomena were observed as they occur (Brink et al 2012: 112).

The study was done in a hospital setting whereby the maternity records of patients who delivered in the selected hospital were reviewed for completeness of record

keeping kept by midwives. Completeness refers to the filling of all data elements as it appears in the maternity record.

The major purpose of a non-experimental research is to describe the phenomena and explore and explain the relationships between the variables (Brink et al 2012: 159). Furthermore, non-experimental approaches are useful in acquiring more information and knowledge which is difficult, unethical, or even impossible to employ in an experimental approach (Brink et al 2012: 112). In this study, there was no manipulation or intervention, but only a description of the completeness of the maternity record.

5.2.1.3 Descriptive design

Descriptive designs are used in studies where more information is required in a particular field through the provision of a picture of the phenomenon as it occurs naturally. These designs describe the variables in order to answer the research question, and there is no intention of establishing a cause-effect relationship. Descriptive designs may be used to identify problems with current practice; to justify current practice, make judgements or determine what other professionals in similar situations are doing (Brink et al 2012: 112). According to Burns et al (2015: 33), descriptive studies are normally conducted with large numbers of study participants in a natural setting without manipulation of the situation.

The researcher found a descriptive design appropriate which was for this study as it enabled the researcher to gain the necessary information from a large sample of maternity records required to determine the level of completeness of maternity records and detected and described acts and omissions on the part of midwives in a maternity ward in a specific hospital. The research question on the ‘how’ was addressed by the researcher through applying a descriptive design.

5.2.1.4 Retrospective design

Studies with a retrospective design are the ones in which a phenomenon existing in the present is linked to phenomenon that occurred in the past. The signature of a retrospective study is that the researcher begins with the dependent variable and then examines whether it is correlated with one or more previously occurring independent variable. Furthermore, not all retrospective studies can be described as using a case-control design (Polit & Beck 2017: 204), as in the case of this study, as sometimes researchers use a retrospective approach to identify risk factors for different amounts of an outcome rather than case-controls.

Brink et al (2012: 115) define a retrospective design as a study which deals with an effect and works backwards to determine what was associated with the past. The definition by Brink et al (2012) as described is more applicable to this study, therefore the researcher applied a retrospective study as the best method. This is so as the outcome has already occurred because the study focussed on maternity records of patients who were already discharged, thus record keeping and nursing care had already taken place. The study involved the use of a checklist in reviewing the completeness of maternity records.

5.2.2 Research method

The research methods involve the techniques used to structure a study and to gather and analyse information in a systemic fashion (Polit & Beck 2017: 743). The research methods included in this study consisted of the study population, sampling, data collection methods, data processing, data analysis as well as strategies which enhance scientific and methodological integrity.

5.2.2.1 Sampling

Sampling involves selecting a group of people, events, behaviours or other elements with which to conduct research (Gray et al 2017: 515). A researcher must choose in an appropriate manner the objects, persons and events from which the actual information needs to be drawn. Therefore, the researcher needs to define the

population and sample. The study of each element in the population would generally take too long and thus would be impractical and costly. The researcher thus works with samples.

5.2.2.2 Population

A population is the entire aggregation of cases in which a researcher is interested. Populations are not restricted to humans and they may consist of, for example, hospital records in a particular hospital, blood samples at a particular laboratory. Whatever the basic unit, the population comprises of the aggregate of elements in which the researcher is interested (Polit & Beck 2017: 249). Other authors such as Brink et al (2012) define a population as the entire group of persons or objects that is of interest to the researcher, in other words, that meets the criteria that the researcher is interested in studying (Brink et al 2012: 131). Grove et al (2012: 44) state that a population is all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe.

The researcher selected in-patient maternity records of all women who delivered by normal vertex delivery in the maternity ward of Keetmanshoop District Hospital, llKharas region in Namibia, during the period from the 1st of January 2018 to the 31st of December 2018 as the study population, as this met the criteria of the researcher's interest. The researcher selected this hospital because it is the largest district hospital in terms of deliveries, population and bed occupancy, which is situated in southern Namibia. The hospital is utilised as a referral hospital for the southern primary health care facilities and two other district hospitals in the region.

The researcher outlined the eligibility criteria as follows:

The *inclusive criteria* for the study meant that the population was selected from the maternity records of all state and private women who delivered by normal vertex delivery in the selected hospital during the given period.

The *exclusion criteria* consisted of the records of all women who delivered babies by caesarean section and who delivered at home although they were admitted in the selected hospital as well as women who were admitted for problems during the ante-natal period, who did not deliver during the mentioned period were excluded from the study. The record keeping required for women who delivered by caesarean section has other variables that would not from part of the checklist. Data for women who delivered at home are not always known or available, and most of the time their maternity records are incomplete. Maternity records of women who were admitted for problems during the ante natal period who did not deliver during the given period were also excluded, as most of the data would be scored as 'not applicable' on the checklist as these women did not go through the labour process yet.

5.2.2.3 Sampling

Sampling is the process of selecting a proportion of the population to represent the entire population (Polit & Beck 2017: 743). Macnee & McCabe (2008: 30) define a sample as a smaller group, or subset of a group of interest that is studied in research. A sample is a subset of the population that is selected for a particular study and sampling defines the process for selecting a group of people, events, behaviours or other elements with which to conduct a study (Grove et al 2012: 44). Furthermore, sampling may provide a more accurate picture of the phenomenon under investigation than would the measurement of all the population elements. Sampling aims at optimising the use of resources in the investigation of the area of interest (Brink et al 2012: 130).

In this study, the researcher used systematic sampling which is a basic probability sampling technique. The researcher applied systematic sampling to spend less time with sampling. The researcher found systematic sampling as the best method as its advantage is that all elements in the population have an equal chance of being included in the sample. Therefore, this assisted the researcher to estimate sampling errors, reduce bias and made it possible for the researcher to use descriptive statistics. Systematic sampling involves selecting every kth case from a list, such as every tenth

(10th) person on a patient list or every twenty-fifth (25th) person on a student roster from which a random sample will be drawn. The desired sample size is established at some number (n). The size of the population must be known or estimated (N). By dividing (N) by (n), a sample interval (k) is established. The sampling interval is the standard distance between sampled elements (Polit & Beck 2017: 257).

In this study, the (N) is 935 (total number of patients who delivered by NVD during the selected period) and (n) is 93 (10% of population). The sampling interval was calculated as follows: k= 935÷93=10, thus every tenth maternity record was selected by the researcher to be reviewed.

The *sampling process* included the steps as set out by Brink et al (2012: 135) and this was as follows:

- The in-patient delivery register of the selected hospital was used to select the maternity records for the period under review as indicated by the researcher (1st January 2018 to 31st December 2018).
- Every tenth entry in the in-patient delivery register was identified and listed by the researcher.
- In Namibia, the patients' maternity records after delivery are kept safely in the record room and these are handled by administrative officers working at the reception of the health facilities. The researcher gathered the identified and listed maternity records from the record room through registering and signing out all the selected records.
- Each selected record which formed part of the sample was assigned a consecutive number starting at number 1. This was in order to ensure the confidentiality of the patients so that none of the selected records could be identified with a specific patient.

The researcher in the study was unable to acquire the sample size (93 maternity records), as some of the records identified and selected from the in-patient register could not be found through the registry process from the record room. The researcher

therefore reviewed only 77 records that she could acquire which was 83% of the initial sample size.

5.3 SUMMARY AND INTERPRETATION OF RESEARCH FINDINGS

5.3.1 Socio-demographic data

When a woman comes to a maternity ward for admission, record keeping starts with the front page of the maternity record which consists of the socio-demographic information. This is mainly the identification of the institution, the identification of the client, contact details, next of kin contact details and information about the attending medical officer. In this study, the completeness of the socio-demographic data was assessed on maternity records. It was found that variables which scored the highest completion percentages of between 80.5 and 88.3% were the name of the health facility, the district and region where the health facility is located, the surname of the client, registration number, identification number, citizenship, language, religion, occupation, marital status, residential address of client, postal address, mobile telephone number, name of next of kin (no.1), telephone number of next of kin (no.2), classification as a state or private patient and medical aid membership number. Complete, as defined in chapter 1 of this study by the researcher, classifies all variables in the record which should be fully filled, with no omissions and no blanks. The study results therefore show that none of the variables met the definition of the researcher. Fortunately, Namibia adopted the COHSASA standards for record keeping, which classify good acceptable record keeping as equal or above 85%. The study results reflected that 20 out of the 33 (61%) variables under socio-demographic data scored above 80% of which only 25% met the COHSASA standards.

The variables which followed within the range of 71.4 to 79.2% were the first name of the client, date of birth, age, telephone number at home, telephone number at work, relationship of next of kin (no.1), residential address of next of kin (no.1 and no.2), if private patient booked or un-booked, name of private doctor, telephone number of private doctor and name of medical aid fund.

Only three variables were found to have scored between 63.6 and 67.5%, and those that were classified as having scored the lowest with regards to completeness were telephone number of next of kin (no.1), name of next of kin (no.2) and relationship of next of kin (no.2).

With focus on the variables on the lowest and middle range scores (63.6 – 79.2%), this set of variables of identification of client by name, age and date of birth are important aspects. Clients may have the same names and surnames and as such other information like age and identification number being not recorded means that there is a high possibility of missing up client records. This can result in huge errors with disastrous consequences when a wrong client is given wrong care or wrong management simply because of incorrect identification. Information on next of kin is important as a pregnant woman needs emotional, psychological and physical support during pregnancy and after giving birth. An emergency may arise at any time and a close contact should be reached, but if data is missing, this will not be possible. Also, the establishment of a support structure on discharge may require this information as given by the woman. Equally important is information required for a patient cared by a medical doctor. The facility under study is a public institution rendering services to mainly state patients, but has agreements in the form of memorandum of understanding with private practitioners. It will be impossible in case of a need to contact a private practitioner to come and attend to his/her client at the state facility if all information is not recorded.

5.3.2 Ante-natal history

5.3.2.1 Obstetric history

Fraser et al (2012: 270) state that previous childbearing experiences have an important part to play in possible outcome predictions of the current pregnancy. A pregnancy loss may have affected the way in which the woman accepted it at the time, perhaps grieving the loss of hopes and expectations of a pregnancy. The variables in this study which scored the highest completed score were parity, LNMP, EDD, age of

children who died and the cause as well as number of expected deliveries between 84% and 81%. The incomplete variables under obstetric history as reflected may not enable midwives and medical officers to predict a possible outcome of the current pregnancy. A possibility exists that some of the women who came for admission might not have been booked for ANC, hence the reason for incomplete data. Patients from private practitioners do not have a designed or specific ANC record, where this data is usually recorded, hence history taking practices lack in its comprehensiveness, as well as the fact that midwives might have missed out on the opportunity to gather the information.

5.3.2.2 Gynaecological and surgical history

Looking at the required information under the sub-headings in the Namibian version of the maternity record, the variables under gynaecological (hysterotomy, myomectomy and operations on the cervix) and surgical history (cardiac, lung and neurosurgery history) to be completed are all history on surgeries conducted in the past. Hence, they are grouped together for this discussion.

Notable scores of 82% and 84% account for complete record keeping scores for interview responses during history taking at the ANC on previous hysterotomy and operation on the cervix respectively. The variable which had the poorest completed score was history of myomectomy. These variables are important so as to give the midwife and attending physician an idea of a precious baby syndrome. Hysterotomy can reveal the history of previous still births, whereas operations on the cervix may be indicative of habitual abortions, while myomectomy may indicate possible diagnosis of breast cancer and will guide the midwife and woman on best feeding options for the unborn baby.

For the variables assessed under surgical history as reflected by the maternity record and the study results, the outcome shows that for completeness, all three variables scored below 65%, with cardiac surgery at 64% (49/77 records), followed by neurosurgery at 62% (48/77 records) and the lowest score at 58% (45/77 records) for

lung surgery. These variables are indicative of high-risk pregnancies and possible consideration of intensive care requirement should the woman with any of such history require surgery during labour.

5.3.2.3 Medical and family history

Under medical history to be assessed were allergies, cardiac condition, chronic respiratory disease, diabetes, renal diseases, anaemia, hypertension, tuberculosis, epilepsy, thyroid disease, previous DVT, mental health disorder and current treatment. Few of similar indicators (diabetes, hypertension, tuberculosis, mental health disorder) according to the maternity record were to be assessed under family history, with additionally multiple pregnancies and congenital abnormalities also inclusive of indicators for assessment of family history.

The variables which fell under medical history with the highest percentage completed were epilepsy, thyroid disease and mental health disorders at 74.0 and 72.2% respectively. Allergies and hypertension were poorly completed, both at 59.7%. The rest of the variables scored between 60% and 69%. On the contrary, with regards to the family history, some variables appeared to be better completed with the highest score at 84% for assessment of tuberculosis, followed by hypertension at 68%. Multiple pregnancies and mental health disorders fell amongst the variables least completed between 56% and 58% respectively.

At the first prenatal visit, all women are screened for clinical risk factors when obtaining a history. These risk factors amongst others comprise of family and medical history as they may have an effect on both the mother and the unborn baby (Swearingen 2016: 648). Hence, if history is not recorded, the overall health and the baby when born will not be known and may only be discovered very late. It is required that holistic care is provided to clients with any encounters at health facilities which will increase the client satisfaction rate and ensure that the client is treated holistically.

5.3.2.4 Investigations done on pregnant women during ANC

Hepatitis B was amongst the variables that was best completed at 81%. The rest of the variables fell within the range of 58% and 68% for completeness. The variable poorly completed at 42% was for syphilis screening. Where there were no printed results, these could have been the reason for blank spaces, or some of the clients may have not taken the tests at all for various reasons not known. Staff at ANC clinics should ensure getting printed results to attach to the ANC passport and blank spaces have to be updated.

5.3.2.5 Tetanus vaccine status

Worldwide, tetanus (TT) kills an estimated 180 000 neonates (about 5% of all neonatal deaths (2002 data) and up to 30 000 women (about 5% of all maternal deaths) annually. If the mother is not immunised with the correct number of doses of the tetanus toxoid vaccine, neither she nor her new born infant is protected against tetanus at delivery. The WHO further estimates that only 5% of NT cases are reported, even from countries with well-developed surveillance systems (WHO 2002: 2)

Table 5.1 Tetanus vaccination schedule for women of childbearing age.

Dose of TT vaccinations	When to give/intervals	Expected duration of protection
TT1	At 1st contact/or as early as possible during pregnancy	none
TT2	At least 4weeks after TT1	1 – 3 years
TT3	At least 6months after TT2 or during subsequent pregnancy	At least 5 years
TT4	At least one year after TT3 or during subsequent pregnancy	At least 10 years
TT5	At least one year after TT4 or during subsequent pregnancy	For all childbearing age years and possible longer

Source: World Health Organization, 2002

TT3 was the best completed at 81% (n=62), followed by TT1 at 74% (n=57). Last date of vaccination was poorly recorded at 58% (n=45). This data is readily available in the ANC passport and the midwife can also ensure getting data from the client as no excuse can be found as to why this data was not recorded completely. The

completeness of the ANC passports is also questionable as it can be concluded that if data carried over from the ANC health passport is incomplete, then most certainly the very said incomplete information will be copied to the maternity record when the woman presents for admission at the maternity ward. Some of the clients may not have known if they got the scheduled TTs, especially if this is not recorded in the general or ANC health passport.

5.3.2.6 Social history

The study results showed that both history of alcohol and smoking of the women were poorly recorded at 51% and 47% respectively. Close to 50% of social history variables were not completed. The effects of excessive maternal alcohol on the foetus are marked, particularly in the 1st trimester, when foetal alcohol syndrome can develop, which is characterised by restricted growth, facial abnormalities, central nervous system problems, behavioural and learning difficulties, and this is entirely preventable. Similarly, effects of smoking are associated with low birth weight, intellectual impairment, respiratory dysfunction, sudden infant death syndrome and premature birth (Marshall et al 2014: 140). If social history is not recorded, possible congenital abnormalities cannot be anticipated.

5.3.2.7 HIV/AIDS history

The South African DoH guidelines (2007: 7) as part of their guidelines for maternal care, recommends that all pregnant women should be offered information on screening for and appropriate management for communicable and non-communicable diseases of which HIV/AIDS forms part. According to the guidelines, routine counselling and voluntary testing for HIV is an essential screening investigation during ANC and recommended to be done during the first ANC visit. Completeness of the records reviewed showed that post-test counselling of the pregnant women, the mother's HIV status, CD4 count and couples counselling appeared amongst those variables to be best completed ranging between 70% and 77%, while opt-in for

PMTCT, opt-out for PMTCT and feeding options were the variables with lower percentages in terms of completeness, between 44% - 47%. HIV/AIDS history for those records with incomplete variables might possibly be unknown during ANC, therefore they were not entered.

5.3.2.8 Risk factors in pregnancy

Risk factors and recommended place of delivery were fairly recorded as the variables with the highest value at 71.4 and 66.2% respectively, in contrast to the identification of high-risk pregnancy on the maternity records with the lowest completion slightly over half of the records at 51.9% completed. The records reviewed in this study similarly compared with the findings of Gustafsson et al (2020: 8), that when risk statuses were available on the card, it was normally part of the obstetric history section or written on top of the card in red and there was no dedicated space for this information. The midwives in the Keetmanshoop maternity ward used to record high-risks when writing progress notes, although there was a duplication at times. Documenting of risk factors is vital to provide patient-centred care. In this study, it is not known as to whether midwives indeed asses the risk factors, but failed to keep complete records as it was not part of the study to assess this.

5.3.3 Indemnity

The safekeeping of a client's belongings according to the Hospitals and Health facility Act no 36 of 1994 (d) (ii) means the custody of property belonging to admitted patients including the disposal of soiled or infected articles. Patients in Namibian hospitals, according to standard procedures, have options for safe keeping of belongings (taking inventory, sign and lock away), or patients taking their own responsibility (keeping at bedside) or to send valuables home.

The study revealed that belongings for safekeeping was completed at 67.5%, while belongings to be sent home and accepts own responsibility for valuables scored

equally in terms of completeness at 61%. The variables with the highest score as found in completed records were the second witness and the time the indemnity record was to be completed, followed by the date of recording of indemnity section on the maternity record at 54.5%. The researcher concludes that record keeping for the safekeeping of the client's/patient's belongings, regardless of the option the client may choose as well as the date and time of taking such a decision need to be strengthened in the maternity ward of Keetmanshoop hospital. Thus, it can be explained that midwives don't find this part of the record as important or this was not explained to the patients, that is, the options they on the safekeeping of their valuables.

5.3.4 Admission for delivery

Initial observations form a baseline for further examinations carried out throughout labour. Basic observations include the pulse rate, blood pressure and temperature which all have to be recorded. The woman's feet are usually examined for signs of oedema. Furthermore, a detailed abdominal examination including symphysis fundal height and optimal position for auscultation of the foetal heart should be undertaken and recorded. Lastly, a vaginal examination (VE) as part of baseline observation may also be undertaken to help confirm the onset of labour and determine the extent of cervical effacement and dilatation.

5.3.4.1 General assessment: Observations on admission

On completed records, most observations were carried out and recorded on routine observations with a scale ranging from 61% to 75.3%. On the other side, routine observations not recorded in the 77 patient records had a score percentage which ranged from 24.7% to 38%. The completeness for the routine baseline observations scored and included vital signs such as temperature (61%), pulse rate (63.6%), respiration rate (67.5%), blood pressure (62.2%), blood glucose (67.5%), HB (62.1%), urinalysis (71.4%) and weight (62.3%). Furthermore, the scores for completed variables under physical examination which comprise of vaginal discharge (75.3%),

haemorrhoids (70.1%), varicose veins (63.6%) and oedema (62.3%). Reasons for incomplete data can be associated with those women who came in with an advanced 1st stage of labour or the beginning of the 2nd stage of labour, thus not giving time for practitioners to check on their vitals and doing physical examination. It is essential that thorough health education can be given during the ANC about true signs and the onset of labour to strengthen early seeking help behaviour.

5.3.5 The partograph

The partograph has been widely accepted as an effective means of recording the progress of labour. Marshall et al (2014: 295) define a partograph as a chart on which the salient features of labour are entered in a visual graphic form to provide the opportunity for early identification of deviations from normal and it remains an integral part of intrapartum record keeping. The partograph assists midwives in early decision on the transfer and termination of labour. It also increases the quality and regularity of all observations on the foetus and the mother during labour and aids in early recognition of problems with either (Nolte 2008: 4).

Different countries use different versions of the partograph, but generally it is designed in such a way to allow for recordings 4 hourly, 2 hourly and every 30 minutes.

The *general information* required to be assessed and documented on the partograph include the time partograph was commenced, by whom, gravida, parity, duration of labour on admission, membranes, date and time, position of presenting part. All completed records figures were above 50%, with recordings on membranes standing at 77.9%, surpassing the listed and parity being the lowest at 58.4%.

Four hourly plotting of the partograph, mirrored input on plotting recordings of the caput with 77.9%, which had the highest, while the lowest variable measured at 59.7% was on the plotting of application of the presenting part on completed patients' records. Furthermore, descent of the presenting part (61%), effacement of the cervix (63.3%), membranes (68.8%), amniotic fluid (67.7%) and presence or absence of moulding of the foetal head at 64.9% were documented.

Concerning *two hourly monitoring of urine* (output and volume), the percentage of completed records was above three quarters (78%), whereas that of not completed files was below a quarter (22%).

Lastly, the outcome result of *half hourly documentation on the partograph* showed that scores ranged from 61% (contractions/minute) up to 76.6 % (foetal heart rate), whereas on variables not completed, foetal heart rate at 23.4% being the lowest and contractions were recorded at 39% as the highest on information input.

In conclusion, as an overview of the partograph, the only variable which gave an idea of the completeness of the whole partograph with regards to record keeping 'partograph completely plotted until the end of 1st stage of labour' in this study was completed at 3/5th rated at 70%, while only 30% was found to be not completed. If one looks at the partograph which has been designed for the midwife to have a pictorial view of how labour is progressing, some areas were in gaps and this showed how the midwife was compromising care. In addition to this, some recorded data were in tatters to the fact that an assumption that some activities would be recorded but not done or and not recorded. The protocol on how to complete and how often to observe a woman who established labour was not followed.

5.3.6 Summary of delivery

Marshall et al (2014: 264) describe labour as the process by which the foetus, placenta and membranes are expelled through the birth canal. However, labour is much more than a purely physical event. The authors' further state that what happens during labour can affect the relationships between the mother and the baby and can influence the likelihood and/or experience of future pregnancies.

5.3.6.1 Normal delivery process

Labour is divided into three stages of labour namely the first, second and third stages. During these stages of labour, the mother and baby need to be monitored through

observation and different interventions and decisions take place (Marshall et al 2014: 264). Therefore, it is important that whatever observation, interventions and decisions were done and taken during the labour process is recorded for communication between health professionals and for continuity of care. Record keeping is part of the nursing process and it is a basic systematic and chronological process for nurses and midwives to ensure good outcomes.

The results of the study reflect that 16 out of the total chosen 34 variables scored between 80.5% to 90.9% when rated according to completeness, reflecting that slightly less than half of the variables were completed well above 80%. The variables which fell under this category were: 2nd degree tear, local anaesthesia, suturing material used, type of suture used, sutured by, placenta: normal or abnormal, if placenta abnormal - specify, placenta: complete or incomplete, if membranes incomplete - specify cord knots: true or false, blood vessels (arteries & veins), length of cord, cord implantation, estimated total blood loss, postpartum haemorrhage and examined by whom (practitioner 1). The variables with the lowest completion score between 66.2% and 68.8% which were commencement of 2nd stage of labour, commencement of 3rd stage of labour, total duration of labour, type of delivery, position of baby at birth, perineum, lacerations and cervical tears. On the other hand, not completed records percentages ranged from 9.1% to 34.6%, which is significantly low in comparison to other completed records percentages. The variables are suggestive of higher incomplete record keeping were in chronological order as follows: sutured by, blood vessels (arteries & veins), cord implantation and examined by whom (practitioner 1) at 13%, with 11.7% and 9.1% respectively.

5.3.6.2 Monitoring of the mother immediately after delivery

The percentages of record keeping completeness of the mother's condition were more than 70% but below 85%. The variables assessed scored bleeding (84.4%), catheterisation (83.1%), immediate BP, pulse rate and temperature, uterus well contracted after an hour and urine passed (75.3%), uterus well contracted immediately after delivery (72.7%) with BP, pulse rate and temperature after an hour (71.4%). The

record keeping on the monitoring of mothers immediately after delivery was fairly well completed with about 15 – 25% in gaps.

5.3.6.3 Monitoring of the baby immediately after delivery

The ratio of completed records was well gathered with score marks in percentages ranging from 61% to 89.6%. Overall, percentages observed on not completed records ranged from 10.4% to 39%. The variables which scored below 80% were medication given to baby, print of name of service provider, antibiotic eye ointment inserted, baby identified, moulding, urine passed, skin-to-skin, put on breast immediately, meconium passed, foetal heart before birth, meconium passed before birth, viability, gender, age of baby, name and rank, signature and resuscitation done. This is about 78% (18/23) variables scoring below 80%. A possibility may exist that due to staff shortage and workload, midwives did not get time to do proper record keeping Therefore it is evident that midwives need to reinforce their record keeping practices as the majority were below the acceptable standard, to ensure that areas with low scores adjust upwards.

5.3.7 Admission of mother in postnatal

The finding under this category indicated the lowest score of 62.3% for pre-test counselling for HIV/AIDS investigation and the highest stood considerably high at 89.6% for measuring the pulse rate of the mother on admission in post-natal. The variables that met the acceptable standard were measurement of pulse rate which scored 89.6%, while vitamin K date and time and uterine condition scored slightly lower at 87%. Close to 60% of variables scored below 80% completeness, ranged between 62.3% and 17.2%. Those below 80% variables account for mode of arrival, date and time of arrival, respiration, urine passed, catheterised, pre-, post-, couples and feeding counselling for HIV, mother's HIV status, breastfeeding, suppression of milk production, vulva swabbing, postpartum haemorrhage, uterus well contracted, print name and surname, rank and date of admission in postnatal. The possible reasons for the unacceptable practice are that Keetmanshoop hospital is a district

hospital where the whole unit caters for antenatal admission, labour and delivery, post-op surgery for obstetric complications, postnatal, puerperium, neonatal unit and prem-unit (six-in-one unit) is within the same department and the same staff on shift cares for the same patients at different stages of their progress. Midwives may feel that it is a duplication of duties as the same patients are not handed over to another department or to other personnel.

5.3.8 Puerperium

Fraser et al (2012: 651) elaborate that following the birth of the baby and expulsion of the placenta, the mother enters a period of physical and psychological recuperation. The puerperium starts immediately after delivery of the placenta and the membranes and continues for 6 weeks when it is expected that the woman's body will have recovered from the effects of pregnancy and returned to their non-pregnant state.

The study results revealed that completeness of documentation during puerperium stage, 6/21 (29%) of variables best completed were type of delivery, gravida, parity, pulse rate, perineal tear wound and signature of service provider. The variables' highest incomplete scores were for puerperium fully complete until discharge and vulva swabbing at 32.5% and 33.8%. An overview of the stage of puerperium, the only variable which gave an idea of the completeness of the said stage with regards to record keeping, and 'Puerperium complete until discharge' in this study was completed at 3/5th, rated at 67.5%. This is a huge ratio compared to standards of record keeping which could have been contributed by lack of staff as at any day and any given shift between two, and a maximum of three staff (category registered midwives and enrolled midwives) are responsible for a six-in-one unit, catering for all types of patients admitted in the maternity department. The correct utilisation of personnel by supervisors would be ideal to ensure record keeping is kept timely and up to standard.

5.3.9 Admission of baby in post-natal ward

Examination of baby in neonatal unit, at slightly more than half at 57% (12 out of 21) of all the variables scored above 80% but below 90% for completeness. Only three variables accompanied by, received by and date/time of admission scored below 70%).

The variables assessed during *four hourly observations of the baby until discharge* indicated the variable best completed date and time on the observation chart of the new born baby at 90.9%, followed by feeding, pulse rate and colour of the skin between 76.6% and 79.2%. The differences between vital signs monitoring such as temperature, respiration rate and pulse rate: monitoring of baby's pulse rate was the lowest scored at 76.6%.

In contrast to the examination of baby which seemed to be better completed could be due to many different staff including nursing students who do 4 hourly observations daily as compared to the examination during this stage in the process done once, rather than daily.

5.3.10 Progress report entries

The Hospital Standards and Criteria Guideline of Namibia states that the patient's records of adequate quality will provide sufficient information for a practitioner to be able to pick up the patients care as if they had been the main professional responsible for the patient up until that point, i.e., the record should enable seamless and continuous care, in spite of that care being provided by a series of different health care professionals over time. It should also provide effective communication between all members of the multidisciplinary team (Ministry of Health & Social Services 2018:171).

Progress report entries are done according to the nursing process, the progress report entries are done based on the assessment of the condition, evaluation of the condition, emergency entries, interim entries (doctor's visits, procedures etc.) and discharge report entries. Most of the entries are done at different intervals as per the nursing care plan, except for emergency and interim entries which can occur at any given time.

Therefore, midwives need to record the condition, response and progress throughout the labour process till discharge for care to continue and good communication between the multidisciplinary team. Taye (2015: 1-2), in a study at Ahmadu Bello University Teaching Hospital (Abuth) Zaria, Kaduna State, summarised it well by stating that all documentation regarding care and services given to each resident becomes part of the legal medical record. There is no way to prove that care was provided without complete documentation. Nurses play an important role in the care rendered to a patient and what they put in writing determines the standard and quality of care rendered to the patient.

The date and time of the report, interim report entries, discharge report entries and signature were the variables which were up to the required standard according to the COSASA standards of 85%, and they varied between 85.7% and 89.6%, while only emergency report entries stood at 79.2% for completion rating. It would have been interesting to know the correctness and accuracy of these progress report entries, but the study did not cover these quality dimensions. Emergency report entries might be low as not all admitted in the maternity ward would have an event to be classified as emergency, or the midwives simply overlooked or forgot to make such an entry depending on the severity of the event.

5.3.11 Discharge of mother and baby

Completeness on *discharge of mother* fairly scored between 75% and 91% and remained consistently. Temperature of the mother and date of discharge amongst the variables were the best completed at above 90%. Most of the variables appeared to be completed below 91%, while none of the variables scored below 75%. Lactation established is the variable which was completed the poorest.

With regards to the study results on *discharge of the baby*, the majority of the variables were well completed at above 80%, ranging from 81.8% to 89.6%. Variables such as physical examination done, medication given as well as immunisation at birth (both BCG and Polio) scored equally at 84.4% with 65 out of 77 discharge records fully completed. Similar to the variables condition of the cord and the signature of the

service provider, they scored equally with the highest score at 89.6% (n=69) records. The weight of the baby stood out as the variable rated as the highest with incomplete data at 22.1%.

The completeness of record keeping of both mother and baby on discharge show similar results with very little variances. The researcher found this as simply a matter of none compliance as the midwife has the last chance to ensure that mother and baby are in good health and needs thorough examination. It is again a matter of what was not recorded was not done, therefore emphasis on the examination of both the baby and the mother should be stressed during supervision.

5.3.11.1 Health education given to the mother

The topics required to be covered during health education to the mother when ready for discharged were greatly completed and ranged between the highest at 85.7% and the lowest at 75.3%. The importance of the seven-day postnatal education to the mother was found to be the only variable slightly neglected as the incomplete record keeping for this variable scored at 24.7%. Health education is usually a continuous process and this is given at any opportunity, starting already at the ANC booking. In the maternity unit, it is given throughout on any day and while the mother is still hospitalised, for example, health education on the immunisation given to mothers on the day the baby is vaccinated, usually the following day after birth. It is possible that the practice is that midwives only complete the discharge part at the end of the shift and not necessarily when the pair leaves the ward, which results in some of the records being taken back to be stored without them being completed. It is needles for the discharge record not to be fully completed, thus clinicians should make time and not be in a hurry to let the mother and baby go without doing the last examination and opportunity to educate.

5.3.12 Examination of new born baby by medical officer

The variables which scored the highest in terms of completion of record keeping for examination of the baby were the baby's age, sutures, moro reflex, grasp reflex, ventral suspension, retraction tones, eyes, nose, mouth, palate, urine, anus, meconium, femoral pulse, spine, skin, feet, name of medical doctor, date and time and lastly signature ranging between 80.5% to 89.6%. The variables with the highest scores were 21 variables out of 33 variables, meaning that more than half of the variables were completed above 80%. Thirty-six percent of the records were completed, scoring below 80%. This is the only part of the record to be completed by the attending medical officer. The practice as noted in the records is that at times medical officers draw an oblique line over the page, probably due to the fact that none of the systems examined were found to have an abnormality which is not standard practice. This could be associated with laziness, or not relevant as once an examination is done by procedure, the doctor should have an idea what to indicate at each element, hence each element needs to be completed separately.

5.4 CONCLUSIONS

The study confirmed the importance of review of record keeping, also referred to as documentation of patient records in public health institutions. Of interest is that the review was done on the completeness of clinical records when monitoring pregnant women from ante-natal care, labour unit and post-natal care. In addition to this input of information mainly were from midwives doing the major task, while student nurses under supervision of trained staff still lack training in completing records. The aim of the study was to critically analyse what is known about the subject matter and then relate it to objectives of the study, that is, to have the patient's health record to be fully documented with detailed information that is essential for continuity of patient care. The information can be used during the delivery of the pregnant mother and the care of the baby as well which can be effectively managed including how emergencies can be handled for reference in future. However, it can also be used as a measure of how the midwife offers quality care to the patient in relation to the scope of practice and the code of conduct required by the health professions council, such as the responsibilities

of the independent practitioner including being accountable for acts and omissions. Despite the fact that the maternity record book is used as a communication tool among clinicians, the current study findings clearly showed that the correct collection of data and physical procedures were not done due to the fact that certain elements remained blank. The study confirms the importance of complete data capture as a paramount procedure that is required to be performed by every clinician at the point of care to patients in public institutions and the storage of data files through the responsibility of data clerks.

Among this analysis, most of the tasks were in the care of the independent trained midwife, though other clinicians, for instance the medical officer, has input areas for documentation. Furthermore, the researcher felt disappointed with the lack of proper documentation of certain areas and procedures which were not well performed. The maternal record was thoroughly scrutinised and areas of challenges were identified. Therefore, after continuous evaluation of the record, it was illustrated that the midwife was not fulfilling the code of conduct required by the registering body in disengaging the nursing practice. Midwives in the maternity department in Namibia operate independently in their duties and medical officers only come in case of an emergency or a complicated maternal case that is not under the midwife's scope of practice. On the other hand, the researcher was not happy with the fact that the government of Namibia through the Ministry of Health and Social Services has introduced an input tool that is simple and less time consuming to use while compiling data but clinicians have still failed to practice these standards. Of all evaluated files, completeness of record keeping still maintained a higher grade though most of the incomplete patient records stood below the acceptable standard. This practice is not highly recommended in the nursing profession due to its negative implications and the consequences possible to patient care, and for references later in life, where there might a need for the patient record for reference and research purposes.

5.5 RECOMMENDATIONS

The following recommendations are made to Ministry of Health and Social Welfare Services after data analysis and discussions as reflected in the previous chapter and the research objectives.

5.5.1 Policies and guidelines

- The MoHSS needs to develop a guideline on the standards of care for quality assurance and the improvement of quality indicators such as record keeping.
- The development of manuals which guide practitioners on how to complete records to ensure uniformity. The researcher noted during the record reviews that practitioners use various signs and uses different phrases to complete records. An example of such is that some practitioners would write ‘no’ while others used the Ɵ sign and others write zero.
- Revision of the maternity record to minimize duplication of data elements
- Further research on the accuracy and correctness of the maternity record as well as the reasons for incomplete record keeping
- Develop protocols on safe keeping of in-patient records

5.5.2 Supervision and training

- Since the practice of auditing in the hospital is only done retrospectively, it is recommended that prospective audits are done to complete the identified gaps while patients/clients are still under care
- Positions on the staff establishment should be created for quality assurance programmes to strengthen supervision
- Staff allocation and utilisation according to workload indicators for staffing needs as per the WISN report of 2013 to comply with the acceptable nurse/patient ratio

- Quality improvement projects to be implemented to improve record keeping practices

- Scheduled in-service training programmes to be developed on record keeping including all elements of quality and all practitioners responsible for keeping records

- Strengthening of record keeping practices of student nurses while still under training starting at university level and during clinical practice

5.6 CONTRIBUTIONS OF THE STUDY

The outcome of the study will raise and increase awareness, alertness and understanding for midwives on the importance of improving the quality of records kept. The results of the study may improve the completeness of the maternity record kept in the future and reduce negative consequences such as disciplinary hearings which hail from incomplete and incorrect record keeping. The outcome of the clinical record auditing of the maternity record may also improve. The saying of, 'What is recorded is not done' may become something of the past. The information obtained from this study will assist midwives to identify gaps in their own record keeping in order to improve on the quality of the maternity record as well as case outcomes. It will assist midwives to reduce legal actions taken against them as a result of incomplete and poor record keeping.

From this study, guidelines on the completion of the maternity record can be developed as well as the revision of such records, while it can assist nurse managers in the better utilisation of personnel. The results may also assist 'in-charges' and nurse managers to strengthen their supervision regarding patient care through the proof reflected by complete and correct maternity records.

5.7 LIMITATIONS OF THE STUDY

- The study was limited to women who delivered by normal vertex delivery during the year of 2018 in Keetmanshoop District Hospital, ||Kharas region, Namibia

- The study was only conducted in Keetmanshoop District Hospital and the sample was only 93 maternity records

- The focus of this study was on completeness of record keeping of the maternity records and other quality indicators such as accuracy and precision were not measured

- The findings in this study cannot be generalised to the whole country as it was conducted only in one (1) hospital in Namibia

5.8 CONCLUDING REMARKS

As reflected in this study, a significant number of variables did not meet the required standard for completeness of record keeping kept by nurses, medical officers and student nurses under supervision. Care is measured by quality record keeping, therefore all practitioners should comply with good and quality record keeping practices and standards. This chapter focused on a summary of the findings and possible reasons for the outcomes of data analysis as well as making recommendations to improve on the findings.

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ANNEXURE A: APPLICATION TO CONDUCT RESEARCH

UNISA university of south africa

ANNEXURE A: APPLICATION TO CONDUCT RESEARCH

Mr Ben Nangombe
Executive Director
Ministry of Health & Social Welfare Services
Harvey Street,
Namibia

Dear Sir

Re: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH

I, Faith D Zwartz currently studying towards Master in Arts of Nursing at University of South Africa., am doing research with Professor LM Modiba. Keetmanshoop District Hospital in //Kharas region has been selected to be part of this study. We are inviting you to participate in a study entitled "An investigation on completeness of maternal records: Record keeping practices of midwifery nursing care rendered to women in a district hospital in Namibia". The purpose of the study is to investigate and describe record keeping practices of the nursing care rendered by midwives during all stages of labour in a maternity ward of a district hospital in Namibia, by conducting a retrospective auditing of maternity records.

The research will be conducted using a checklist whereby clients' maternity records will be audited retrospectively for a period of one year (1st January 2018 – 31st December 2018). The results of the research will be provided to you as well as recommendations based on the findings. I therefore, will appreciate your permission to conduct research in your hospital.

I would be grateful for a response agreeing for me to conduct the proposed research. Hence, I have enclosed the study proposal for your perusal. I am thanking you in advance and looking forward to hear from you at your earliest convenience.

Yours Sincerely,

Faith D Zwartz
Student no: 53843983
University of South Africa

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
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ANNEXURE B: PERMISSION TO CONDUCT STUDY MoHSS

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2507
Fax: 061 – 222558
E-mail: itashipu87@gmail.com

OFFICE OF THE EXECUTIVE DIRECTOR

Ref: 17/3/3 FDZ
Enquiries: Mr. A. Shipanga

Date: 14 February 2020

Ms. Faith Delmarie Zwartz
PO Box 336
Keetmanshoop

Dear Ms. Zwartz

Re: Record keeping practices of the care rendered by Midwives during labor in Namibia.

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

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3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

EXECUTIVE DIRECTOR ... HEALTH AND SOCIAL SERVICES

BEN NANGOMBE
EXECUTIVE DIRECTOR

"Health for All"

ANNEXURE C: PERMISSION TO CONDUCT STUDY MoHSS KEETMANSHOOP

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

KEETMANSHOOP STATE HOSPITAL

Private Bag 2101	Hospital Grounds	Tel.: 063-2209000 ext: 9071
KEETMNASHOOP		Fax: 063-223981
NAMIBIA	KEETMANSHOOP	Email: Davies.Nkalamo@mhss.gov.na
Enquiries: D M NKALAMO	Ref. No:	Date: 18th May 2020

OFFICE OF THE SENIOR MEDICAL OFFICER

Ms. Faith Zwartz
P. O. Box 336
Keetmanshoop

Dear Ms. Zwartz

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH

Your letter on the above-mentioned subject, submitted by email on Monday 4th May 2020, bears reference.

Kindly be informed that permission for you to conduct research on ***Record Keeping Practices of the Care Rendered by Midwives during Labor in Namibia*** has been granted on the following conditions:

1. Data collected must only be used for academic purposes
2. The ethical regulations be observed and adhered to
3. The findings of the research be shared with this institution for the benefit of the institution and the rest of the Ministry

Wishing you all the best in the research and future academic endeavors

Kind Regards

Dr. D. M. Nkalamo
SMO

Health for All

ANNEXURE D: ETHICAL CLEARANCE CERTIFICATE

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

03 December 2019

Dear Faith Delmarie Zwartz

HSHDC/937/2019

Student: Faith Delmarie Zwartz

Student No: 53843983

Supervisor: Prof L Modiba

Qualification: PhD

Decision: Approval

Name: Faith Delmarie Zwartz

Proposal: Record keeping practices of the care rendered by midwives during labor in Namibia

Qualification: MA

Risk Level: Negligible 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 03 December 2019 to 03 December 2022.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 03/12/2019.

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*

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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.

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 indicates that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za. 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 JM Mathibe-Neke
CHAIRPERSON
mathijm@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

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ANNEXURE E: RESEARCH INSTRUMENT CHECKLIST

A Guide to complete the checklist

This structured checklist was designed to collect information regarding Record keeping practices of the care rendered by midwives during labour in Namibia
The checklist will be used to audit maternity records of clients who delivered during a period of one year in the selected hospital.
Explanation on measurement regarding record keeping trends
Code 2 = represents all variables that are completed
Code 1 = represents all variables that are not completed

CHECKLIST
Maternity record code:……

		Variables	Code	P1
General Information		Name of health Facility		
		District		
		Region		
		Surname		
		First Names		
		Registration No		
		Date of Birth		
		Age		
		Identity No		
		Citizenship		
		Language		
		Religion		
		Occupation		
		Marital Status		
		Residential Address		
		Postal Address		
		Telephone no (w)		
		Telephone no (h)		
		Mobile Tel no		
		Name of Next of Kin 1:		
		Relationship		
		Residential Address		
		Telephone		
		Name of Next of Kin 2		
		Relationship		
		Residential Address		
		Telephone		
		State Patient		
		Booked or unbooked		
		Private Patient		
		Booked or unbooked		
		If private, state name of doctor		
		Telephone Number		
		Name of Medical Fund		
		Membership no		
Ante-natal history	Obstetric history	Gravida		
		Parity		
		Last menstruation period		
		Expected date of delivery		
		Gestation		
		Abortion		
		Year of abortion		

Variables			Code	P2
Ante-natal history	Obstetric history	Number of alive children		
		Age of children who died and the cause		
		Regularity and Duration of menstruations		
		Name of contraception used before pregnancy		
		Number of normal Deliveries		
		Number and indication of Caesarean Section		
		Number of assisted deliveries		
		Forceps		
		Vacuum		
		Previous Multiple Pregnancies		
	Gynaecological history	Hysterotomy, if yes describe		
		Myomectomy, if yes describe		
		Previous pap smear, if yes describe		
		Operation on the cervix, if yes describe		
		Treatment for infertility, if yes describe		
	Special investigations	Rhesus factor		
		Blood Group		
		Syphilis		
		Haemoglobin		
		Blood glucose		
		Hepatitis B		
		Tetanus toxoid (TT) 1 given		
		Tetanus toxoid 2 given		
		Tetanus toxoid 3 given		
		Tetanus toxoid 4 given		
		Tetanus toxoid 5 given		
		Last date of TT vaccination		
	Medical history	Allergies, if yes describe		
		Cardiac disease, if yes describe		
		Chronic respiratory disease, if yes describe		
		Diabetes mellitus, if yes describe		
		Renal disease, if yes describe		
		Anaemia, if yes describe		
		Hypertension, if yes describe		
		Tuberculosis, if yes describe		
		Epilepsy, if yes describe		
		Thyroid disease, if yes describe		
		Previous deep venous thrombosis, if yes describe		
		Mental Health disorders, if yes describe		
		Current treatment, if yes describe		
	Surgical history	Cardiac surgery, if yes describe		
		Lung surgery, if yes describe		
		Neurosurgery, if yes describe		
		Other surgery, if yes describe		

Variables			Code
Ante-natal history	Family history	Diabetes, if yes describe	
		Tuberculosis, if yes describe	
		Hypertension, if yes describe	
		Multiple pregnancies, if yes describe	
		Congenital abnormalities, if yes describe	
		Mental disorders, if yes describe	
		Others, if yes describe	
	Social history	Alcohol, if yes describe	
		Smoking, if yes describe	
	HIV/AIDS history	PMTCT Opt in	
		PMTCT Opt out	
		Pre-counselling	
		Post-counselling	
		Couples counselling	
		Mother's Status	
		Cluster of differentiation count (CD4)	
		Anti-retroviral therapy (ART)	
		Partner's Status	
		Pre-counselling	
		Post-counselling	
		Couples counselling	
		Infant feeding counselling	
		Feeding options: breast or replacement	
	Risk factors	High Risk	
		Risk Factors (specify)	
		Recommended place of delivery	
Indemnity valuables		Home	
		For safekeeping	
		Accepts responsibility	
		First witness	
		Second witness	
		Date	
		Time	
Admission for delivery	Observations	Date and time of admission	
		Mode of arrival	
		Accompanied by and relationship	
		Referred from	
		Identified	
		Indemnity signed	
		Reason for admission	
		Temperature	
		Pulse	
		Blood pressure	
		Respiration	

P3

Variables			Code	P4
Admission for delivery	Observations	Haemoglobin		
		Blood glucose		
		Urine		
		Weight		
		Oedema		
		Varicose Veins		
		Haemorrhoids		
		Vaginal discharge		
	Abdominal examination	Height of fundus		
		Lie		
		Presentation		
		Position		
		Engagement		
		Foetal heart rate		
		Foetal Movement		
		Contractions		
	Vaginal examination	Vaginal examination		
		Vulva: Condition		
		Vagina: Condition		
		Cervix		
		Dilatation		
		Effacement		
		Application		
		Sutures		
		Fontanels		
		Presentation: Level		
		Presenting part		
		Position		
		Caput		
		Moulding		
		Membranes		
		Date & Time		
		Liquor/Amniotic fluid appearance		
		Vaginal discharge (specify)		
		Rectum (full/empty)		
		Enema Given		
	PMTCT history	PMTCT		
		Nevirapine Taken		
		Other ARV'S/ on ART		
		Rapid Test Done		
		Feeding Option Reviewed		
		Exclusive Breastfeeding		
		Replacement feeding		
		Name of Doctor notified		
		By whom		
		Date and time		

Variables			Code
Admission for delivery	Partograph	Time	
		By Whom	
		Gravida	
		Parity	
		Position	
		Duration of Labour on admission	
		Membranes	
		Date	
		Time	
		Cervix (CM) (Plot x), 4hourly plotted	
		Descent, 4hourly plotted	
		Effacement of cervix, 4hourly plotted	
		Application of the presenting part, 4hourly plotted	
		Contractions per 10 min, ½hourly recorded	
		Foetal Heart Rate, ½hourly recorded	
		Membranes, 4hourly plotted	
		Amniotic fluid, 4hourly plotted	
		Caput, 4hourly plotted	
		Moulding, 4hourly plotted	
		Oxytocin U/L drops/min	
		Medication and IVI fluids	
		Pulse, ½hourly	
		Blood pressure, ½hourly plotted	
		Respiration, ½hourly plotted	
		Temperature, ½hourly plotted	
		Urine, 2hourly recorded	
		Partogram completely plotted until the end of 1st stage?	
		Time	
		Date	
		Signature, ½hourly	
Summary of delivery		Name of Midwife/Students	
		Name of Medical Officer	
		Name of person who assisted	
		Progress of Labour, from commence to 3rd stage	
		Date, from commence to 3rd stage	
		Time, from commence to 3rd stage	
		Total duration of Labour (hours)	
		Type of Delivery	
		Position of baby at birth	
		Perineum	
		Episiotomy done	
		Perineal Tears	
		First degree	
		Second degree	
		Third degree	

Variables			Code
Summary of delivery		Lacerations	
		Cervical Tear	
		Local anaesthesia	
		Suturing Material	
		Type of Sutures	
		Sutured by	
		Signature	
		Placenta: Method of Delivery	
		Oxytocin 0.5mg imi	
		Weight of placenta	
		Placenta: normal or abnormal	
		If abnormal, specify	
		Placenta: complete or incomplete	
		If incomplete, specify	
		Membranes: complete or incomplete	
		If membranes incomplete, specify	
		Cord knots: True or false	
		Blood vessels: arteries and veins	
		Cord length	
		Cord implantation	
		Estimated total blood loss	
		Postpartum haemorrhage	
		Examined by: 1	
		Examined by: 2	
		Immediate Blood pressure, pulse and temperature	
		Uterus well contracted immediately	
		After 1 hour: Blood pressure, pulse and temperature	
		Uterus well contracted after 1 hour	
		Urine passed	
		Catheterized	
		Bleeding	
Summary of delivery	Condition of baby immediately after delivery	Apgar score and criteria, immediately	
		Apgar score, after 5 minutes	
		Resuscitation done	
		Signature	
		Name and Rank	
		Age of baby: full term, small for date, post mature or premature	
		Sex: male or female	
		Viability: alive, stillborn, fresh stillborn or macerated still born	
		Meconium passed before birth	
		Foetal heart before birth	
		Meconium passed	
		Put to breast immediately	
		Skin to skin	
		Urine passed	

P7

		Variables	Code
Summary of delivery	Condition of baby immediately after delivery	Caput present: yes or no	
		Moulding present: yes or no	
		Baby identified	
		Antibiotic eye ointment	
		Vitamin K 1 mg given	
		Vitamin K 0.5mg given	
		Nevirapine 1st dose given	
		Medication given to baby (specify)	
		Print name	
		Date and time	
	Admission of mother in post-natal	Mode of Arrival	
		Date and time of arrival	
		Accompanied by	
		Anti D Serum given, if RH negative with date and time	
		Vitamin A, date and time	
		Mother Identified	
		Temperature	
		Pulse	
		Respiration	
		Blood pressure	
		Uterine condition	
		Bleeding	
		Perineum intact, if no specify	
		Urine passed	
		Catheterized	
		Pre-counselling	
		Post-counselling	
		Couples counselling	
		Mother's status	
		Feeding counselling	
		Breastfeeding	
		Replacement feeding	
		Milk production suppressed	
		Vulva swabbing	
		Postpartum haemorrhage	
		Uterus well contracted	
		Vaginal bleeding	
		Print Name & Surname	
		Rank	
		Date	
		Signature	
Puerperium		Type of delivery	
		Gravida	
		Parity	
		Date and day, daily until discharged	
		Hours, daily until discharged	
		Involution daily	

	Variables	Code
Puerperium	Temperature routinely 8hourly	
	Blood pressure routinely 8hourly	
	Pulse routinely 8hourly	
	Respiration routinely 8hourly	
	Haemoglobin	
	Urine routinely 4hourly	
	Bowels routinely 4hourly	
	Vulva swabbing routinely 4hourly	
	Lochia, routinely 4hourly	
	Perineum status, routinely 4hourly	
	Breast examination routinely 4hourly	
	Oedema (legs) routinely 4hourly	
	Thrombosis (legs) routinely 4hourly	
	Puerperium complete until date and time of discharge	
	Signature	
Admission of baby in post-natal ward	Accompanied by	
	Received by	
	Date and time	
	Pulse	
	Temp	
	Respiration	
	Haemoglobin	
	Blood glucose	
	Weight	
	Length	
	Head circumference	
	Identification	
	Bleeding from cord	
	Vitamin K given	
	Rooming-in	
	Baby bath	
	Nevirapine 1st dose	
	Nevirapine 2nd dose	
	Feeding options exclusive breastfeeding or replacement feeding	
	Physical Examination done by	
	Comments/findings	
Observation chart of the baby	Date and time	
	Temperature, routinely 4hourly	
	Respiration, routinely 4hourly	
	Pulse, routinely 4hourly	
	Colour, routinely 4hourly	
	Cord, routinely 4hourly	
	Feeding, routinely 4hourly	
	Weight, routinely daily	
	Stool and urine, routinely 4hourly	
	Signature	

P8

		Variables	Code
Progress report notes		Date and time of entries	
		Assessment report entries	
		Evaluation report entries	
		Interim report entries	
		Emergency report entries	
		Discharge report entries	
		Signature	
Discharge	Condition of mother on discharge	Blood pressure	
		Pulse rate	
		Temperature	
		Lochia	
		Involution of uterus (Fundal height)	
		Well contracted	
		Breasts: full or empty	
		Lactation established, if no specify	
		Perineum intact	
		Episiotomy wound, if yes specify	
		Perineum tear, if yes specify	
		Sutured, if no specify	
		Medication given on discharge: yes or no	
		Medication, if yes specify	
		Discharge by Doctor	
		Date	
		Time	
	Health education given on	Family planning	
		Immunization	
		Breastfeeding	
		Replacement feeding	
		Seven days post-natal importance	
		Importance of 6 weeks follow-up	
		STIs	
		PMTCT	
		6 weeks follow-up date	
		Referral letter send to ARV clinic	
	Condition of baby on discharge	Physical examination done	
		Condition of the cord	
		Weight on discharge	
		Medication given on discharge, if yes specify	
		BCG given: date, time and follow-up date	
		Polio given: date, time and follow-up date	
		Examination done and information given by: Name & Surname	
		Signature	
		Date and time	

P9

		Variables	Code	P10
Discharge	Examination of baby on discharge by Medical Officer	Age		
		Head: Shape		
		Fontanelles		
		Sutures		
		Moro Reflex		
		Grasp		
		Ventral Suspension		
		Retraction Tones		
		Eyes		
		Ears		
		Nose		
		Mouth		
		Palate		
		Heart Rate		
		Chest		
		Abdomen		
		Cord		
		Hips		
		Genitalia		
		Urine		
		Anus		
		Meconium		
		Femoral pulse		
		Radial pulse		
		Spine		
		Skin		
		Hands		
		Feet		
		Medical doctor Name		
		Date		
		Time		
		Signature		

ANNEXURE F: EDITOR'S LETTER

ACET Consultancy [REG: CC/2019/04270]
Anenyasha Communication, Editing and Training
Box 50453 Bachbrecht, Windhoek, Namibia
Cell: +264814218613
Email: mlambons@yahoo.co.uk / nelsonmlambo@icloud.com

26 November 2021

To whom it may concern

LANGUAGE EDITING – FAITH DELMARIE ZWARTZ

This letter serves to confirm that a **MASTER IN NURSING SCIENCE** research project entitled ***AN INVESTIGATION ON THE COMPLETENESS OF MATERNAL RECORDS: RECORD KEEPING PRACTICES OF MIDWIFERY NURSING CARE RENDERED TO WOMEN IN A DISTRICT HOSPITAL IN NAMIBIA*** by Faith Delmarie Zwartz was submitted to me for language editing.

The research project was professionally edited and track changes and suggestions were made in the document. The research content or the author's intentions were not altered during the editing process and the author has the authority to accept or reject my suggestions.

Yours faithfully

DR NELSON MLAMBO
PhD in English
M.A. in Intercultural Communication
M.A. in English
B. A. Special Honours in English – First class
B. A. English & Linguistics

ANNEXURE G: TURNITIN CERTIFICATE

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RECORD KEEPING PRACTICES OF MIDWIFERY NURSING CARE
RENDERED TO WOMEN IN A DISTRICT HOSPITAL IN NAMIBIA

by

FAITH DELMARIE ZWARTZ

submitted in accordance with the requirements

for the degree of

MASTER IN NURSING SCIENCE

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROFESSOR L.M MODIBA

NOVEMBER 2021

ANNEXURE H: TURNITIN REPORT

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