AN INVESTIGATION INTO THE IMPLEMENTATION OF THE BASIC ANTENATAL CARE PROGRAMME BY MIDWIVES IN MDANTSANE CLINICS

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DECLARATION

In submitting this assignment electronically, I declare that the entire work contained herein is my own original work and that I am the owner of the copyright thereof, (unless to the extent explicitly otherwise stated). I have not previously submitted this work either in its entirety or part of it for obtaining any qualification.

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ABSTRACT

Background: Basic Antenatal Care (BANC) is a way of training or upgrading the knowledge and skills of all nurses, midwives and doctors involved in antenatal care at the primary health care level so that the minimum care can be provided effectively. This study was conducted to investigate the implementation of the BANC program by midwives in the Mdantsane clinics during February 2009.

Methods: A descriptive study design was undertaken targeting midwives providing antenatal care to pregnant women, in 14 clinics of Mdantsane. Data was collected from 25 midwives in the clinics, and from 140 ANC cards of women attending ANC on the day of their visit to the clinic.

Results: The majority of midwives providing BANC in Mdantsane clinics were not trained in BANC. There were 10 trained midwives and 15 not yet trained. A total of twenty five midwives were involved in the study. The number of visits according to the BANC schedule was well known by the midwives in the study. The content of the visits was well known for the first visit, but for subsequent visits, the participating midwives could not state exactly what they do on these visits. They perceived BANC as something beneficial for both midwives and pregnant women with 24 of the participating midwives rating BANC as advantageous. In completing an ANC card, the midwives scored between 48% and 100%. Under examination, they scored between 52% and 100%. Lastly on interpretation and decision making, they scored between 0% and 92%. This could have troubling consequences for the health status of the mother and baby.

Weaknesses in providing antenatal care identified in the study included participating midwives failing to fill in the last normal menstrual period (LNMP) and the estimated date of delivery (EDD), which was a worrying observation. Plotting of the gestational age at first visit was also not carried out well as only 47% of the midwives in the study did this, meaning that there would be a miscalculation of the gestational age thereafter throughout the pregnancies. The body mass index (BMI) was not calculated as the maternal height and weight were not written on the ANC card. This should be completed in order to check the nutritional status of the pregnant woman to help supplement, if malnourished, and educate on diet, if overweight. Only 17% of the midwives in the study plotted the foetal presentation. Failure to plot foetal presentation could lead to complications during delivery because women with abnormal presentations could end up delivering in a clinic instead of the hospital.

Conclusion: This study showed that even though midwives are implementing BANC among pregnant women, it is not being carried out correctly. Therefore the programme will not be as beneficial as it would be if put into practice correctly. This is highlighted by the lack of knowledge from the untrained midwives regarding the content of care on subsequent visits. Thus there is an urgent need for BANC training to be conducted and monitored at various sites.
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# Table of Contents

CHAPTER 1 .................................................................................................................................................. 1

INTRODUCTION ........................................................................................................................................... 1

1.1 Background of the study ......................................................................................................................... 1
1.2 Significance of the study .......................................................................................................................... 2
1.3 Purpose of the study ............................................................................................................................... 3
1.4 Research objectives ............................................................................................................................... 3
1.5 Research question .................................................................................................................................. 3
1.6 Dissemination of findings ....................................................................................................................... 3
1.7 Definition of terms ............................................................................................................................... 4
1.8 Summary ............................................................................................................................................... 5

CHAPTER 2 .................................................................................................................................................. 6

LITERATURE REVIEW ............................................................................................................................... 6

2.1 Introduction ............................................................................................................................................ 6
2.2 Analysis of the term pregnancy ........................................................................................................... 7
2.3 Principles of antenatal care .................................................................................................................. 7
2.4 Antenatal card record .......................................................................................................................... 8
2.5 Antenatal care visits and content .......................................................................................................... 9
2.6 The practice of antenatal care ............................................................................................................ 11
2.7 Factors associated with the implementation of antenatal care .......................................................... 13
2.8 Quality of antenatal care ................................................................................................................... 14
2.9 The new Basic Antenatal Care according to Pattinson ........................................................................ 15
2.10 Cost effectiveness of antenatal care ................................................................................................... 18
2.11 The benefits of BANC ..................................................................................................................... 19
2.12 Summary ........................................................................................................................................... 19

CHAPTER 3 .................................................................................................................................................. 21

RESEARCH METHODOLOGY .................................................................................................................... 21

3.1 Introduction .......................................................................................................................................... 21
3.2 Research design: Descriptive Exploratory ......................................................................................... 21
3.3 Study population .................................................................................................................................. 22
3.4 Sample: purposive sample (clinics) ..................................................................................................... 22
3.5 Measurement ....................................................................................................................................... 23
3.6 Data collection ..................................................................................................................................... 24
3.7 Validity and reliability ......................................................................................................................... 25

iv
DISCUSSION, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND SUMMARY

5.1 Introduction

5.2 Discussion

5.3 Implications for practice

5.4 Implications for research

5.5 Limitations of the study

5.6 Recommendations

5.6.1 The need for BANC training.

5.6.2 Training of trainers for BANC.

5.6.3 Monitoring and evaluation of the BANC programme by trainers to ensure proper implementation.

5.6.4 Continuous in-service training for midwives providing BANC.

5.6.5 Need for more midwives.

5.6.6 Emphasizing importance of supervising the recording by midwives.

5.6.7 BANC a good strategy for quality care.
5.6.8 Lack of stationery .................................................................44
5.7 Summary ...............................................................................45
BIBLIOGRAPHY ........................................................................46
FIGURES

Figure 1: An analysis of the frequency of visits that a pregnant woman must make to the ANC ................................................................. 28
Figure 2: An analysis of content of visits ....................................................... 29
Figure 3: Analysis of the understanding of BANC by midwives ................. 32
Figure 4: Analysis of the number of trained/untrained midwives, and their perceptions on BANC ......................................................... 33
Figure 5: Analysis of the simplicity of BANC for midwives ...................... 34
Figure 6: Analysis of midwives comments on BANC ................................. 35
Figure 7: Analysis of ANC cards at all the participating clinics................. 36
Figure 8: Analysis of the ANC Card (Examination) .................................... 37
Figure 9: Interpretation & Decisions making ............................................ 38
Annexures
Annexure A: Questionnaire ................................................................. 50
Annexure B: Application for clearance from the University of Fort Hare’s Ethics Committee ................................................................. 52
Annexure C: Informed consent in Xhosa .................................................. 53
Annexure D: Informed consent in English ................................................. 55
Annexure E: Quality check for antenatal records .................................... 57
Annexure F: Classification form ............................................................. 60
Annexure G: New WHO antenatal care model basic component checklist ...... 61
CHAPTER 1

INTRODUCTION

1.1 Background of the study

The primary goal of this study was to investigate whether the current antenatal practices in the Mdantsane clinics in the Eastern Cape conform to the Basic Antenatal Care (BANC) model of antenatal care. This study was conducted against the background that it aimed to identify the contribution made by the BANC programme after training had been conducted for the midwives working in the Mdantsane clinics. The quality of antenatal care was measured using a predesigned audit tool (designed by Philpott and Voce), Quality Check for Antenatal Records by (Philpott & Voce, 2001:68-76) to illustrate whether there is improvement or not on the care provided to the pregnant woman (Appendix A).

Basic antenatal care (BANC) refers to the minimum care provided to a pregnant woman by health care professionals. BANC constitutes the minimum antenatal care that all pregnant women should receive. This does not mean that women will only receive basic care; rather that women with identified risks will be referred to a higher level of care, within or outside of their health institution, which can manage the identified problems. Women without problems can be managed effectively in the primary health care settings. There are set criteria that must be met for the women to qualify for BANC and these are recorded on the woman’s clinic file with a checklist and also on the antenatal card. At each subsequent visit, the woman must be re-assessed to see if she still qualifies for BANC or if she should be referred on for further attention (Pattinson, 2005:13).

All women attending antenatal care (first attendees and women attending follow-up visits) should be given routine information about voluntary HIV testing and the Prevention of Mother to Child Transmission (PMTCT) programme as stated in the National Maternity Guidelines (Department of Health, 2007:28).

When BANC was introduced, midwives were trained in this new programme. This study therefore aimed to find out if the Mdantsane clinics were implementing BANC in the
appropriate manner after such training. In January 2009, the time of the commencement of the study however, not all the midwives working at the Mdantsane clinics had been trained in BANC.

The BANC programme is a way of training or upgrading the knowledge and skills of all the midwives and doctors involved in antenatal care at the primary health care level so that this minimum care can be provided effectively to improve the quality of antenatal care. The BANC programme does not only train health workers on how to perform antenatal care, but also transforms the system in which antenatal care is performed so that it can be more effective. The facility managers and clinic supervisors are therefore also involved in the programme (Snyman, 2007:86).


1.2 Significance of the study
This subject is very important and interesting, because whilst it is accepted that antenatal care has always been provided by midwives in primary health care clinics and hospitals, the researcher was interested in finding out what improvements and benefits were brought about by the BANC programme in the care of expectant women. Most importantly, the researcher wanted to establish whether the midwives in Mdantsane clinics were implementing the BANC programme and, if not, to establish the reasons.

BANC is new programme for the care of pregnant women. It has altered the frequency of antenatal care visits from four weekly, two weekly and weekly visits before delivery, to visits at the intervals of six weeks. Women are encouraged to attend antenatal care early between 12 and 20 weeks gestation for the first visit, and thereafter at six weekly intervals as follows; at 26, 32 and 38 weeks gestation. The guidelines stipulate that only examinations and tests that serve an immediate purpose and that have been proven to be beneficial should therefore be performed (Villar & Bergsjo, 2002:4).

The findings of this study will be made available to health professionals involved in the care of a pregnant women so as to empower them with knowledge about the BANC programme as some of them may not be well informed about BANC.
1.3 **Purpose of the study**
The aim of the study was to investigate if Basic Antenatal Care was being implemented appropriately in the participating Mdantsane clinics, and if midwives were implementing BANC according to its guidelines for use.

1.4 **Research objectives**
The objectives of this study were to:

1. Examine the patients’ antenatal cards to see if the appropriate content and frequency of BANC was being followed by midwives in the Mdantsane clinics during the data gathering period of January to February 2009.
2. Elicit the midwives views or perceptions regarding the implementation of the BANC programme in Mdantsane clinics.

1.5 **Research question**
Is the Basic Antenatal Care (BANC) programme as designed by Pattinson (2005), being implemented by the midwives in the participating Mdantsane clinics?

1.6 **Dissemination of findings**
The researcher aims to disseminate the findings of this study to health professionals involved in the care of pregnant women. The results of the study will be published and will also be presented at midwifery conferences.
1.7 Definition of terms

**Antenatal care:** Antenatal refers to the period preceding birth of the infant (Stedman’s Medical Dictionary, 2005:1182). Care is a general term for the application of knowledge to benefit a person, family or community or to provide a health care related service to a patient (Stedman’s Medical Dictionary, 2005:238). Antenatal care is the health care of pregnant women in the months and weeks before the birth of their babies (Pattinson, 2005:4). Antenatal care is the care given by the midwife to the pregnant woman, during the time in the maternity cycle that begins with conception and ends with the onset of labour (Urdang, 1983: 63&881).

**Basic antenatal care:** The Basic Antenatal Care (BANC) Package is a quality improvement training package based on the Integrated Management of Pregnancy and Childbirth programme of the WHO (WHO, 2003:C1-C18). It incorporates integrated flow charts for clinical decision making related to antenatal care. It also includes the training material required to cascade training at clinic level.

**Gestational age:** This refers to how “old” the pregnancy is and is usually talked about in weeks (Pattinson, 2005:1).

**Hypertension:** Is the diastolic blood pressure of 90mmHg or more and systolic blood pressure of 140mmHg or more (Pattinson, 2005:31).

**Midwife:** A person who, having been regularly admitted to a midwifery educational program duly recognised in the jurisdiction in which it is located, has successfully completed the prescribed course of study in midwifery and has acquired the requisite qualifications to be registered and or legally licensed to practice midwifery (Sellers, 2004: xxxiii).

**Pre-eclampsia:** Hypertension with proteinuria, both detected after 20 weeks of pregnancy by National Maternity Guidelines (Department of Health, 2007:28).

**Pregnancy:** Refers to the gestational process, comprising the growth and development within a woman of a new individual from conception through the embryonic period and foetal periods to birth (Urdang, 1983:876).
**Primary Health Care Clinics:** A basic level of health care facility that delivers programmes directed at the promotion of health, early diagnosis of disease and disability, and prevention of disease (Urdang, 1983: 886).

**1.8 Summary**

This study was conducted against the backdrop that it aimed to establish if Basic Antenatal Care was being implemented effectively in the Mdantsane clinics, and if midwives were implementing BANC according to its guidelines for use after the BANC training programme had been conducted for the midwives working in the Mdantsane Clinics. The next chapter entails extensive review of literature in relation to BANC.
CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter examines the literature that was reviewed in relation to the implementation of the Basic Antenatal Care (BANC) programme. It has been important to conduct literature review so as to incorporate the research that has already been conducted on this theme. It helped the researcher to ascertain what is already known in relation to the implementation of BANC. A literature review can serve a number of different functions such as justification of future research by means of an adequate review of the literature showing what gaps in knowledge the proposed research intends to fill (Joubert & Ehrlich, 2007:66-67).

Science is meant to be cumulative in the sense that new findings must be related to what has gone before. Therefore the results of any new study must be interpreted in relation to existing knowledge. A literature review helps in making sense of research as it contributes to deciphering and interpreting research. Researchers, practitioners, policy makers and other consumers of health information do not have time to read and digest the relevant primary research material in their fields of interest; they rely on literature reviews to keep up to date. A literature review also facilitates access to relevant research (Joubert & Ehrlich, 2007:67).

The literature review focused on the following aspects:

(i) Analysis of the term pregnancy
(ii) Principles of antenatal care
(iii) The antenatal card record
(iv) Antenatal care visits and content
(v) The practice of antenatal care
(vi) Factors associated with the implementation of antenatal care
(vii) Quality of antenatal care
(viii) Basic antenatal care (BANC) according to Pattinson
(ix) Cost effectiveness of antenatal care
(x) Determination of the number of antenatal care visits
(xi) The benefits of BANC
2.2 Analysis of the term pregnancy

Pregnancy is a special event, and the family and the community should treat a pregnant woman with care. Pregnancy is also said to be a special journey for both the mother and the baby. Therefore, it should be considered to be very special by the health care providers to give the woman an opportunity to explore her mixed feelings, during this time of transition and to make her feel free to make her own decisions and choices regarding her pregnancy (Mokhondo, 2010:11).

Pregnancy is one of the most important periods in the life of a woman, her family and the society. Therefore extraordinary attention is given to antenatal care by the health care systems of most countries. The care of each pregnant woman needs to be individualised based on her own needs and wishes (Banta, 2003:5).

Therefore, pregnancy is not just a matter of waiting to give birth. In the World Health Organisation Report 2005 (WHO, 2005:41), the three most important components of care during pregnancy are stated as first, providing good antenatal care, second, avoiding or coping with unwanted pregnancies, and third, building societies that support women who are pregnant.

2.3 Principles of antenatal care

Antenatal care also referred to as prenatal care is the medical and nursing care recommended for women before and after pregnancy. It aims to detect any potential problems early, prevent them if possible through recommendations on adequate nutrition, exercise, vitamin intake. It also serves to direct the woman to appropriate specialists, hospitals, or any other required resources. Routine antenatal care availability has played a role in reducing maternal death rate and miscarriages as well as birth defects, low birth weight and other preventable infant problems (Wikipedia, 2010:1 En.wikipedia.org/wiki/prenatal-care, accessed 05.12.2011).

Recently, there has been a thorough evaluation of the way antenatal care is performed, including the number, timing and content of antenatal visits and also who should perform the visits. The principles on which antenatal care now stands comprise:

- Identification of women with special health conditions and those at risk of developing complications using a checklist.
Those women with special health conditions or risk factors should be referred to higher levels of care. Care must be taken to ensure identification of all women with special health conditions or risk factors.

Timing the visits such that the maximum benefit can be obtained, without wasting human resources.

Performing only examinations and tests that have only been proven to be beneficial, and conducting these at the most appropriate times.

Wherever possible, rapid, easy-to-perform tests should be used at the antenatal clinic or in a facility close to the clinic. The results should be available the same day so that treatment can be initiated at the clinic without delay.

Health care providers should make all the pregnant women feel welcome at their clinic, and it should be convenient for the pregnant women to attend the clinic. This implies the opening hours of the clinics should be as appropriate as possible to allow the women to come to the clinic (Pattinson, 2005:12-13).

2.4 Antenatal card record

It is the responsibility of the clinic staff to make sure that there is enough stock of antenatal cards in the clinic, so that every pregnant woman can be issued with a green antenatal card. Every pregnant woman who presents herself at the primary health care clinic must be issued with an antenatal card and receive the first antenatal visit check-up (Department of Health, 2007:20).

The essential record keeping tool is the antenatal card. The antenatal card is the principal record of the pregnancy from the time of confirmation of pregnancy until delivery. It acts as a communication tool between health care workers involved in the care of the pregnant woman. The antenatal card serves the following purposes:

- To provide the woman a record of the present pregnancy. A well-completed antenatal card is very important because even if the woman cannot read, a family member or neighbour can read the information for her.
- To give health care providers guidelines on history taking, examination, identifying problems during pregnancy, and recording action taken and referrals for further management if necessary.
- To enable health workers to manage follow-ups.
- To facilitate record keeping and render it more accessible.
To facilitate evaluation the effectiveness of the health care providers by auditing these cards (Mokhondo, 2010:30).

In order to ensure high standards of record keeping, and maintain protocols and guidelines, the quality of the work by health care workers must be checked frequently (Pattinson, 2005:66). A quality check for antenatal records is used as predesigned by Philpot and Voce (Annexure E).

2.5 Antenatal care visits and content
The assessment of women who may or may not need additional clinical care during pregnancy is based on identifying those women in whom there are any maternal or foetal conditions associated with signs of maternal or perinatal death or morbidity. While this approach may not identify many of the women who go on to require extra care and women who go on to have normal uneventful births as ‘high risk’, ascertainment of risk in pregnancy remains important as it may facilitate early detection to allow time to plan for appropriate management. The needs of each pregnant woman should be assessed at the first appointment, reassessed at each appointment and throughout pregnancy, because new problems can arise at any time. Additional appointments should be determined by the needs of each pregnant woman, as assessed by her and her care givers, and the environment in which appointments take place should enable women to discuss sensitive issues. Reducing the number of routine appointments will enable more time per appointment for care, information giving and support for pregnant women (WHO, 2008:76).

The content includes assessment, including a well-taken history, physical examination and laboratory tests, and health promotion. Antenatal care is the opportunity to talk to women, build relationships and reinforce maternal health messages for example on nutritional advice, rest, discomforts of pregnancy, hygiene, safer sex, planning for place of birth, new-born care, contraception, lifestyle etc. Lastly care provision for diagnosed conditions should be included in antenatal care (WHO, 2005:46).

Some of the conditions that must be diagnosed and managed during pregnancy are HIV and hypertension. Hypertension is defined as a blood pressure (BP) of 140/90 mmHg or more, on two occasions at least 2-4 hours apart. Hypertensive disorders of pregnancy are the most frequent direct cause of maternal mortality in South Africa. Early detection and timely
intervention is essential to prevent maternal and perinatal complications (Department of Health, 2007:77).

High blood pressure especially when it is found together with protein in the urine (proteinuria) is a serious disease in pregnant women. It is called pre-eclampsia and the complications of pre-eclampsia are the most common direct cause maternal deaths in South Africa. Approximately 1 in 4 maternal deaths in South Africa are due to complications of high blood pressure, hypertension in pregnancy (Pattinson, 2005:29).

To manage severe pre-eclampsia the pregnant woman should be given magnesium sulphate immediately and then antihypertensive treatment if the diastolic blood pressure does not fall below 110 mmHg in 15 minutes after giving the magnesium sulphate. The woman should then be referred urgently to the referring hospital. A pregnant woman with hypertension has a diastolic blood pressure above 90 mmHg on two readings with no proteinuria and no symptoms. When the diastolic is above 100 mmHg on two readings, the woman should be referred to hospital and should always be advised on the danger signs of pre-eclampsia and to reduce her workload and rest. If the diastolic blood pressure is between 90 and 100 mmHg on two readings, she should be advised on the danger signs, reduction of the workload and rest. She should be seen at the clinic again a week later. If the blood pressure remains high, she should be reviewed by a doctor or advanced midwife, after which antihypertensive treatment may be started (Pattinson, 2005:31-32).

The content of antenatal care given to HIV negative women should be provided to HIV positive women as well. All women attending antenatal care should be given routine information about Voluntary HIV testing and the Prevention of Mother to Child Transmission (PMTCT) programme. At their visits for antenatal care, all HIV positive women should have blood teststo check their CD4 count and HIV staging, and they should be screened for Tuberculosis and sexually transmitted infections. An alanine aminotransferase (ALT) test measures the amount of this enzyme in the blood and then the initiation of antiretroviral prophylaxis or treatment may be initiated. It is important to avoid unnecessary delay in initiating lifelong antiretroviral therapy (National Department of Health, 2010:16).
2.6 The practice of antenatal care

Pattinson (2005:4) states that antenatal care is the health care of pregnant women in the months and weeks before the birth of their babies. He further states that the care is aimed at detecting those problems that are already present or those that can develop in the pregnant woman and her unborn child. The problems can then be treated once detected. He also states that antenatal care has a further role of improving the general health, and habits of the woman. He argues that the interventions during pregnancy can have permanent beneficial effects later in the woman’s life.

The goal of antenatal care is to prevent health problems in both infant and the mother and to see that each new-born baby has a good start. The care provided needs to be appropriate and not expensive. New technologies need to be implemented continually, while older services need to be reconsidered (Banta, 2003:5).

The advantage of having regular antenatal care cannot be stressed enough. If a woman comes early in her pregnancy for antenatal care, there is time for early diagnosis and treatment of infections in the mother, and an opportunity to prevent low birth weight and other conditions in the new-born baby. These findings have enormous significance for maternal health and child survival (UNICEF, 2004:1).

These findings are supported by Pattinson (2005:8) who states that antenatal care should start as soon as the pregnancy is diagnosed. He states that the sooner a pregnant woman is brought into the system, the earlier any problems can be detected and the treatment then has a greater chance of success. When the pregnancy test is done at the clinic or general practitioner’s surgery, the first antenatal visit can be performed when giving the test results to the woman. This opportunity to initiate antenatal care should not be missed, for it will also save time. He also argues that earlier initiation of antenatal care does not result in increased workload for the clinic as new evidence shows that only four follow-up antenatal care visits are required, rather than the twelve previously suggested.

More than half of women in the developing world have at least four antenatal visits during their pregnancy, which is in line with WHO(2004:1) recommendations that antenatal care for normal pregnancies should be a minimum of four visits. The objective was to focus on the content of care and set a basic, essential standard of quality for all countries. Women who
develop problems need to be assessed and treated as soon as possible. They should be encouraged to attend the clinic more often if they have any anxieties or questions (WHO, 2004:1).

Good antenatal care does more than just deal with the complications of pregnancy (WHO, 2005b:46). Women are the largest group of health care users actively and willingly seeking care at clinics. This offers enormous opportunities to use antenatal care as a platform for programmes that tackle nutrition, HIV/AIDS, malaria and tuberculosis. These important opportunities during antenatal care should not be missed. Antenatal consultations offer an opportunity to promote healthy lifestyles that improve long-term outcomes for the woman, her unborn child and possibly the family. Antenatal care also provides an opportunity to establish a birth plan. Antenatal care consultation provides an opportunity to prepare mothers for parenting and for what happens after birth. The content includes assessment, including a well-taken history, physical examination and laboratory tests; and health promotion. Antenatal care is an opportunity to talk to women, build relationships and reinforce maternal health messages for example on nutritional advice, rest, discomforts of pregnancy, hygiene, safer sex, planning for place of birth, new-born care, contraception, lifestyle etc. Lastly care provision for diagnosed conditions should be included in antenatal care (WHO, 2005:46).

Antenatal care should address the psychosocial and medical needs of the woman and her family. Periodic health check-ups during the antenatal care period are necessary to establish confidence between the woman and her health care provider, to individualise health promotional messages and to identify and manage any maternal complications or risk factors. Antenatal visits are also used to provide essential services that are recommended for all pregnant women, such as tetanus toxoid immunisation and the prevention of anaemia through nutrition education and provision of iron/folic acid tablets. A minimum of four antenatal visits for a woman with a normal pregnancy was recommended. Their objective was to focus on the content of care and to set a basic, essential standard for quality for all countries (WHO, 1978).

Antenatal care has been adopted all over the world and follows the same principles as far as recommendations and content go, but practice differs (Bergsjo:4). To be a mother is a positive and fulfilling experience for most women; however, pregnancy and childbirth can also be associated with suffering, ill health or even death. Known
interventions that can prevent maternal and perinatal mortality can be made available even in resource poor settings. Quality services should be available and accessible to all women wherever they stay. (WHO, 2004a:4).

2.7 Factors associated with the implementation of antenatal care
There are many factors that interfere with satisfactory implementation of antenatal care in developing countries such as inadequate resources, illiteracy and poverty, cultural, traditional and religious practices. Ignorance is another factor where women say they do not know the meaning of antenatal care. Unemployment is also highly relevant as it often means that women have no money for transport to the clinic (Nylander & Adekunle, 1990:69).

The World Health Organization (WHO) promotes a model package of antenatal care that implements evidence based interventions through reduced but goal-oriented clinic visits. This model is also referred to as “focused” or “basic” antenatal care. A review of evidence when the model was introduced showed that health outcomes with this approach were comparable to those receiving the standard antenatal care model with several visits (WHO, 2011:1)

There is a model package of antenatal care that implements evidence based interventions through reduced but goal-oriented clinic visits. This model is promoted by World Health Organisation and is also referred to as “focused” or “basic” antenatal care. A review of evidence when the model was introduced showed that health outcomes with this approach were comparable to those receiving the standard antenatal care model with several visits (WHO, 2011:1)

The focused antenatal care implementation may require updating national clinical standards, guidelines for antenatal care and the education for nurse midwives. Also modification of pre-service and in-service curricula in antenatal care will be needed. In-service training for antenatal care providers, their supervisors and teachers for nurses needs to be considered. Training modules and curricula also exist to help providers update their knowledge and skills on this concept and its implementation (Yengo, 2009: 27).

According to Yengo, (2009:27) a study was done in South Africa in KwaZulu-Natal, which provided information stating that clinic preparedness was good in terms of infrastructure and
equipment. Although staffing levels were adequate, the clinics fell short in numbers of qualified and skilled staff due to their migration to developed countries. On the whole there was no detrimental effect on staff morale. Clinic preparedness to offer focused ante-natal care reduced staff concerns about the working conditions. Client satisfaction was already high so no new change was observed (Yengo, 2009:27).

2.8 Quality of antenatal care

Quality is difficult to define. It is an abstract term and it requires continuous and dynamic adaptation of products and services to fulfil or exceed the requirements or expectations of all parties in the organization and the community as a whole (Choudhry, 2005:10).

Snyman (2007:47) clarifies quality assessment as a process of measuring quality of care, consisting of numerous approaches which define quality of care, selecting indicators for measurement, collecting data, analysing, and interpreting results. Quality assessment is considered a first step in quality assurance. Quality assurance is a conscious effort to change or improve the level of care based upon measures of quality. Quality improvement allows for a cyclical improvement over time, including all quality assurance processes. Assessment and measurement of quality of clinical care in a way that enables it to be quantified is an essential ingredient for quality improvement. Quality improvement requires considerable management dexterity to motivate staff who may be weary of yet another bright idea or who may consider that the quality of what they offer is their own business, or that existing standards are being jeopardized by the need to balance the books (Snyman 2007:47).

In the study conducted by Snyman (2007:40), the description of criteria for quality antenatal care is as follows:

° Antenatal care should be available to all pregnant women
° Antenatal care should be effective using available resources optimally
° Antenatal care should be acceptable to pregnant women, their families, the community and the health service management
° Antenatal care should be safe
° Antenatal care should be equitable
° Antenatal care should be reachable and accessible to all pregnant women
° Adequate resources should be available to provide antenatal care
° Antenatal care should be appropriate
° Antenatal care should be affordable and cost-effective
° Antenatal care should be comprehensive

2.9 The new Basic Antenatal Care according to Pattinson

The BANC programme segregates pregnant women into two groups: those eligible to receive routine antenatal care (called the basic component) and those who need special care based on their specific health conditions or risk factors. Pre-set criteria are used to determine the eligibility of women for BANC programme. Women selected to follow the BANC programme are considered not to require any further assessment or special care at the time of the first visit regardless of the gestational age at which they start the programme. The remaining women are given care corresponding to their detected conditions or risk factors. The women who require special care will represent, on average, approximately 25% of all women initiating antenatal care (Pattinson, 2005:13).

A classification form is presented in Annexure 1 below for BANC to identify women at risk of complications in pregnancy or childbirth. This classification form is used at the first antenatal visit to the clinic to decide which women will follow the basic component of the BANC programme and which will require special care. The format of the form can be adapted to the format of medical records in use in the clinic, but the contents should remain unchanged. The form contains checklist questions that require binary responses (yes/no). They cover the patient’s obstetric history, their current pregnancy and general medical conditions. Women who answer yes to any of the questions would not be eligible for the BANC programme and they should receive care corresponding to the detected condition (Pattinson, 2005:21).

According to Pattinson (2005:14), it is possible that a woman who is initially referred to a higher level of care due to her condition identified in the classifying form is subsequently considered suitable to follow the BANC programme. In that case, she would have to undergo all the activities included in the BANC programme that correspond to her foetus’ gestational age. She would also have to undergo all activities that she missed owing to her late entry into the programme during her period under a higher level of care.
The activities included in the BANC programme fall within three general areas, namely:

(i) Screening for health and socio-economic conditions likely to increase the possibility of specific adverse outcomes;

(ii) Providing therapeutic interventions known to be beneficial; and

(iii) Educating the pregnant women about planning for safe birth, emergencies during pregnancy and how to deal with them (WHO, 2002:9).

The activities that must be carried out during the first visits are presented in the BANC checklist presented in Annexure F below. The checklist should be used to record tests and interventions performed at each ANC visit and should be incorporated into the medical records for each patient. The items in the list should be checked off as each listed activity is completed. Any health care provider can determine easily from the checklist whether the recommended activities have been performed for each visit. The checklist is designed to serve as a reminder of the activities that still have to be conducted and does not replace the existing medical records (Pattinson, 2005:20).

There are BANC flowcharts which are organised in two main groups: firstly the principles of care including administrative procedures and how to organise a visit, and secondly a group of conditions important in the care of a pregnant woman. These include, for example, an assessment, classification and management of emergency conditions, such as pre-eclampsia, anaemia, foetal growth, post-maturity, syphilis and HIV status. Also included are the development of a birth and emergency plan, and counselling on nutrition and self-care (Snyman, 2007:61).

The new WHO antenatal care model segregates pregnant women into two groups: those eligible to receive routine ANC (called the basic component); and those who need special care based on their specific health conditions or risk factors (Annexure 3). Pre-set criteria are used to determine the eligibility of women for the basic component. The women selected to follow the basic component are considered not to require any further assessment or special care at the time of the first visit regardless of the gestational age at which they start the programme. The remaining women are given care corresponding to their detected condition or risk factor. The women who need special care will represent, on average, approximately 25% of all pregnant women initiating antenatal care (WHO, 2002:7).

There is also a book containing protocols and an audit which is aimed at clinic staff to enable them to develop clinic specific protocols. For example, a woman with pre-eclampsia requires referral to the nearest hospital. The protocol will contain the information required to manage and refer the woman appropriately. The management steps will include the immediate treatment, observation and monitoring required while waiting for transport, and referral detail to reach the next higher level of care with the contact name and telephone number of the referral hospital. The last pages of the book display a blank graph to record the monthly audit results of the unit (Snyman, 2007:61).

The BANC Handbook that is also provided aims to bring together basic resources related to antenatal care and facilitate their use. It aims to provide the knowledge required to perform basic antenatal care (BANC) effectively. This BANC handbook explains the process of providing antenatal care and also explains the reasoning behind the presented guidelines. The process of providing antenatal care has been simplified and only interventions that are effective during the antenatal period are used and those that are not are excluded (Snyman, 2007:61-62).

Also there is a BANC task book which provides a framework for conducting an analysis of services and systems prior to implementation of the BANC package referring to the strengths, weaknesses, opportunities and threats at each facility. It also contains the blank forms for developing protocols as a draft. After the protocols are discussed and agreed upon by the role players they are then rewritten in the protocol and audit book to be signed by the supervising
medical officer. There is also a facilitator’s guide used by the master trainer which is intended to guide the training of trainers. The trainer of trainers file is a guide for use by the trainers at clinic level to assist and guide the training of clinic staff. Also there are BANC Information leaflets for primary health care facility managers and referral hospital managers. These leaflets are intended for use when the managers of facilities or hospitals need to be informed of the BANC package and the implications for implementation, and the support required from such managers. The skills compact disc by Makin and Treadwell (undated) helps the trainer to update trainees on the different skills related to antenatal care (Snyman, 2007:62).

2.10 Cost effectiveness of antenatal care
Cost effectiveness awareness has been growing with some arguments of changing antenatal care based at least partially on considering cost effectiveness. For example, moves to simplify antenatal care and make it less intensive, at least for low risk pregnancies, are based on cost effectiveness considerations. Expensive technological interventions such as home uterine monitoring and excessive routine ultrasound examinations that have not been found to be beneficial could be largely dropped from antenatal care, saving scarce resources and having little or no effect on outcomes (Banta, 2003:10).

Most likely a simpler model of antenatal care could be provided, especially to low risk women, with fewer procedures and possible savings in cost. According to Banta, (2003:10) one randomised trial of reducing the number of visits for low risk women, found that the antenatal care cost reduction was offset by a higher rate of special or intensive care for new-borns. Also women were less satisfied with the care in the reduced model. But, three other randomised trials found that antenatal care conducted by midwives, rather than the doctors, resulted in equivalent medical outcomes, higher satisfaction and lower cost. There is evidence that continuous care for the pregnant women by a single provider such as midwife is more cost-effective than the care by a team of providers such as physicians and midwives (Banta, 2003:10).

The four-visit model of antenatal care is less expensive than the commonly used standard model, even with an additional visit. Women attending clinics under the new model spent less time and money for antenatal care, and the health-sector costs per pregnancy were lower (WHO, 2008:6).
In some countries, medico-legal pressures have made it difficult to cut unneeded services for pregnant women. Most undesirable outcomes occur in pregnant women not predictably at risk, but courts in the United States, Canada and the United Kingdom have found physicians guilty for not providing less risk women with services that they feel to be unnecessary. This problem may need to be addressed by policy makers (Banta, 2003:10).

2.11 The benefits of BANC
BANC is regarded as beneficial as there are fewer antenatal visits focusing on the specific needs of the pregnant woman individually. Therefore more time is spent on the pregnant woman providing quality antenatal care. The experts considered that WHO or other bodies might explore and demonstrate the benefits of antenatal care (e.g. morbidity averted) quantitatively (by primary studies or modelling), to support and encourage changes in practice at policy and planning levels (WHO, 2008:14).

Many questions have been posed about the health benefits of antenatal care, especially in relation to its costs. Given the limited resources of health care and the wide range of services provided as part of antenatal care, such questions must be dealt with. Care should be appropriate, cost-effective and based on the needs of the specific pregnant woman (WHO, 2003:4).

The BANC programme does not overload the clinics with work as new evidence shows that only four visits are required to perform BANC, not the twelve previously suggested. In actual fact, starting antenatal care immediately helps the clinic staff to save time. Therefore the clinic workload is reduced and the chances of a good outcome in the pregnancy are improved. Also the follow up antenatal visits coincide with performing examinations and tests at critical times that have the most benefit for the pregnant woman and most chance of detecting the problems that can be treated. There is also evidence of reduced cost of antenatal care when BANC is practiced (Pattinson, 2005: 9, 25).

2.12 Summary
This has been a discussion of the literature from various studies relating to the basic antenatal care. The key findings were that women with normal pregnancies should have four visits of antenatal care during pregnancy. When BANC is implemented, the clinic workload is reduced and the chances of a good outcome in the pregnancy are improved. The following chapter will be presenting the methods used throughout the study.
CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction
The aim of this study was to investigate if Basic Antenatal Care (BANC) was being implemented at the Mdantsane clinics according to the guidelines. The researcher also wanted to determine if the midwives at the Mdantsane clinics were encountering any problems during the execution of BANC.

3.2 Research design: Descriptive Exploratory
The researcher used the quantitative research method to collect data at primary health care clinics in Mdantsane. The purpose of descriptive design is to provide a picture of situations as they naturally happen. It may be used to develop theory, identify problems with current practice, justify current practice, make judgements, or determine what others in similar situations are doing (Burns & Grove, 2005:237).

In conducting the study, the researcher visited two clinics per day. Initially, the researcher was to select seven out of fourteen clinics for the study, but the methodology had to be modified during the data collection period because of the observation that there were only a few midwives at each clinic that had been allocated to work in the midwifery section of the Mdantsane clinics. For this reason, the researcher had to study fourteen of the fifteen clinics in order to be able to find a suitable number of midwives to participate in the study. Only one clinic was excluded, which was the one where the researcher worked. It was excluded from the study because the researcher was responsible for the midwifery section and could not therefore participate as a respondent in her own study. Subjects who have a personal investment in the study are more likely to continue in the study. This investment occurs though interactions with and nurturing by the researcher (Burns & Grove, 2005).
3.3 Study population
The population who participated in the study were the midwives providing Basic Antenatal Care to pregnant women in the primary health care clinics in Mdantsane, and the ANC cards from the women who attended antenatal care at these clinics.

Inclusion criteria: the participants in this study were selected from the midwives who carried out physical activities relating to antenatal care at that time. Those who were currently practicing midwifery in their clinics were asked to respond to the questionnaires. The ANC cards from the women who attended ANC at these facilities were audited.

Exclusion criteria: Midwives working in clinics outside Mdantsane were excluded from the study because of anticipated financial and time constraints to the researcher. Additionally, midwives working in antenatal units in health centres and hospitals were also excluded from this study. Furthermore, midwives who were not practising midwifery at the time of data collection were excluded from participating in this study. The ANC cards used for auditing were those of women who attended ANC on the day the researcher visited the facility. The ANC cards of women who were not at the clinic on that day were therefore excluded from the study.

3.4 Sample: purposive sample (clinics)
Purposive or judgemental sampling is based on the belief that a researcher’s knowledge about the population can be used to hand pick the cases to be included in the sample. The researcher might decide purposely to select the widest possible variety of respondents or might choose subjects who are judged to be typical of the population in question or particularly knowledgeable about the issues under study (Polit & Hungler, 1995:232). The study was conducted in Mdantsane and the sample was all fourteen clinics that were providing ANC services according to the new BANC programme. Mdantsane has four rural clinics and ten urban clinics.
Midwives: convenience sampling
Convenience sampling entails the use of the most conveniently available people or objects for use as subjects in a study (Polit & Hungler, 1995:232). Convenience sampling of all twenty five midwives providing antenatal care to pregnant women in the Mdantsane clinics was applied.

Patient cards
Convenience sampling of ANC cards of women who attended ANC in the Mdantsane clinics on the day of their visit to the clinic was used. The total number of ANC cards was one hundred and forty, as ten ANC cards had been taken from each clinic.

3.5 Measurement
The researcher used questionnaires for midwives to answer as the measuring instrument. The questionnaire consisted of eleven descriptive questions all in one section. Patient’s records were reviewed by the researcher. The ANC cards of pregnant women were audited by the researcher. On the patient’s records detailed information may be available for long periods although the format, completeness and accuracy may be compromised because the information was recorded by a range of different people for clinical and not research purposes (Joubert & Ehrlich, 2007:106).

The initial question of the questionnaire which addressed the number of ANC visits was based on the UNDP/UNFPA/WHO/World Bank Special Program for Research, Development and Research Training in Human Reproduction which implemented a multicentre randomized controlled trial that compared the standard ‘Western’ model of antenatal care with a new WHO model that limits the number of visits to the clinic and restricts the tests, clinical procedures and follow-up actions to those that have been shown to improve outcomes for women and newborns (Villar & Bergsjø, 2002:7).

On the questionnaire, the next four questions were content based and were influenced by WHO(2005:46). The content includes assessment, including a well-taken history, physical examination and laboratory tests and health promotion. Antenatal care is the opportunity to talk to women, build relationships and reinforce maternal health messages, for example on nutritional advice, rest, discomforts of pregnancy, hygiene, safer sex, planning for place of
birth, newborn care, contraception, lifestyle etc. Lastly, care provision for diagnosed conditions should be included in antenatal care (WHO, 2005:46).

According to Pattinson (2005:13), the approach in the BANC package separates the first and follow-up visits for pregnant women to clearly indicate the activities required for each. The first meeting between the professional nurse and the patient, related to the current pregnancy, is called the first visit. The first visit is a very important visit and serves to classify the woman as requiring the basic component of care (BANC) or specialised care in addition to BANC. The patient retained antenatal card for recording care is issued at the first visit. The clinical process followed by the primary health care professional nurse for each antenatal visit is to ask specific questions, to look, listen and feel, to record signs, to classify the woman and to treat and advise. The follow-up visits are scheduled at 20, 26, 32 and 38 weeks gestation and follow the same format as the first visit based on the WHO (2002:7) model of antenatal care.

The last six questions were focused on the views of the midwives regarding BANC according to their experiences. These were influenced by Snyman (2007:92) who selected a qualitative methodology to assess the views of the research assistants and managers to understand the participants’ experiences of the implementation of the Basic Antenatal Care package.

Another measurement tool was the patients’ ANC cards which the researcher checked to determine if it had been properly filled in. The ANC card as a measuring instrument indicated the extent to which each midwife had accurately completed each ANC card.

3.6 Data collection
Data collection began on the 27th of January 2009 and was concluded on the 5th of February 2009. Initially, twenty two midwives answered the questionnaires as they were the total number of midwives working in the midwifery section. There was another Mdantsane clinic opened in Newlands, where one midwife was asked by the researcher to answer another questionnaire because she knew about BANC as she was working in the midwifery section at a previous clinic. Two midwives were subsequently employed at Potsdam clinic, which also falls under Mdantsane, and they were familiar with BANC so the researcher requested them
to participate in the study, as their clinic was already in the study group. This led to the total of twenty five midwives participating in the study.

During data collection, the researcher gave consent forms for midwives to sign before giving them questionnaires to answer in each clinic that was visited and waited at the clinic for the midwives to finish their work and then the researcher took the questionnaires with her. Whilst waiting for the midwives to finish answering the questionnaires, the researcher looked at the antenatal cards of the pregnant women who were at the clinic at that moment, using the quality check for antenatal records. Permission was obtained from the pregnant women who had signed consent forms after an explanation was given to them about the study. Ten antenatal cards were randomly selected from each clinic. The quality check for antenatal records determines whether midwives filled antenatal cards correctly or not for all visits.

3.7 Validity and reliability
Validity and reliability are two major considerations that determine how well a particular measurement reflects a property of an item. A measurement has high reliability if it gives the same result every time the same property is measured in the same way, whereas a measurement has validity when it reflects the construct you intended to measure (Reaves, 1992:79).

Validity
According to Burns and Grove (2005:377) validity is not an all-or-nothing phenomenon, but rather, a matter of degree. No instrument is completely valid. Thus one determines the degree of validity of a measure rather than whether or not it has validity.

Reliability
Burns and Grove (2005:374) state that, if the same instrument is administered to the same individuals at two different times, the measurement is reliable if the individuals’ responses remain the same.
3.8 Pilot Study of the Data Collection Instrument
According to Burns and Grove, a pilot study could be conducted to develop and refine a variety of steps in the research process. The pilot study could also assist to refine the data collection process. In this study the questionnaire used as the data collection instrument, was tested by doing a pilot study before the baseline data collection at the selected clinics.

3.9 Pilot Study: Population and Sample
The population for the pilot study was the midwives at one selected clinic who met the inclusion criteria. Convenient sampling of two midwives providing antenatal care to pregnant women in the Mdantsane clinics was applied. Five antenatal cards were randomly selected from the women attending ANC on that day and informed consent was obtained from the clients to audit their antenatal cards. Permission for the pilot study was obtained from the operational manager of the facility.

3.10 Pilot Study: Data collection
The two midwives that were conveniently sampled were then requested to respond to the questionnaire. Verbal consent was obtained from both of them. The five ANC cards conveniently sampled from one clinic were then audited by the researcher.

3.11 Pilot Study: Data analysis
Data analysis was carried out by the researcher manually. No analysis software was used.

3.12 Pilot Study: Results
The pilot study results showed that the midwives understand BANC, and are both practising ANC according to BANC, even though both of them only received in-service training from a colleague for BANC. The audited ANC cards also were properly filled in by the midwives.

3.13 Ethical considerations
The proposed study was submitted to the University of Fort Hare Research Ethics Committee (REC) for ethical approval before the study commenced. After the committee’s (REC) approval, the proposal was then submitted to the Eastern Cape Department of Health Provincial Research Committee for approval to conduct the study at the participating clinics in the province. Written consent from the midwives was sought before the circulation of
questionnaires distributed to the Registered Midwives. To maintain confidentiality of the information given by participants, a coding system was used instead of names. There was no mention of the names of the respective clinics either. Permission to conduct the study was received from the manager of the Mdantsane Local Service Area at that time, Mr Wogqoyi.

3.14 Data analysis
In analysing the data, a series of data analysis steps were used beginning from the data collection phase. Typical steps were:

(i) Coding of the questionnaires by the researcher with responses during data collection.

(ii) Data was analysed manually by the researcher. No computer software was used.

3.15 Summary
In this chapter, the researcher outlined the method used in conducting the research study. The researcher typically used a questionnaire to collect the data from the midwives. In addition, the researcher looked at the antenatal cards of the pregnant women who were at the clinic at the time of the study, using the quality check for antenatal records. The next chapter presents the findings and discusses the results of the study.
CHAPTER 4

DATA ANALYSIS

4.1 Introduction
This chapter served to analyze the implementation of BANC by midwives working in the Mdantsane clinics during 2009. This analysis was based on specific quantitative design variables as influenced by the BANC handbook which aims to provide the knowledge to perform basic antenatal care effectively (Pattinson, 2005: i).

4.1.1 Analysis of midwives responses to questionnaires on their implementation and understanding of BANC.

This is an analysis of the responses of midwives working at the Mdantsane clinics who answered the questionnaires (Annexure A). Fortunately, all twenty five midwives that were given the questionnaires responded.

![Figure 1: An analysis of the frequency of visits that a pregnant woman must make to the ANC.](image)

Figure 1: An analysis of the frequency of visits that a pregnant woman must make to the ANC.
4.1.2 Analysis of basic antenatal care implementation

The National Maternity Guidelines (Department of Health, 2007:28) state that ‘a basic antenatal care schedule of four follow up visits is provided for pregnant women without risk factors’. This is not applicable for women with risk factors, whose return visit schedules will depend on their specific problem.

- Figure 1 above shows the responses of midwives to the first question of the questionnaire which inquired about the specific number of visits that expectant women must make to the antenatal clinic during pregnancy. Only 1 out of 25 midwives did not know the specific number of visits, but the other 24 knew the answer, that it is four visits. The incorrect answer implies ignorance. A practising midwife must know the number of visits that a woman should make during the time of her pregnancy. This particular midwife was not trained in BANC. This one incorrect answer from a midwife handling expectant women during this era of BANC implies ignorance of the new ANC visiting schedule as indicated in the BANC handbook by Pattison (2005: 25).

![Content of visits](image)

Figure 2: An analysis of content of visits
4.1.3 Analysis of the content of visits

The content of ANC visits includes assessment, including a well-taken history, physical examination and laboratory tests, and health promotion. The clinical process followed by each health care provider for each antenatal visit of the pregnant woman after the greeting, rapid assessment and management is:

- Ask, check antenatal card
- Look, listen, feel
- Record signs
- Classify

The 2nd, 3rd, 4th and 5th questions of the questionnaire are covered by the responses in figure 2 above. The above findings show that not all practising midwives have a clear understanding of what actions to perform at each visit. The above figure indicates that the responses of midwives differ. There seems to be a high proportion of midwives who are not familiar with current midwifery practices.

The second question asked about the content of the 1st visit. All 25 midwives answered correctly, meaning that they were familiar with the content of that visit as presented in the BANC handbook by Pattinson (2005:22-24).

In the third question, only 10 midwives knew the content of the 2nd visit which suggests that they were practising according to the midwifery guidelines. In contrast, 15 midwives were not familiar with the activities of the 2nd visit. This response showed that these midwives did not adhere to Pattinson’s guidelines provided in the BANC handbook. This uncertainty poses a threat to the pregnant woman and her unborn baby (Pattinson, 2005: 22-24).

In the fourth question, of the 25 midwives who participated in the study, only 12 midwives (less than half) carried out the activities of the third visit correctly, indicating that they were able to follow guidelines as clearly stated on the guideline for maternity care in South Africa (Department of Health, 2007:28). A total of 13 midwives participating in the study demonstrated lack of knowledge of the contents of BANC during the 3rd visit. This situation
demonstrated the need for reinforcement of the BANC training as supported by Snyman, (2007:195) who recommended that once BANC is implemented, the programme for in-service training at Primary Health Care clinics should include time schedules for BANC training updates.

In the fifth question: A total of 14 midwives demonstrated knowledge regarding the contents of the 4th ANC visit. This means that only 14 midwives could be regarded as safe midwifery practitioners for the pregnant woman and her unborn baby at this visit. At least 11 midwives did not know the contents of the 4th visit. This situation demonstrates a deficiency of knowledge required for the midwife to protect a woman and her unborn baby from the dangers associated with pregnancy. It shows that guidelines are not utilised as intended by the Department of Health. Similarly, Mokhondo (2010:2) echoes that while there may be guidelines in place, they are not always utilised.
4.1.4 Analysis of the understanding of BANC by midwives

The responses of the midwives in the sample were analysed and probed, and their level of knowledge determined in relation to the safety of the pregnant women and their unborn babies.

In the 6th question, where the midwives were asked about parts of BANC they feel they cannot manage, they mentioned the following: lack of skill in the plotting of the graph on the ANC card, completing a BANC form that is the clinic checklist for follow up visits, management of HIV positive pregnant women and hypertension in pregnancy, early detection of twin pregnancy, and management of other conditions in pregnancy. These are all important conditions that midwives need to be sure of. There were four midwives that had problems with the management of BANC. These findings support the Saving Mothers Report (1999-2001:9) in which 54% of health care providers related avoidable factors were due to the
failure of the health providers to manage patients at the appropriate level of care, and a lack of the identification of problems such as hypertension, diabetes mellitus, cardiac disease and syphilis that could be managed successfully during pregnancy.

Out of the 16% (4) midwives who have problems in the management of certain aspects of BANC, 12% (3) of the midwives were not trained on BANC, 4% (1) were formally trained. This shows that in-service training is required for those that were trained, and those that were not trained need training as soon as possible. Figure 3 above shows the aspects of BANC that midwives stated they could not manage. Health worker performance is therefore very important as it will have an immediate effect on services provided (Snyman, 2007:171).

4.1.5 Analysis of the number of trained/untrained midwives, and their perceptions on BANC

Figure 4: Analysis of the number of trained/untrained midwives, and their perceptions on BANC.
The responsibility for training and implementation of the BANC package rests with the trainers. In the study conducted by Snyman, (2007:195) the need for the training and quality improvement in antenatal care was identified by the researcher, rather than the supervisors of the clinics. At the time when this study was conducted, few of the participating midwives were trained in BANC (40%) and most of them were not yet trained (60%). Interestingly though, 96% of the midwives regarded BANC as advantageous, although 4% of them could not state what the advantage was. 48% of the participating midwives, though, also listed the disadvantages of BANC, see Figure 4 above.

Figure 5. Analysis of the simplicity of BANC for midwives.

4.1.6 Analysis of the simplicity of BANC forms for midwives

In the investigation regarding the simplicity of BANC forms the number of midwives that found BANC forms simple to complete were 24 (96%) and there was only 1 (4%) who found difficulty in completing a BANC form (Figure 5 above). This implies that the BANC forms are not difficult to complete as they are designed for the midwife to tick for a quick check in a rapid assessment system (Pattinson, 2005:14).
4.1.7 Analysis of midwives’ comments regarding BANC

Figure 6 above is an analysis of the midwives’ comments on BANC. During the investigation, when the midwives were required to give any comment regarding BANC, 8 (32%) of them stated that training is needed. An overall number of 7 (28%) of the midwives stated that BANC is a good strategy for both midwives and pregnant women, whilst 5 (20%) of them stated that more staff are needed. 3 (12%) mentioned the shortage of stationery and 2 (8%) had no comments. The Department of Health has to attend to the important needs of midwives urgently for example the training on BANC, and for the employment of more staff. According to Snyman (2007:195), a training record should be maintained which will assist in tracking training sessions, and ensure that all staff receive training in all aspects of the BANC package. Standardised equipment, as suggested in the BANC package, should be available at all centres where women receive antenatal care. This supports the comments from the midwives regarding the shortage of stationery.
4.1.8 Analysis of ANC cards at all the participating clinics (History taking) using a tool “Quality check for ANC records”

It is very important for every pregnant woman to know how far her pregnancy is whilst attending ANC, and to know when she is due to deliver the baby. Therefore it is quite shocking when the midwives fail to record the last normal menstrual period (LNMP). In this study, only 49% of the ANC cards had recorded the estimated date of delivery, which demonstrates a knowledge deficiency from the midwives. This needs to be corrected through in-service training. These findings are supported by Snyman (2007:52) who found that professional nurses at a primary health care level did not see the urgency to make every effort to calculate the EDD at the first visit, nor do they feel competent to determine the EDD.
4.1.9 Analysis of the ANC card (Examination) using a tool “Quality check for ANC records”

According to Figure 8 above, the findings indicate that the midwives in this study have a problem in recording the findings of their palpation and in plotting foetal presentation, which can be corrected by in-service training sessions. It is important to know the presenting part so as to be able to decide on the mode of delivery. Presence of IUGR should be clearly detected through correct plotting which is poor from these findings. Therefore if the plotting is poor, midwives will not be able to detect the presence of IUGR. There is also poor recording, as indicated by 52% on maternal height and weight and also heart examination.

Mukhondo, (2010:3) supports this further saying poor recording has a potential impact on perinatal mortality as it may result in non-recognition of potentially treatable problems in antenatal care by midwives.
4.10 Interpretation & Decision making using a tool “Quality check for ANC records”

According to Figure 9 above, upon auditing of the ANC cards in this study, there was not a single card that was countersigned by the senior midwife (0%). The midwives understood the importance of peer review, but claimed to be short staffed. Snyman (2007:134), found that even though professional nurses understood the principle of peer review they thought it would be very time consuming for a second professional nurse to review and check what was done by a colleague. Pregnant women have to be advised on future family planning, but this was recorded poorly (48%) and the issue of transport arrangements to reach the place of delivery was also poorly recorded on the ANC cards that were audited. The National Department of Health (2001:78; 2002:18) states that the successful outcome of pregnancy depends on health care workers who make good decisions based on accurate and complete recorded information.

4.2 Summary

The midwives’ views have been discussed in relation to the findings of other researchers. The ANC cards were audited using a quality check tool for antenatal records, a tool which was developed by Philpot and Voce. The last chapter will discuss the findings, and recommendations.
CHAPTER 5

DISCUSSION, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND SUMMARY

5.1 Introduction

The primary goal of this study was to investigate whether the current antenatal practices in the Mdantsane clinics conform to the Basic Antenatal Care (BANC) model of antenatal care. This study aimed at identifying the contribution brought in by the BANC programme after training had been conducted for some midwives working in the Mdantsane clinics.

This chapter presents the discussion, implications for practice, limitations of the study, recommendations and lastly summary. The discussion will be based on the implementation of the BANC program in selected clinics in Mdantsane.

The aim of the study was to investigate if Basic Antenatal Care was being implemented appropriately in the Mdantsane clinics, and if midwives were implementing BANC according to its guidelines for use.

The objectives of this study were to:

1. Examine the patients’ antenatal cards to see if the appropriate content and frequency of BANC was being followed by midwives in the Mdantsane clinics during the study period of January to February 2009.

2. Elicit the midwives’ views or perceptions regarding the implementation of the BANC programme in Mdantsane clinics.

5.2 Discussion

This study was limited to those midwives that work at the primary health care clinics in Mdantsane providing Basic Antenatal Care to pregnant women according to the BANC guidelines.
The results of this study indicate that the midwives in the Mdantsane clinics, including trained and untrained midwives, have been implementing BANC, but have not been practising according to the BANC guidelines. Not all the clinics in the Mdantsane area conform to the current practice of antenatal care, but most of them provide BANC based on the four visits as indicated in the BANC handbook (Pattinson, 2005:9).

An analysis of Graph 1 in Chapter 4 showed that all of the midwives who participated in the study were knowledgeable about the number of visits that every woman must make to the ANC clinic according to the BANC schedule. The content of the first visit was also well known by 96% of the midwives who participated in the study. On subsequent visits though, the majority of the midwives could not state the sequence of actions that must be performed at these visits. This is shown by the fact that on the second visit, only 40% of the midwives knew the content of visit and 60% of the midwives did not know the content of the visit. On the third visit, 48% of the midwives knew the content of the visit, but 53% did not know the content of the visit. On the fourth, visit 56% of the midwives knew the content of the visit, whilst 44% of the midwives did not know the content of this visit. This poses a problem in the sense that it clearly shows that the midwives are not practising the BANC programme correctly. Furthermore, their implementation strategies of ANC might not be effective if they miss the content of the visit. Pattinson (2005:25) clarifies that at each visit care must be taken to ensure that all the actions that need to be performed are performed at each of the visits, and that any problems identified are acted upon.

Another problem identified was the midwives saying that they had difficulty in managing some conditions of pregnancy like hypertension in pregnancy, HIV and having difficulty detecting twin pregnancy. It is a concern to the researcher when midwives providing BANC are not able to manage hypertension and HIV in pregnancy as these are some of the leading causes of maternal death in South Africa. The management of these conditions though is provided for in the guidelines for maternity care by the South African Department of Health, (2007:77; 136-138), as well as in the BANC handbook by Pattinson, (2005:29-32; 50-51). Hypertensive disorders are the most frequent direct causes of maternal mortality in South Africa. This important fact should always be remembered when pregnant women are provided with information and education during visits for antenatal care. Early detection and timely intervention is essential to prevent maternal and perinatal complications (Department of Health, 2007:77).
HIV positive pregnant women require all components of routine antenatal care, including counselling on infant feeding options, safer sex, family planning and contraception.

It is also problematic that 4% of midwives working with ANC clients in this study experience difficulty filling in an ANC card and filling in a BANC form. This major problem might be as a result of the fact that most midwives working in the Mdantsane clinics were not trained on BANC, although they are responsible for providing the program to pregnant women. The training of midwives on BANC is therefore urgently needed in order to improve the skills of the midwives in the implementation of BANC. The midwives in the Mdantsane clinics clearly showed an interest in BANC as 96% of them saw BANC as advantageous to both midwives and clients. Also BANC forms were rated simple to fill in by 96% of the midwives. The fact that midwives are interested in BANC is clearly demonstrated by the fact that midwives were implementing BANC, even though most of them were not yet trained.

According to the above findings, it has been identified that there is a knowledge gap among midwives regarding BANC. This can be addressed through training on BANC. In the BANC training, it should be emphasized that the midwives must always consult their guidelines.

5.3 Implications for practice

The lack of BANC training sessions for midwives makes it difficult for midwives to apply BANC appropriately. This is supported by the results revealing an inability to manage certain conditions in pregnancy like hypertension, HIV and the inability to detect twin pregnancy early. The purpose of BANC is to improve the quality of care provided for pregnant women and it has to be fulfilled.

5.4 Implications for research

The findings of this study imply a need for further research to find out whether there would be an improvement in performance if the midwives are exposed to BANC training. This study should be repeated after all the midwives in the Mdantsane clinics have undergone training on BANC.
5.5 Limitations of the study

The period of reviewing the relevant data in the selected clinics was short. Therefore there could have been sampling bias due to under representation of some segment of the population. This was avoided by representing all the clinics. The midwives could have done everything correctly if they knew that the researcher would check the ANC cards. The researcher therefore told the midwives about the study, but not the fact that the ANC cards were to be audited.

5.6 Recommendations

5.6.1 The need for BANC training.
This recommendation arises from the findings of this study which indicate that most of the midwives in this study are not trained in BANC. The challenge facing them is that they are all expected to implement according to the BANC guidelines.

According to the National Committee for the Enquiry into Maternal Deaths, (1998), the basic structure of the assessment of care system devised for the confidential enquiry is to analyze the administrative problems, including lack of appropriately trained staff. One of the respondents noted that there are few midwives trained on BANC; therefore more midwives should be trained on BANC.

5.6.2 Training of trainers for BANC.
There is a need for more trainers for BANC as presently there are only a few trainers helping the area from the provincial office. There are currently no trainers from Mdantsane.

5.6.3 Monitoring and evaluation of the BANC programme by trainers to ensure proper implementation.
Trainers should follow up on people they have trained to detect any problems they might have in the implementation of the program and to make sure that the program is running smoothly in all places they have trained. This would help the trainers to detect if there are any gaps in the program.
5.6.4 Continuous in-service training for midwives providing BANC.
The results of this study showed that the midwives trained in BANC have problems managing some conditions during antenatal care. In-service training will help solve this problem.

5.6.5 Need for more midwives.
25 midwives from 14 clinics participated in the study. This clearly shows that there are few midwives actually implementing BANC. According to the International Confederation of Midwives (ICM) and World Health Organization on International Midwifery Day, ‘The number of midwives worldwide would have to be more than double to meet Millennium Development Goals of reducing maternal and infant deaths by 2015’,.

5.6.6 Emphasizing importance of supervising the recording by midwives.
The problem of the shortage of midwives sometimes leads to midwives not recording everything they do. Furthermore, the knowledge that their work is not checked by supervisors are weaknesses identified by this study. What is not recorded is considered as not done. It is therefore important that the midwives are encouraged to record everything that they do.

5.6.7 BANC a good strategy for quality care.
BANC is a good strategy for strengthening the quality of care provided at ANC services, but midwifery training in BANC is still not enough to ensure safe childbirths (Darcq, 2009). Midwives stated that BANC makes it easier to offer antenatal care appropriately. According to the BANC programme, there are few antenatal visits. This decreases the chances of defaulting, and motivates clients to go to the clinic for their next visit. It is useful in management of antenatal care as it helps prevent complications by early identification of conditions in pregnancy and early management thus reducing the morbidity and mortality rate. BANC is useful for midwives as it shows where to start and when to refer; therefore it benefits both midwives and clients.
5.6.8 Lack of stationery
Darcq (2009) stated that ensuring safe childbirths is also about employment, deployment, retention and giving midwives supplies. He went on to ask ‘What good is a midwife who comes to the clinic every day with no supplies?’

In the Mdantsane clinics, midwives stated that they sometimes ran out of stationery, which is supplied through the district office. When there is no stationery the midwives say that they still managed clients according to BANC, but with no BANC forms to record on. This statement concludes the findings that the midwives were not practising antenatal care according to BANC, even though they claimed to be. BANC forms are part of the stationery used for BANC; without these there won’t be records for the midwives to keep as proof that they are practising BANC.
5.7 Summary

In summary, this study shows that BANC is not being implemented correctly in the Mdantsane clinics, according to the responses of the midwives in this study. The study also indicates that there is a great need for further training on BANC in the area. The midwives who participated in this study showed enthusiasm about BANC because they are trying to drive the programme, even though most of them are not trained. The participant midwives helped by sharing their knowledge with their colleagues. Some knowledge deficiencies, however, were identified.


Department of Health and Human Services, Centre for Disease Control and Prevention, National Centre for Health Statistics. Hyattsville, Maryland.

Annexure A

Questionnaire

Please answer the following questions honestly, your comments are important, we want to improve the care rendered to pregnant women in the primary health care. Your responses are confidential. You do not have to write your name.

1. How often should patients come to ANC in the new BANC programme?

2. What do you do at the first visit?

3. What do you do at the second visit?

4. What do you do at the Third visit?

5. What do you do at the Fourth visit?

6. Is there any part of the new BANC that you feel you cannot manage? Say what this is and explain.
7. Have you had training on BANC yes/no?

If yes, when ......................

    Where was the training ......................

8. What are the advantages of BANC for midwives? Discuss briefly.

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

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

9. What are the disadvantages of BANC for midwives? Discuss briefly.

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

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10. Do you find the BANC forms simple to fill yes / no?
    If no please explain and give suggestions.

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

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### Annexure B

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<tr>
<th>Name</th>
<th>Title</th>
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<tr>
<td>Ms. N. Dyeli</td>
<td>An evaluation of effectiveness of the implementation of the Basic Antenatal Care (BANC) programme in selected clinics in Mdantsane, Eastern Cape Province, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
</tr>
<tr>
<td>Mrs. P. Mlunishe</td>
<td>Client satisfaction with midwifery services rendered by two Community Health Care Centres in the Eastern Cape Province, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
</tr>
<tr>
<td>Mrs. F. Jaieni-Gomba</td>
<td>Post delivery auditing of adherence to the dual therapy (AZT and NVP) intake during labour at Cecilia Makiwane Hospital, Eastern Cape Province, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
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<tr>
<td>Ms. N. Rululu</td>
<td>Job satisfaction among professional nurse working in Antiretroviral clinics in the Eastern Cape Province, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
</tr>
<tr>
<td>Ms. L. Hlosana-Lunyamo</td>
<td>Experiences of newly qualified professional nurses working in primary health care facilities in the Eastern Cape Province, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
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<tr>
<td>Mrs. N. Hlula</td>
<td>Challenges faced by the families of chronically ill persons in the Amathole District in the Eastern Cape, South Africa.</td>
<td>Approved with corrections. Supervisor to oversee.</td>
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**Professor J.R. Midgley**  
Deputy Vice-Chancellor  
Chairperson of the interim Ethics Committee

4 December 2008
Annexure C Informed consent in Xhosa
Ukungachazwa kwegama

Londe uwal ozoluthanyiso ezimakudini emu kwakuxelwe ukuse kungaphakathi nabanana kulala.

Imphilo

Ulwazi oluthanyiso eyehadini lakho lwakwaziwa ngomphandla nabanezindiswa kuphela ngalo londe isheho lokubhutywe kophandla.

Ukuthathinawhebe nokyeka phakathi

Ukuqatyisiwa kwechadini lakho kufasha kwemphakathi ezinokubh'Itywe. Xa ungasevanzi nokyeka phakathi lakho ukuqatishwa la kwemphakathi nami naye yakuphela kwemphakathi.

Hnomhola zemfonsonfene zomphandla

Ekhaya : 043 763 7070
Cell : 083 454 0048
Email : 043 763 1277

Utyikileyo nomhla

Umphandla --------------- Umhla ---------------

Umtathethi nxashhebe --------------- Umhla ---------------

Signed by Supervisor [Signature] Date 06/01/2011
Signed by Student [Signature] Date 06/01/2011
APPENDIX A: INFORMED CONSENT

TITLE
An evaluation of the effectiveness of the implementation of the basic antenatal care (BANC) programme in selected clinics in Mdantsane, Eastern Cape Province, South Africa.

INVESTIGATOR: Nolwando Dyeli

A Registered nurse with four year comprehensive Diploma course, Diploma in clinical nursing science, health assessment, treatment and care.

PURPOSE
I invite you to participate in the above research study of effectiveness of the implementation of basic antenatal care. The purpose of the study is to verify if basic antenatal care is being implemented appropriately in the Mdantsane clinics and if midwives are implementing basic antenatal care according to the guidelines.

POTENTIAL BENEFITS
Even though this study will not benefit you directly, the information obtained will help the improvement of the basic antenatal care.

RISKS AND DISCOMFORTS
In as much as I know, there will be no risks or discomforts to you during the discussion sessions.

TIME COMMITMENT
The subjects will meet with me for 45 minutes, and interview guide with questions listed will be distributed to each research participant.

EXPLANATION OF THE PROCEDURE
You will be given a questionnaire, with ten questions and you are expected to answer all questions. You are allowed to ask questions, and these will be answered to your satisfaction.

ANONYMITY
The information obtained will be kept under lock and key. Your responses will not be linked to your questions. A coding system will be used for you to remain anonymous.

CONFIDENTIALITY
All of the information obtained from you will be kept confidential throughout the process of the research and even after the completion of the research study. It will be the researcher and the associated bodies only who will have full access to your information.

PARTICIPATION AND WITHDRAWAL FROM THE STUDY

You are free to choose whether to participate or not in the study without penalty. Your participation is voluntary. If you happen to withdraw from the study there will be no loss of benefit.

CONTACT DETAILS
CELL: 083 454 40048
TELL: 043 763 7070
WORK: 043 763 1277

Researcher/Investigator: ____________________________ Signature: ____________________________ Date: _____________

Subject/Participant: ____________________________ Signature: ____________________________ Date: _____________
Annexure E: Quality check for antenatal records

Quality Check for Antenatal Records

Each month, examine 25 (or fewer, if this is not possible) consecutive, antenatal records of all clients who are 38 or more weeks pregnant. Examine their records as they leave the ANC.

For each record, give 1 point for each of the items listed below that have been recorded. Half points can be given where a recording is incomplete.

History
1. Age, parity and gravidity
2. Details of previous pregnancies, including causes of death and indications for operations
3. Previous illnesses that might influence this pregnancy, including cardiac, renal and diabetic disease
4. History of the present pregnancy
5. The date of the first day of the last menstrual Period (LMP) and the estimated date of delivery (EDD) and table on antenatal graph completed
6. The estimated period of gestation correctly plotted on the antenatal graph at the first visit

Examination
7. Maternal height and weight
8. Blood pressure recorded at each visit
9. Heart examination for cardiac disease
10. SFH correctly plotted at each antenatal visit on the antenatal graph according to EDD
11. Estimation whether there is evidence of IUGR according to graph of SFH measurements
12. Fetal presentation, recorded from 38 weeks onwards
13. Fetal heart heard or fetal movements felt
14. Urinalysis for proteinuria and glycosuria
15. Haemoglobin and Rh group
16. Syphilis test result recorded
17. Has the client been counselled for HIV testing? (Test results recorded)
18. Has tetanus toxoid been given?

Interpretation and decisions
19. Identification and recording of risk factors, their severity and significance
20. Record of action plan, including interventions and referral if indicated
21. Decision on place for delivery discussed with mother and recorded
22. Transport arrangements for when she goes into labour discussed with mother
23. Decision taken by mother on future family planning
24. Have the findings at 1st visit and 36 weeks visit been double-checked and counter-signed by an ADM or doctor or senior, experienced midwife
25. Date of next visit.

This will give a maximum score of 25 points.
For each ANC record assessed, record:

Total: __________
Multiply by 4 = ______ %
1. Age, parity & gravidity
   0 = not completed
   % = either age or parity/gravidity completed
   1 = all completed

2. Details of previous pregnancies, including causes of death & indications for operations
   0 = absent/incomplete information
   1 = all details recorded

3. Previous illnesses
   0 = no evidence that each section addressed
   1 = each section marked or evidence that all addressed
   (eg 'none of the above')

4. History of present pregnancy
   0 = no notes about the well-being of the woman and the progress of the pregnancy
   1 = notes about the well-being of the woman and the progress of the pregnancy

5. LMNP & EDD
   0 = no information in table or wrong method used to calculate EDD (eg sonar after 24wks)
   1 = EDD accurate +/- 3 days

6. Estimated gestation plotted on graph at 1st visit
   0 = inappropriate method (50th percentile or gestation) or incorrect calculation
   1 = correct plotting

7. Maternal height & weight
   0 = neither completed
   % = one completed
   1 = both completed

8. BP at each visit
   0 = BP not recorded on one or more occasion
   1 = BP recorded at all visits

9. Heart examination
   0 = no evidence of heart examination
   1 = heart examined

10. SFH correctly plotted on graph
    0 = SFH plotted incorrectly or not at each visit
    0 = SFH plotted correctly at each visit

11. Estimation of IUGR
    0 = unable to be estimated (ie if #10 = 0) or if IUGR evident but not acted upon
    1 = appropriate action taken

12. Fetal presentation from 38ks
    0 = no fetal presentation recorded from 34wks
    1 = fetal presentation at any visit from 34wks

"If no visit from 34wks, leave blank and calculate score out of total of 24

13. Fetal heart or fetal movements
    0 = no record
    1 = any record of FHR or fetal movements

14. Urinalysis for proteinuria & glycosuria
    0 = urinalysis not done on 1+ occasion
    1 = urinalysis at all visits

15. Hb & Rh
    0 = <1 M+ and Rh
    % = 1 M+ + Rh or 2+ M
    1 = 2 M+ + Rh

16. Syphilis test result recorded
    0 = no RPR result
    1 = RPR result recorded

17. HTF counselling and Test result recorded
    0 = no record of counselling
    1 = record of counseling and test result

18. Tetanus toxoid
    0 = no tetanus toxoid given
    1 = tetanus toxoid given (booster) full course

19. Identification & recording of risk factors in problem list table
    0 = some risks recorded on problem list
    1 = all risks recorded/no risk present

20. Record of action plan including intervention & referral if indicated
    0 = problems identified but no action taken
    1 = action for all risks/probs present

21. Delivery discussed with mother
    0 = location of ANC & delivery not indicated
    1 = location of ANC & delivery recorded

22. Transport arrangements for labour
    0 = no seats or transport
    1 = evidence of discussion of transport

23. Decision on future family planning
    0 = no discussion of family planning
    1 = evidence of discussion of family planning

24. Counting of 1st visit & 38 wk visit
    0 = no sign of quality check
    % = double-checking of card at 1 visit
    1 = double-checking of card at both visits

25. Date of next visit recorded
    0 = no record of future visit
    1 = future visit recorded at any stage (TC8)
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Annexure F: Classification form

Criteria for classifying women for the basic component of the new antenatal care model (WHO, 2002:8).

<table>
<thead>
<tr>
<th>Name of patient:</th>
<th>Clinic record number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address:</td>
<td>Telephone:</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS:** Answer all of the following questions by placing a cross mark in the corresponding box.

<table>
<thead>
<tr>
<th>OBSTETRIC HISTORY</th>
<th>No</th>
<th>Yes</th>
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</thead>
<tbody>
<tr>
<td>1. Previous stillbirth or neonatal loss?</td>
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<tr>
<td>2. History of 3 or more consecutive spontaneous abortions?</td>
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<td>3. Birthweight of last baby &lt; 2500g?</td>
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<td>4. Birthweight of last baby &gt; 4500g?</td>
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<td>5. Last pregnancy: hospital admission for hypertension or pre-eclampsia/eclampsia?</td>
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<td>6. Previous surgery on reproductive tract? (Myomectomy, removal of septum, cone biopsy, classical CS, cervical cerdage)</td>
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<table>
<thead>
<tr>
<th>CURRENT PREGNANCY</th>
<th>No</th>
<th>Yes</th>
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<tbody>
<tr>
<td>7. Diagnosed or suspected multiple pregnancy?</td>
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<td>8. Age less than 16 years?</td>
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<td>9. Age more than 40 years?</td>
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<td>10. Isoimmunization Rh (-) in current or in previous pregnancy?</td>
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<td>11. Vaginal bleeding?</td>
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<td>12. Pelvic mass?</td>
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<td>13. Diastolic blood pressure 90mm Hg or more at booking?</td>
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<tr>
<th>GENERAL MEDICAL</th>
<th>No</th>
<th>Yes</th>
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<tr>
<td>14. Insulin-dependent diabetes mellitus?</td>
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<td>15. Renal disease?</td>
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<td>16. Cardiac disease?</td>
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<td>17. Known 'substance' abuse (including heavy alcohol drinking)?</td>
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<td>18. Any other severe medical disease or condition?</td>
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Please specify _____________________

A "Yes" to any ONE of the above questions (i.e., ONE shaded box marked with a cross) means that the woman is not eligible for the basic component of the new antenatal care model.

<table>
<thead>
<tr>
<th>Is the woman eligible?</th>
<th>(circle)</th>
<th>NO</th>
<th>YES</th>
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<tbody>
<tr>
<td>If NO, she is referred to</td>
<td>_____________________</td>
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Date __________________ Name __________________ Signature __________________

(Staff responsible for ANC)
Annexure G: New WHO antenatal care model basic component checklist

<table>
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<tr>
<th>Name of patient</th>
<th>Address &amp; telephone no.</th>
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Clinic record no. ___________________________

### FIRST VISIT

For all women at first contact with clinics, regardless of gestational age. If first visit later than recommended, carry out all activities up to that time.

<table>
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<tr>
<th>DATE: / /</th>
<th>1st &lt;12 weeks</th>
<th>2nd</th>
<th>3rd</th>
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**Classifying form** which indicates eligibility for the basic component of the programme

- Clinical examination
- Clinically severe anaemia? Hb test
- Obstetric exam: gestational age estimation, uterine height
- Gynaecological exam (can be postponed until second visit)
- Blood pressure taken
- Maternal weight/height
- Rapid syphilis test performed, detection of symptomatic sexually transmitted infections
- Urine test (multiple dipstick) performed
- Blood type and Rh requested
- Tetanus toxoid given
- Iron/folic acid supplementation provided
- Recommendation for emergencies / hotline for emergencies
- Complete antenatal card

### SECOND VISIT and SUBSEQUENT VISITS

**Gestational age – approx. # of weeks**

<table>
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<tr>
<th>DATE: / /</th>
<th>26wks</th>
<th>32wks</th>
<th>38wks</th>
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- Clinical examination for anaemia
- Obstetric exam: gestational age estimation, uterine height, fetal heart rate
- Blood pressure taken
- Maternal weight (only women with low weight at first visit)
Urine test for protein (only nulliparous women and women with previous pre-eclampsia)
Iron/folic acid supplementation given
Recommendation for emergencies
Complete antenatal card

**THIRD VISIT:** add to second visit. DATE: / / 
Haemoglobin test requested
Tetanus toxoid (second dose)
Instructions for delivery/plan for birth
Recommendations for lactation/contraception

**FOURTH VISIT:** add to second and third visits DATE: / / 
Detection of breech presentation and referral for external cephalic version
Complete antenatal card, recommend that it be brought to hospital

Staff member responsible for antenatal care:
Name_______________________
Signature____________________

(WHO, 2002:10).