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List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal care
APH	Ante-partum haemorrhage
ART	Antiretroviral therapy
ARV	Antiretroviral
CPD	Cephalopelvic disproportion
CRHCS	Commonwealth Regional Health Secretariat
CVI	Content validity index
ECSACON	East, Central and Southern Africa College of Nursing
EDD	Estimated date of delivery
EmOC	Emergency Obstetric Care
FP	Family planning
GOA	Goal Oriented Approach
HB	Haemoglobin
HBM	Health Belief Model
HIV	Human Immune Virus
IUCD	Intra uterine contraceptive device
JHPIEGO	John Hopkins Programme of Information & Education for Gynaecology and Obstetrics
LMP	Last menstrual period
MDG	Millennium Development Goals
MNHP	Maternal & Neonatal Health Programme
MOHCW	Ministry of Health and Child Welfare of Zimbabwe
MRCZ	Medical Research Council of Zimbabwe
MTCT	Mother to Child Transmission (of HIV/AIDS)
MTMM	Multi-Trait-Multimethod Matrix
NND	Neonatal death
PHC	Primary Health Care
PIH	Pregnancy Induced Hypertension
PMTC	Prevention of mother-to-child transmission (of HIV/AIDS)
PPTCT	Prevention of Parent to Child Transmission (of HIV/AIDS)
RPR	Rapid Plasma Reagin
RSA	Republic of South Africa
SAfAIDS	Southern Africa forum for AIDS Information Dissemination Service
SSA	sub-Saharan Africa
SPSS	Statistical Package for Social Sciences
STI	Sexually transmitted infections

TBA	Traditional birth attendant
UNICEF	United Nations Children's Emergency Fund
UNFPA	United Nations Population Fund
USA	United States of America
VCT	Voluntary counselling and testing
WHO	World Health Organization

List of annexures

- A Letters requesting permission to conduct the study on factors influencing pregnant adolescents' utilisation of ANC services in Bulawayo
- B Letters granting permission to conduct research on factors influencing pregnant adolescents' utilisation of ANC services in Bulawayo
- C Consent form for pregnant adolescents/adolescent mothers or their guardians
- D Checklist: adolescent mothers' ANC records
- E Structured interview schedule for pregnant adolescents attending ANC in Bulawayo (English and Ndebele versions)
- F Structured interview schedule for adolescent mothers who delivered their babies without attending ANC services (English and Ndebele versions)
- G Self-administered questionnaire for midwives
- H Goal-oriented guidelines for ANC used in Zimbabwe
- I Antenatal care (ANC) attendance booklet for government hospitals
- J Information brochure about antenatal care for adolescents (English and Ndebele versions)
- K Antenatal care provision guidelines for midwives in Zimbabwe
- L Letter and CV from the statistician (Mr Amon Masche)
- M Photocopies of newspaper reports

CHAPTER 1

Introduction to and background information about the study

1.1 INTRODUCTION

Antenatal care (ANC) in Zimbabwe is regarded as an important health care and health promotion activity that aims at enhancing maternal and foetal well-being during pregnancy as well as favourable pregnancy outcomes. Adolescent mothers are generally viewed as a vulnerable group which could benefit from the effective utilisation of ANC services.

The study on factors influencing pregnant adolescents' utilisation of ANC services was conducted in Bulawayo, the second largest city in Zimbabwe, situated south of Harare, the capital city of Zimbabwe. Bulawayo has an estimated population of 684 232, based on the 2002 national census (City of Bulawayo 2004:1).

In Bulawayo health care services, including ANC, are provided at the Primary Health Care (PHC) clinics, government hospitals, private hospitals, surgeries and nursing homes. This study focused on the 18 PHC clinics and the two government hospitals. All 18 PHC clinics provide ANC services but only four of them, together with the two government hospitals, conduct deliveries. The other 14 PHC clinics no longer conduct deliveries because of the shortage of midwives. The two government hospitals provide specialist ANC and other obstetric services to referred clients such as pregnant adolescents aged 19 or younger and those with health risks that might require the services of obstetricians, physicians, paediatricians and intensive midwifery care. These clients are usually referred from the PHC clinics and provincial hospitals in Matebeleland South, the Midlands and Masvingo regions. The study also focused on adolescent mothers who did not attend ANC but delivered their babies in the PHC clinics and the two hospitals.

Zimbabwe is a landlocked country with a land area of 390 757 square km, of which 85% is agricultural land (see figure 1.1). Zimbabwe is bordered to the south by South Africa, south-west by Botswana, north-west by Zambia and north-east by Mozambique (City of Bulawayo 2004:1).

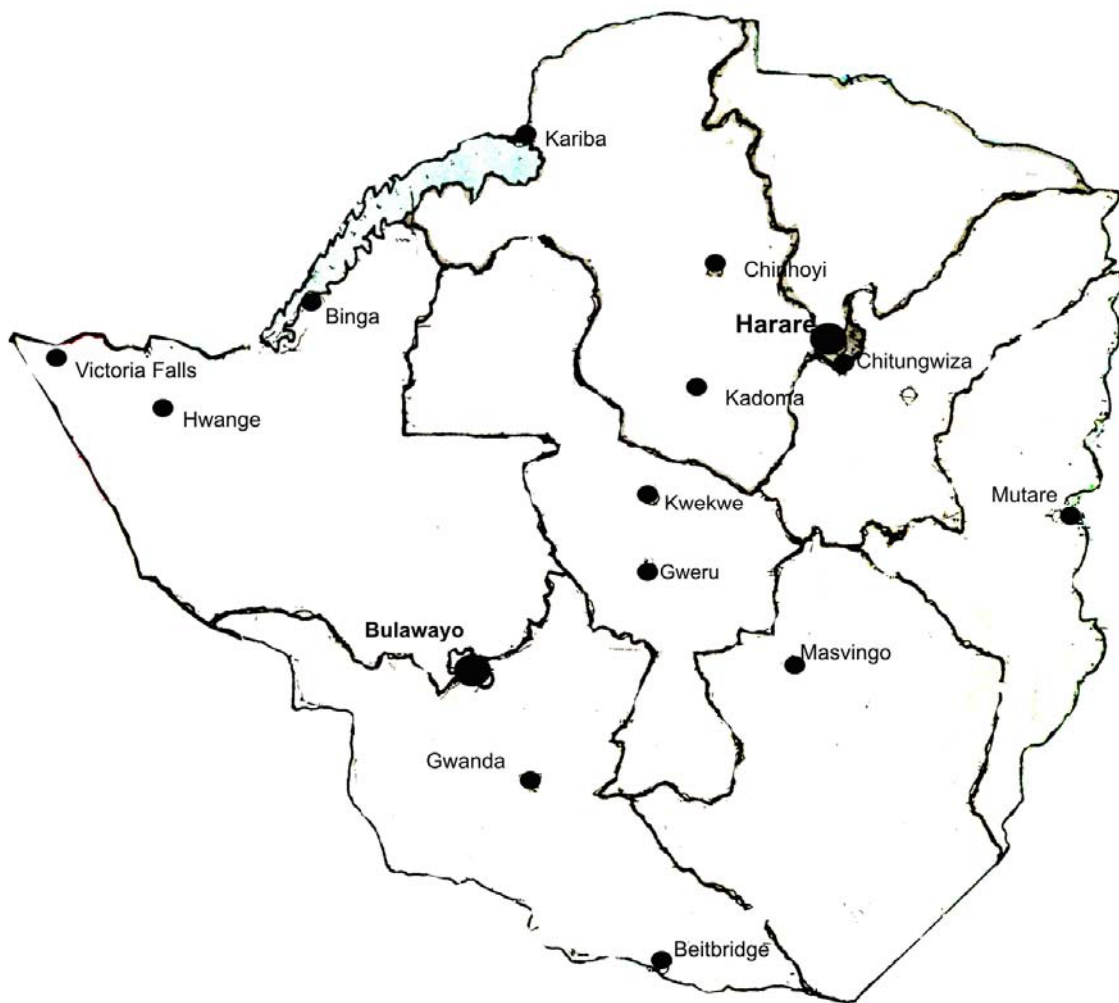


Figure 1.1: Map of Zimbabwe (Source MOHCW 2004b:11)

1.2 BACKGROUND TO AND INFORMATION ABOUT THE STUDY

Maternal morbidity and mortality in developing countries, including Zimbabwe, continue to pose challenges to the health care delivery system. In Zimbabwe maternal mortality figures are estimated to have risen from 283 deaths per 100 000 live births between 1984 and 1994 to 695 deaths per 100 000 live births between 1995 and 1999 (Ministry of Health and Child Welfare [MOHCW] 2004b:41.) According to MOHCW (2007:11), the maternal mortality ratio has slightly declined to 555 deaths per 100 000 live births during 2005/2006. Strategies have been implemented to achieve the Millennium Development Goal (MDG) number five that endeavours to improve maternal health and reduce maternal mortality by 75% between 2000 and 2015. The MDG report postulates that maternal deaths can be reduced if women have access to ANC and other maternal services and that maternal services should aim at empowering Zimbabwean

women, including pregnant adolescents (MOHCW 2004b:41.) ANC in Zimbabwe has identified the goal-oriented approach as one of the safe motherhood activities aimed at providing health care and health education to women during pregnancy (see Annexure H).

A study conducted in Zimbabwe by Munjanja, Lindmark and Nystrom (1996:369) assessed the efficacy of reduced ANC visits; these research results showed that pregnancy outcomes for women with no risk factors were not significantly different whether or not they had fewer ANC visits. Based on these results and on those by Villar, Ba'aqeel, Piaggio, Lumbiganon, Belizan, Farnot, Al-Mazrou, Carroli, Pinol, Donner, Langer, Nigenda, Mugford, Fox-Rushby, Hutton, Bergsjö, Bakketeig and Berendes (2001:1562), Zimbabwe has adopted the World Health Organization's (WHO) goal-oriented guidelines (MOHCW 2001:27). These guidelines recommend four to six ANC visits for mothers with no identified health problems and more ANC visits for pregnant women diagnosed with health risks.

The overall goal of ANC is to ensure good health for the mother and the foetus, identify problems during pregnancy, treat the problems if possible or refer the women to the next level of health care as soon as possible (John Hopkins Programme of Information & Education for Gynaecology & Obstetrics (JHPIEGO)/Maternal & Neonatal Health Programme (MNHP) 2004:1; MOHCW 2001:25). These goal-oriented ANC activities are stipulated in the Zimbabwe reproductive health service guidelines and are designed to focus on the following activities:

- Health promotion, whereby information is given on nutrition, health care, counselling on danger signs and complications during pregnancy; planning for delivery and risk assessment through history taking, physical examination and screening tests.
- Prevention, early detection and management or referral for complications. Women are also screened for pregnancy-induced hypertension (PIH), anaemia, ante-partum haemorrhage (APH), multiple pregnancies and medical or genetic conditions.
- Treatment of existing conditions such as malaria and anaemia; the provision of iron supplements for the prevention and treatment of anaemia and the administration of tetanus toxoid vaccinations, where necessary.
- Voluntary counselling and testing (VCT) for the prevention of mother-to-child transmission (MTCT) of the human immune virus (HIV) and acquired immune deficiency syndrome (AIDS).

1.2.1 Adolescence and antenatal care

Mngadi, Thembi, Ransjo-Arvidson and Ahlberg (2002:39) cite the WHO's (1997) definition of adolescence as a period of physical, social and psychological development in the age group of 10-19 years. This age group is usually associated with high risk-taking behaviours resulting in health problems such as unwanted pregnancies as well as HIV and AIDS.

Adolescent mothers are generally associated with higher rates of peri-natal morbidity and mortality than adult mothers (Ehlers 2003:229; Gupta & Da Costa 1999:125). These health problems in Africa are reportedly more severe for adolescents who are pregnant for the first time (primigravid) because of their physiological and social immaturity and relatively powerless positions in society. The health problems may include anaemia, prolonged labour due to cephalopelvic disproportion (CPD), preterm labour, hypertensive disorders and sexually transmitted infections (STIs), including HIV and AIDS (Aretakis 2004:816; Mngadi et al 2002:39; Singh & Khare 2001:34-36; WHO 2003:2).

A study on eclampsia in Nepal showed that 97.22% of the women diagnosed with eclampsia who participated in the study were adolescents, and 80.85% were pregnant for the first time (Choudhary 2003:237). The study therefore suggests that eclampsia is primarily a disease of young women. Pregnant adolescents might be particularly prone to develop eclampsia, a life-threatening condition during pregnancy, unless effective ANC services are provided to identify risk factors for eclampsia and to institute timely and effective treatment.

Obstructed labour due to CPD is also common among young adolescents when child bearing is started when the pelvis size is inadequate and underdeveloped. Obstructed labour and anaemia can also occur in subsequent pregnancies as a result of poverty and where maternal nutrition is inadequate in iron, calcium, vitamin D, folic acid and zinc (Konje & Ladipo 2000:S291).

Cultural and socio-economic factors such as the low status of the female adolescent in society, limited decision making powers, social immaturity and financial limitations might contribute to poor utilisation of ANC services, resulting in an increased incidence of pregnancy and obstetric complications (Konje & Ladipo 2000:S291; Nyoni 2006:1). Early diagnosis and management of alcohol and substance use during pregnancy among adolescents have been found to reduce poor perinatal outcomes such as pre-term labour, still birth and low birth weight (Feresu, Harlow, Welch & Gillespie 2004:154; Lesser, Oakes & Koniak-Griffin 2003:513).

A study conducted in Nigeria among teenagers revealed that poor obstetric outcomes were related to poor ANC and poor demographic characteristics rather than to mothers' biological ages (Loto, Ezechi, Kalu, Loto, Ezechi & Ogunniyi 2004:398). The same study's findings showed a higher incidence of complications among the teenagers who did not attend ANC (referred to as "unbooked cases" in Zimbabwe) than among those who did do so.

Another study on the utilisation, quality and effectiveness of free ANC in an informal settlement area in the Gauteng Province of the Republic of South Africa (RSA) revealed that adolescent mothers tended to seek care late during their pregnancies, with an average of one visit before delivery. The findings also showed that care provision was inadequate and free ANC services did not automatically increase the utilisation of ANC services. Other factors likely to increase the utilisation of ANC services were cited as accessibility, availability and acceptability of the services (Westaway, Viljoen, Wessie, McIntyre & Cooper 1998:58).

Studies conducted by Matua, (2004:33), as well as by Omolola, Babatunde, Babalola and Victoria (2004:25), revealed that pregnancy and childbirth posed health risks, especially where there was no ANC. The findings also revealed that pregnant adolescents sometimes met unfriendly nurses and might even be turned away from ANC clinics. These pregnant adolescents would then lose confidence in the service provider and eventually stop using the facility. It is therefore important that women, including pregnant adolescents, in Zimbabwe are provided with improved and user-friendly ANC services.

There continue to be reports of pregnancy-related morbidity and mortality and some of these might be attributed to delay in seeking ANC or the non-utilisation of ANC. The United Nations Children's Emergency Fund (UNICEF 2004:2) reported a global increase in ANC attendances from 53%–65%, while sub-Saharan Africa (SSA) recorded 64% ANC attendance, an indication that some SSA women continue to deliver their babies without attending ANC.

Pregnant adolescents are classified as a high-risk group. Some of their obstetric problems might be aggravated by late entry into ANC, limited knowledge on health-seeking behaviours and inaccessible adolescent-friendly health care facilities. Woo and Twinn (2004:595) advocate the provision of comprehensive health assessments and strategies that increase knowledge about sexual health, contraception and ANC.

Pregnant adolescents are also vulnerable to acquiring HIV and AIDS because they are sexually active and might lack knowledge, resources, social status and power to protect themselves against such diseases. The 2000 ANC survey in Zimbabwe showed an HIV prevalence rate of 32% among the 15–24 age group (MOHCW 2004a:45). Quality and focused VCT during pregnancy, early diagnosis and the provision of treatment to prevent MTCT of HIV infection should be implemented early in pregnancy (Jackson 2002:147).

In view of the problems related to ANC provision, Andrew and Nancy (2005:402) recommend high quality ANC, early ANC and early diagnosis and treatment of complications and infections. Andrew and Nancy (2005:402) also criticise health care systems that fail to provide appropriate frameworks and resources to delivery interventions. These services should aim at increasing accessibility and empowerment of pregnant adolescents with knowledge about family planning, pregnancy, childbirth and parenting, as well as the prevention of STI and HIV infections (Kleijer, Dekker & Heard 2005:23). This underscores the need for an ANC framework for pregnant adolescents that is client-focused and user-friendly, observing the rights and dignity of pregnant adolescents.

Pregnant adolescents' poor utilisation of ANC services may also be influenced by the ANC providers' attitudes as well as the nature of the services provided. The findings of the study on health care seeking practices among pregnant women in Cape Town by Jewkes, Abrahams and Mvo (1998:8), support the premise that focused and individualised ANC that is accessible and acceptable is likely to enhance effective utilisation of ANC services by pregnant adolescents in Bulawayo. Aretakis (2004:818) cites some of the barriers, especially among African adolescent mothers, related to delays in seeking ANC, as dislike towards providers' care and offensive attitudes towards pregnant adolescents. Edelman and Mandle (1994:569) recommend special approaches to adolescent mothers that involve skilled counselling and support by midwives who should provide honest answers to those young mothers who may be hesitant to raise their concerns. Health care providers, including midwives in many of the developing countries, have been described as lacking humanity; they might insult clients by using abusive language. Confusion and misunderstanding might occur when pregnant adolescents cannot comprehend what the midwives are saying because they know too little about the basic anatomy and physiology (Awafung 2004:27; Finger 2004:13; Pardo 2003:11). Health-seeking behaviours are influenced by the way an individual perceives the care given and the environment in which such care is provided.



Despite the recommended focused ANC guidelines, utilisation of ANC services by pregnant adolescents in Bulawayo, Zimbabwe, remains poor. As many as 49% of the adolescent mothers booked for ANC only after 28 weeks' gestation, and 28% delivered their babies without attending ANC (MOHCW 2005a:1). The annual report of the Director of Health Services for the PHC clinics in Bulawayo reported an overall ANC coverage of 52% in 2005, with 40% of them booking for ANC late (City of Bulawayo 2005:21). The recommended first ANC visit should be made during the first trimester, between 12 and 16 weeks' gestation, because by then the development of foetal organs is almost complete. (Fraser & Cooper 2003:253; MOHCW 2001:27).

1.2.2 Antenatal care in Zimbabwe

According to MOHCW (2001:25) ANC, using the goal-oriented approach, has been universally adopted and recommended as one of the pillars towards safe motherhood. ANC in Zimbabwe, including that of pregnant adolescents, reached coverage of 96% in 1988, but has been declining since the 1990s. Zimbabwe's national health strategy for 1997–2007 reports that by 1997 the ANC coverage had dropped to 75% and to 70% by 2000 (MOHCW 1999:26). According to MOHCW (2007:11), there was an increase (94%) of women attending at least one ANC visit in 2006, although only 68% recorded the four recommended visits. Maternal health statistics in Bulawayo for 2004 and 2005 show that a total of 8 030 adolescent mothers had delivered babies, but that only 6 213 (77.4%) of them had attended ANC, while 1 817 (22.6%) delivered their babies without attending ANC at all (referred to as “unbooked cases” in Zimbabwe). Most of the health complications that arose occurred among the unbooked adolescent mothers (see table 1.1). The 22.6% adolescent mothers who delivered without attending ANC concerns the MOHCW, as this might contribute to the perinatal morbidity and mortality statistics in Bulawayo.

Table 1.1: Maternal health statistics (2004 and 2005): Bulawayo, Zimbabwe

Period	Deliveries, adolescent mothers who attended ANC	Deliveries, adolescent mothers who did not attend ANC	Total deliveries, adolescent mothers	% deliveries of adolescent mothers who did not attend ANC
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2004	2 436	852	3 288	25.9
2005	3 777	965	4 742	20.4
Total	6 213	1 817	8 030	22.6 (average)

Source: Bulawayo ANC & Delivery Registers for 2004 and 2005

This situation underscores the need for focused ANC as the entry point to providing maternal health during pregnancy, identifying life-threatening conditions and providing appropriate treatment as well as counselling and health education.

The adolescent mothers, by virtue of their bio-physiological immaturity and being faced with the HIV and AIDS pandemic, deserve focused ANC that addresses their individual needs and problems. The annual health statistics for 2004–2005 indicate that adolescent mothers contribute nearly 50% to the morbidity and mortality among women of childbearing age. Between January 2004 and December 2005, 63 maternal deaths were reported. The major preventable causes of death were hypertensive disorders, infections and obstructed labour (MOHCW 2005a:1). This suggests that at least two women in Bulawayo died every month from pregnancy-related complications.

Maternal morbidity and mortality can be reduced if effective ANC is rendered and ‘at-risk factors’ are diagnosed and managed promptly. These health centres in Bulawayo are expected to provide focused and goal-oriented ANC, although the nature of ANC provided and factors that may influence adolescent mothers’ utilisation of such care have not been assessed. This study therefore attempted to explore factors influencing the utilisation of ANC services by pregnant adolescents in Bulawayo.

1.3 STATEMENT OF THE RESEARCH PROBLEM

The ANC services in urban settings, including Bulawayo, are provided in government hospitals, private nursing homes, private surgeries and PHC clinics at gazetted maternity fees according to the level of care. Despite the availability of these services at government hospitals and PHC clinics, 49% of adolescent mothers continued to book for ANC after 28 weeks’ gestation, while 22.6% delivered their babies without utilising any ANC services at all. This situation increases

pregnant women's chances of infant and maternal morbidity and mortality; hence the need to undertake the study. Pregnant adolescents who book for ANC after 28 weeks' gestation, and those who deliver without attending ANC, do not derive maximum benefits from these services.

It is against this background that the study is undertaken to best address the question "which factors influence pregnant adolescents' utilisation of ANC services in Bulawayo?"

1.4 PURPOSE OF THE STUDY

The purpose of the study was to determine why some pregnant adolescents book late for ANC and why others do not attend ANC at all. The findings will assist in coming up with recommendations for improving factors that are perceived as barriers to the utilisation of ANC services in Bulawayo.

1.5 RESEARCH QUESTIONS

The following questions were asked in order to address the problem statement:

- What is the quality of documented ANC services rendered to adolescents in Bulawayo?
- Which modifying factors could influence pregnant adolescents' utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices, including economic factors, influence pregnant adolescents' decision on whether to use ANC services?
- Which structural variables influence pregnant adolescents' decision on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?
- What barriers might impact negatively on pregnant adolescents' utilisation of ANC services?
- What can be done to enhance pregnant adolescents' utilisation of ANC services in Bulawayo?

1.6 RESEARCH OBJECTIVES

The study's objectives sought to:

- Evaluate the documented quality of ANC rendered to adolescents in Bulawayo, because poor ANC services can pose a barrier to adolescents' utilisation of these services
- Determine modifying factors that could influence pregnant adolescents' utilisation of ANC services
- Explore individual perceptions of pregnant adolescents that could influence their non-utilisation of ANC services
- Identify social values, beliefs and practices (including economic factors) which could influence pregnant adolescents' decision on whether to use ANC services
- Explore structural variables likely to influence pregnant adolescents' decision on whether to use ANC services
- Determine pregnant adolescents' perceived benefits of using ANC services
- Identify barriers that might impact negatively on pregnant adolescents' utilisation of ANC services
- Determine strategies that could enhance pregnant adolescents' utilisation of ANC services in Bulawayo and possibly also in Zimbabwe.

1.7 SIGNIFICANCE OF THE STUDY

Effective utilisation of ANC services, through early booking for ANC, receiving health promotion information and health care, is crucial to enhancing maternal and foetal health during pregnancy and reducing mortality and morbidity statistics.

The identified factors that influence the utilisation of ANC services in Bulawayo are envisaged to assist in:

- Promoting quality ANC through evidence-based practice
- Enhancing the effective utilisation of ANC services by pregnant adolescents in Bulawayo
- Strengthening Zimbabwe's MOHCW strategy aimed at improving maternal health and the reduction of maternal mortality by 75% between 2000 and 2015 through enhanced access to ANC services (MOHCW 2004a:41)
- Empowering pregnant adolescents to make informed and independent decisions about seeking health care during pregnancy; identify danger signs and initiate appropriate actions

- Enhancing family and social support systems for pregnant adolescents within community settings
- Influencing midwifery education and practice settings to review curricula and incorporate essential content on pregnant adolescents' ANC
- Advocating for adolescent friendly policies that minimise barriers to ANC services for pregnant adolescents.

1.8 THEORETICAL FRAMEWORK

The study was guided by the Health Belief Model (HBM), which focuses on client compliance and health care practices (Polit & Beck 2004:124). The model attempts to justify the premise that health-seeking behaviour is influenced by the individual's perceptions of threats posed by the health problem and the perceived benefits of taking actions to minimise such a health problem. Brink and Wood (2001:47) support the premise that a theoretical framework attempts to explain why variables such as ANC and pregnant adolescents affect each other.

The HBM in this study assisted in explaining why some pregnant adolescents take action to prevent health complications during pregnancy by attending ANC early in pregnancy, while others attend ANC only late or not at all. The HBM also assisted in determining pregnant adolescents' views about ANC and what factors influence the utilisation of ANC services. According to Dennill, King and Swanepoel (1999:156), the HBM is organised into three major components which attempt to explain human behaviour towards health, or in the case of this study pregnant adolescents' behaviours towards utilising ANC services, namely:

- Individual perceptions of pregnant adolescents concerning the utilisation of ANC
- Modifying factors which could influence pregnant adolescents' decision as to whether or not to attend ANC, including:
 - Demographic factors such as age, race and gender issues
 - Socio-demographic variables such as personality, social factors and peer influence
 - Structural variables related to pregnant adolescents' knowledge about the benefits of attending and dangers of not attending ANC
- Variables affecting the likelihood of pregnant adolescents' initiation of actions to utilise ANC services.

The premise of the HBM is that individual pregnant adolescents' health beliefs are influenced by their perceptions of the ANC services. Modifying factors such as age, gender, marital status and educational status and parity could influence the utilisation of ANC services (Matua 2004:36; Tlou 2002:65). Socio-cultural factors could also influence the pregnant adolescents' decision as to whether or not to utilise the ANC services.

Variables related to perceived benefits might motivate the pregnant adolescents to utilise ANC services. Perceived barriers such as the health workers' negative attitudes and the lack of accessibility, acceptability and availability of the ANC services could influence the decision not to utilise the ANC services. Access to health care is important to help modify the adolescents' risk behaviours and promote the utilisation of ANC services (Slap 1995:1).

The HBM, as a conceptual framework, attempts to explore why some people who may not be ill take certain actions to prevent illness, while others do not take such measures. The framework was seen as useful in identifying those pregnant adolescents who were susceptible to several inhibiting factors and unlikely to initiate early initial ANC, thereby exposing themselves and their babies to health complications that could have been prevented.

The HBM could be used to motivate pregnant adolescents to take positive health actions through attending ANC in time and minimising obstetric and/or health complications. Health education, counselling and effective social support systems are likely to initiate cues for action. Figure 1.2 illustrates the variables identified in this study to address factors which could influence the pregnant adolescents' utilisation of ANC services in Bulawayo.

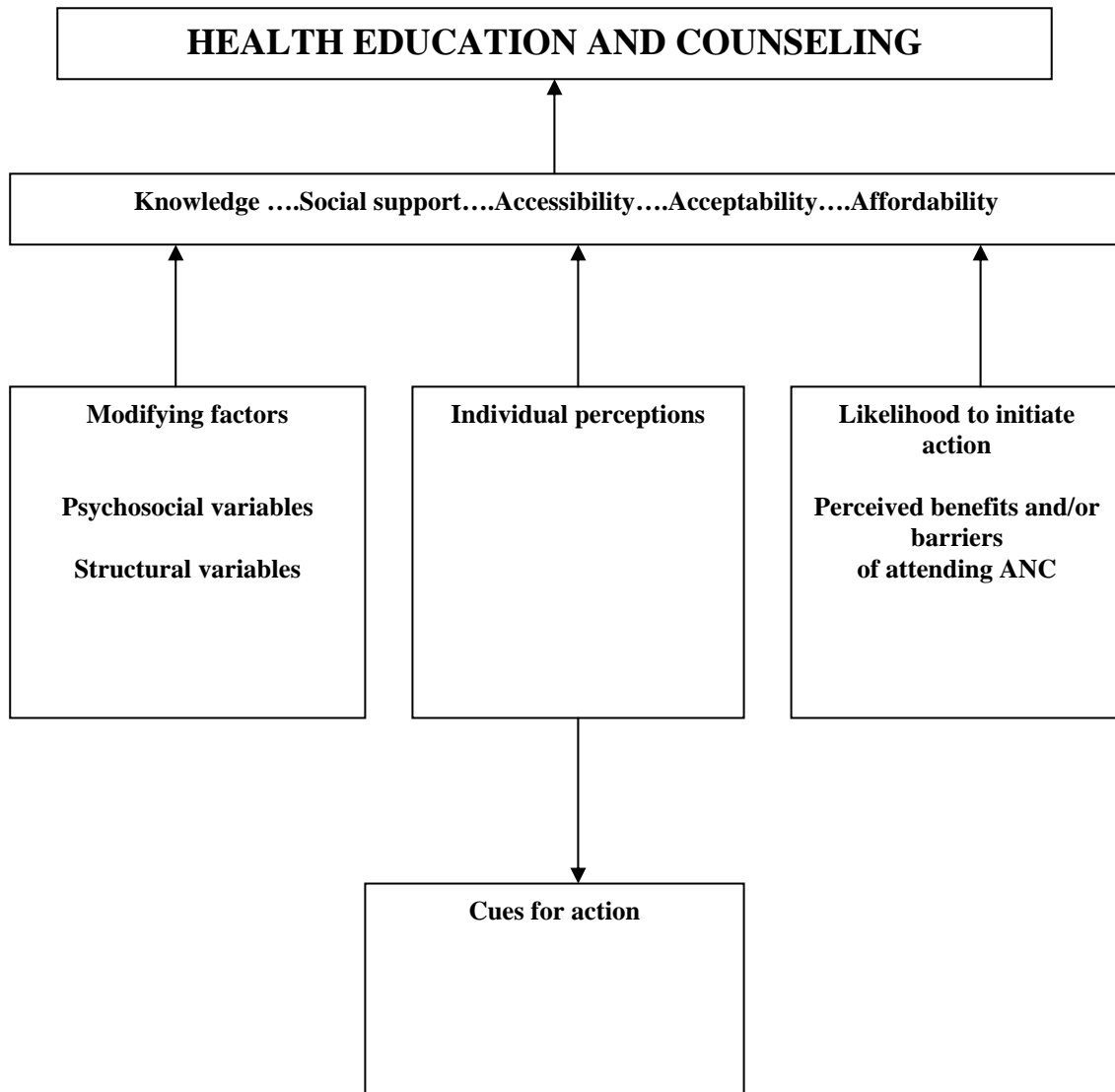


Figure 1.2: Health Belief Model
(adapted from Pender 1996:36)

1.9 DEFINITION OF KEY CONCEPTS

Adolescence

Adolescence is described as a transition from childhood to adulthood. The process is characterised by the development of sex organs such as the breasts and pubic hair, and the initiation of menses in females. During this period there is a spurt of biological development and rapid hormonal activity contributing to mood swings (Wade & Tavris 1993:498). Adolescence is

also described as a period of physical, social and psychological well-being among groups aged 10–19 (WHO 1994 cited by Mngadi et al 2002:39). In this study adolescence refers to persons aged 19 years or younger.

Adolescent mother

The term in this study refers to any woman 19 years or younger who has delivered a baby irrespective of gravida, parity, neonatal outcome or marital status (Ehlers, Maja, Sellers & Gololo 2000:46).

Antenatal care

Antenatal care (ANC) is an umbrella term used to describe the health care procedures and care rendered during pregnancy (McDonagh 1996:2). The aim of ANC is to screen pregnant women for 'at-risk factors'. This study discusses ANC within the framework of focused and goal-oriented ANC for Zimbabwe, which has been adapted from the WHO goal-oriented ANC guidelines (MOHCW 2001:25).

Goal-oriented ANC

This is an evidence-based model of ANC that focuses on objective-oriented activities and emphasises essential elements of ANC that improve pregnancy outcomes as effectively as the traditional ANC approach. The model, which has been universally adopted by WHO, recommends 4-6 ANC visits where there are no risk factors, as compared to the 12–14 routine ANC visits that were prescribed in the traditional model of ANC (Munjanja, Lindmark & Nystrom 1996:366; Villar et al 2001:1551). This study discusses ANC in the context of the goal-oriented ANC guidelines as recommended by the WHO and as stated in Zimbabwe's ANC attendance booklet for government hospitals (see Annexure I).

Midwife

A midwife is a person who has successfully completed a prescribed post-basic or direct-entry midwifery education programme and is licensed to practise midwifery in his or her country (East, Central & South African College of Nursing (ECSACON) 2001:77). Midwife in this study means a trained nurse with a midwifery qualification and who is working in maternity health care programmes in the clinics or hospitals in Bulawayo.

Perception

Perception is defined as an organised process in which an individual interprets situations from an environment and draws subjective or personal inferences and conclusions from these in order to take a certain action or behaviour (George 2002:225; Quinn 2001:73). Perception in this study refers to pregnant adolescents' views about ANC services in Bulawayo.

Pregnant adolescent

The term in this study refers to any woman 19 years or younger during pregnancy; irrespective of gravida, parity and marital status (Ehlers et al 2000:46).

Primigravid adolescent

A primigravid adolescent in this study means a female, 19 years or younger, who is pregnant for the first time.

Safe motherhood

According to the MOHCW (2001:23), safe motherhood is the provision of quality maternal health services during pregnancy, delivery and in the post partum period, in order to ensure optimum health outcomes for the mother and the infant. Safe motherhood in this study will be discussed within the context of the goal-oriented ANC guidelines (see Annexure H).

1.10 ORGANISATION OF THE THESIS

The study is organised in eight chapters.

- Chapter 1 discussed the introduction and background to the study, the statement of the problem, the research questions guiding the study and the objectives. The significance of undertaking the study, key concepts and the theoretical framework (HBM) guiding the study were also discussed.

- Chapter 2 will review related literature and discuss factors influencing pregnant adolescents' utilisation of ANC services within the context of the three major components of the HBM.
- Chapter 3 will discuss the research methodology used in the four phases of this study and describe the appropriate research design, population, sampling, data collection methods, reliability and validity of the instruments used in each phase. Ethical considerations and data analysis techniques will also be explained.
- Chapter 4 will outline the analysis and discussion of the research results in phase 1, which audited pregnant adolescents' ANC records.
- Chapter 5 will present the analysis and discussion of the research results obtained in phase 2 of the study, in which structured interviews were conducted with pregnant adolescents who attended ANC.
- Chapter 6 will analyse and discuss the research results obtained in phase 3 from interviews conducted with adolescent mothers who delivered their babies without attending ANC.
- Chapter 7 will analyse and discuss the research results obtained in phase 4 from questionnaires completed by midwives working in the maternity health care settings of Bulawayo.
- Chapter 8 will outline the conclusions, implications, recommendations and limitations of the study.

1.11 SUMMARY

Chapter one discussed the background to the study including the statement of the problem. The purpose of the study, objectives and research questions were outlined. The significance of the study and the theoretical framework that guided the study, the Health Belief Model or HBM, was discussed. The key concepts used in this study were also defined. The next chapter will review literature related to adolescents' pregnancies and ANC attendance.



CHAPTER 2

Literature review

2.1 INTRODUCTION

This chapter will review literature related to pregnant adolescents' utilisation of ANC services within the framework of the goal-oriented ANC protocol (see Annexure H) and will be guided by the Health Belief Model or HBM. According to Polit and Beck (2006:503), a literature review is "a critical summary of research on a topic of interest, prepared to put a research problem in context". A literature review involves the systematic identification, synthesis, analysis and summary of written material that contains information on a research topic (Polit & Hungler 1995:79). Related research studies, articles from professional journals and books were reviewed in order to establish other researchers' findings and views about factors that influence the pregnant adolescents' utilisation of ANC services and why some pregnant adolescents attend ANC only late in pregnancy, while others deliver their babies without receiving ANC at all.

2.2 PURPOSE OF THE LITERATURE REVIEW

The purpose of the literature review in this study was to identify factors influencing pregnant adolescents' utilisation of ANC services in Bulawayo. According to Polit and Beck (2004:88), a literature review serves an important role in the nursing research process as well as the important function of assisting nurses to acquaint themselves with updated knowledge of concepts in order to provide evidence-based practice. Fouche and Delport (2005:127); Polit and Hungler (1995:79) and Polit and Beck (2004:88) cite the purpose of the literature review as:

- Providing a source of research ideas and helping the researcher to focus on a research topic.
- Placing the research project in context and allowing the researcher to shape the research questions and/or the hypothesis.
- Determining gaps and inconsistencies and whether there is a need to replicate studies in a different setting or with a different population.
- Identifying relevant conceptual frameworks for the research problem.

- Identifying suitable designs and data collection methods for the study.
- Assisting in interpreting the study findings and in developing recommendations for improved services and for future research.

A review of relevant literature provides a road map for the development and implementation of the research study (Burns & Grove 2005:95). The literature review in this study attempted to address the following research questions, which were guided by the components of the HBM:

- Which modifying factors could influence pregnant adolescents' utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices (including economic factors) influence pregnant adolescents' decision on whether to use ANC services?
- Which structural variables influence pregnant adolescents' decision on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?
- What barriers might impact negatively on pregnant adolescents' utilisation of ANC services?
- What can be done to enhance pregnant adolescents' utilisation of ANC services in Bulawayo?

2.3 ANTENATAL CARE AND PREGNANT ADOLESCENTS: A GLOBAL PERSPECTIVE

Antenatal care provides an opportunity to empower pregnant adolescents to recognise and respond to the signs and symptoms of obstetric complications. An adolescent pregnancy is a high-risk situation because of these mothers' physical and psychological immaturity. Additional social factors such as culture, low literacy level, inadequate reproductive health knowledge and inadequate ANC attendances affect pregnant adolescents' health seeking behaviour, contributing to pregnancy complications and poor pregnancy outcomes (Matua 2004:36; Singh & Khare 2001:34).

Several studies have revealed that the majority of pregnant adolescents make the first ANC visit only during the second and third trimester of pregnancy, while some deliver their babies without attending ANC at all (Ikamari, 2004:27; Singh & Khare, 2001:34; Van den Heuvel, De Mey, Buddingh & Bots 1999:838). Pregnancy- and childbirth-related causes of morbidity and mortality among women aged 19 or younger could be improved through skilled ANC services that would detect, prevent, manage and treat obstetric complications.

In Africa and in some other parts of the world, pregnant adolescents are susceptible to malaria, associated with anaemia, abortions, premature deliveries and low birth-weight babies (Van Eijk 2006:2). The prevention and treatment of malaria and anaemia should be addressed by timely counselling and treatment (Carroli, Rooney & Villar 2001:S28).

Studies on maternal health care utilisation in the Teso District, Kenya, revealed that 67% of women, including adolescents, attended ANC during the second trimester of their pregnancies, 20.4% during the third trimester, while 14% never attended ANC (Ikamari 2004:27). Similar findings were observed among rural based adolescents in Zambia and Zimbabwe (Maimbolwa, Ahmed, Divan & Ransjo-Arvidson 2003:29; Van den Heuvel et al 1999:838).

Ikamari (2004:27), Starrs (1997:12) and Van den Heuvel et al (1999:838) identify the following contributory factors to the poor utilisation of ANC services by pregnant adolescents:

- Doubts about the efficacy of ANC.
- Limited exposure to information and new ideas.
- Limited decision making authority and control over their health and lives by virtue of being women, young and dependent on their spouses and/or parents.
- Expensive ANC charges for poor adolescents, who then resort to cheaper and more compassionate services from traditional birth attendants (TBAs).
- Lack of transport.
- Long distances from the clinics.
- Perceptions that the health care providers are rude.
- Religious beliefs in the case of some women.
- Being single, which posed psychosocial and economic challenges to using ANC services.

2.3.1 Antenatal care in Zimbabwe

Antenatal care in Zimbabwe is expected to focus on goal-oriented activities that emphasise qualitative, client-focused care, as opposed to quantitative care. In order to promote its effectiveness, ANC services should be accessible, available, acceptable, effective, efficient, appropriate and equitable to pregnant women, including pregnant adolescents.

The initial ANC visit should take place any time before 16 weeks of gestation during the first trimester of pregnancy. The ANC activities performed at the first visit include history taking, physical examination, laboratory investigations for syphilis, haemoglobin estimations, testing urine for albumen and glucose, as well as counselling and management of prevention of parent-to-child transmission (PPTCT) of HIV. Tetanus toxoid and anti-malarial prophylaxis are given. The goal of the first interview is to make a risk assessment, provide appropriate health education and discuss the plan for delivery with the pregnant adolescent, and to supply iron supplements throughout the pregnancy (MOHCW 2001:27).

The second ANC visit should occur between 16 and 23 weeks' gestation. The aim is to discuss the laboratory results and take action on abnormal results and to treat the partner if necessary. The interview focuses on foetal movements, problems the woman might be experiencing and findings of the urine tests. The blood pressure is checked to exclude pregnancy-induced hypertension (PIH). Health education is given on danger signs during pregnancy, how to recognise them and what actions to take. The second dose of anti-tetanus toxoid is given (MOHCW 2001:27).

The third ANC visit takes place between 24 and 28 weeks' gestation and this visit also centres on potential problems, blood pressure checks and urine analysis. Obstetric problems such as APH and PIH are discussed. The palpation should detect multiple pregnancies and abnormalities (MOHCW 2001:27).

The fourth ANC visit takes place between 32 and 34 weeks of gestation; the assessment and the discussion focuses on problems the mother might be experiencing and also review the delivery plan, including labour. Haemoglobin estimations, palm and conjunctival pallor, foetal size in relation to gestational dates, foetal heart rate and presentation should be recorded on the client's ANC card (MOHCW 2001:27).

The fifth interview is conducted between 36 and 37 weeks, and the sixth interview between 38 and 42 weeks respectively. The interviews ensure re-assessment of the woman, health education, emotional and social support. Information on labour, childbirth and the preparation for the coming baby is reinforced. The ANC visits may be more frequent when there are potential health risks.

The ANC attendance registers for 2004 and 2005 reveal that the majority of Zimbabwe's pregnant adolescents had an average of one ANC visit before delivery, and the initial ANC visit was made during the second or third trimester (Singh & Khare 2001:34). This situation compromises the quality of care, as some of the key activities and investigations, such as STI, APH, PIH and PPTCT, might not be complete before delivery, thereby increasing the chances of poor maternal and neonatal outcomes.

2.3.1.1 Antenatal care and HIV infection

The HIV sero-prevalence in Zimbabwe is estimated at 18.1% and is highest (21%) among women aged 15-49 (MOHCW 2007:11; WHO 2001:1). The HIV status of pregnant adolescents in Zimbabwe might not be accurate, since ANC records only reflect figures for those who attended ANC, minus those who may not opt for the PPTCT programmes and those who deliver without attending ANC. Non-attendance of ANC among adolescents is a cause for concern, as this exposes both the mother and the infant to many health complications, including MTCT, which could have been detected and addressed during the antenatal period.

2.4 CONCEPTUAL FRAMEWORK

A conceptual framework/model provides a broad understanding of the phenomena of interest, the assumptions and the philosophical views of the model's designer (Polit & Beck 2004:116). The phenomenon under study is the pregnant adolescents' utilisation of ANC services. The HBM is used to guide the study. The literature review will be discussed in line with the research questions which were derived from the three components of the HBM, as highlighted in section 1.8 and figure 1.2 in chapter 1 of this thesis.

2.4.1 Modifying factors that could influence pregnant adolescents' utilisation of ANC services

Modifying factors likely to influence the utilisation of ANC services are grouped into demographic variables, psychosocial and structural variables. These variables create positive or sometimes negative influences towards the utilisation of ANC services, particularly by the pregnant adolescents, because of the interplay of biological, psychosocial, economic and structural factors. Modifying factors discussed in this study are grouped into demographic, psychosocial and structural variables.

2.4.1.1 Demographic variables

Demographic variables could contribute to poor utilisation or non-utilisation of ANC services. The factors discussed in this study are age, gender inequalities, marital status, educational level and parity. Pregnancy, inadequate ANC and childbirth are the leading causes of maternal mortality and morbidity among women aged 19 and younger. The implementation of skilled ANC services could improve maternal outcomes through the timely diagnosis and management of obstetric complications (Karen, Findlay, Frappier, Goldberg, Pinzon, Sankaran & Taddeo 2006:243). As many as 90% of pregnant adolescents' births occur in developing countries and the majority are from sub-Saharan Africa (SSA) (Reynolds, Wong & Tucker 2006:6). The pelvic bones and birth canals of adolescents, especially the younger ones, are still growing, which increases the risk of complications during childbirth (Reynolds, Wright, Olukoya & Neelofur-Khan 2004:1).

The pregnant adolescents' ages might influence their decision to initiate ANC late or not to attend ANC at all. Pregnant adolescents might tend to hide their pregnancies because they might be unmarried, attending school, afraid of or prejudiced against health care providers or they might be simply too young and ignorant to appreciate the value of ANC. Pregnant adolescents might resort to unsafe abortions, leading to deaths or complications as they are more likely to experience pregnancy complications than adult women (Ajayi, Garba, Ngoran & Ojo 2004:37; Jewkes et al 1998:20; Nyoni 2006:1). Pregnant adolescents might shun ANC services for fear of being labelled "promiscuous" (Matua 2004:35). On the other hand, older adolescents who have had uneventful pregnancies and deliveries with previous pregnancies might see no reason to attend ANC.

In 19 out of 26 developing countries, women who were 19 years or younger were reportedly less likely than older women to seek ANC from health professionals (Reynolds et al 2006:7).

Though gender is not a variable, gender inequalities play a part. Factors such as marriage patterns, inheritance customs, age differences between spouses and the pregnant adolescent's status and lack of decision making powers are closely associated with poor utilisation of ANC services (Reynolds et al 2006:12). Women in many African societies are accorded an inferior status that enhances their powerlessness and vulnerability to health problems and leads to inadequate health care seeking behaviours. Tlou (2002:65) expresses concerns that the girl child lacks empowerment in many African countries. This author encourages nurses and midwives to mobilise communities to empower the girl child by elevating her status, her education and enhancing her independent decision making powers.

Pregnant adolescents, as girl children, are deprived of some of the key positions and rights in society that should empower them to make informed decisions on matters related to reproductive health (Dlamini & Van der Merwe 2002:55). The WHO (2003:2) recommends gender equality and empowerment of women and the girl child in order to reduce their vulnerability to HIV through positive health seeking behaviours and through education that promotes gender equality within a culturally sensitive framework. Pregnant adolescents should have easy access to information, skills and services for PPTCT of HIV during pregnancy, childbirth and lactation.

Marital status could influence health care seeking behaviours. Unmarried pregnant adolescents are less likely to seek ANC services due to a lack of economic and social support from parents, guardians or spouses. Married pregnant adolescents may also lack social independence and decision-making powers to seek ANC. There may be pressure or oppression from the spouse or influential members of the extended family forcing pregnant adolescents to accept the decisions made on their behalf (WHO 2003:2). According to WHO (2003:2), married adolescents have an increased risk of exposure to HIV infection because they are unlikely to reduce the frequency of intercourse and they may not be able to negotiate safer sex as they may be under pressure to bear children. Llongo (2004:84) and Kathryn (1997:1) suggest that health education should be given to the pregnant adolescent and her family, as well as the community, on the importance of initiating early ANC, for providing information about family planning options, nutrition and PPTCT.

The client's level of education could also influence pregnant adolescents' utilisation of the health facilities as well as the understanding of the importance of seeking health care promptly. Low educational status has been identified as a major barrier to the utilisation of health care services,

especially ANC. These adolescents could easily be persuaded by their grandmothers or TBAs not to attend ANC and to deliver their babies at home. More than 30% of deliveries take place outside the formal health care system in Zimbabwe (MOHCW 1997, cited by Mathole, Lindmark & Ahlberg 2005a:938). Lack of education can also negatively affect the adolescents' comprehension of important information and the ability to make informed decisions including the awareness of their own rights (Matua 2004:36; Irinoye, Adeyemo & Elujoba 2001:14). These findings imply that pregnant adolescents who may have attained only low-level education may not value utilising ANC services.

Mulholland, Alibaruho, Brew-Graves and Monreal-Pinaud (1999:3), as well as Matua (2004:37), advise that health workers should advocate for better health among women in Africa and should assist women to overcome obstacles that deny education to the girl child. Higher educational levels of both husband and wife have been observed to promote positive health seeking behaviours. Pregnant adolescents should have special school programmes and be allowed to continue their school education while pregnant (Biddle 1997:1). A study conducted by Barnett, Duggan and Devoe (2003:349) revealed that pregnant adolescents who participated in school-based comprehensive adolescent pregnancy programmes had babies with significantly higher birth weights than pregnant adolescents who received hospital-based ANC. In Zimbabwe the adolescents' health programmes are not well defined, and different services are offered by different programmes.

2.4.1.2 Psychosocial and economic variables

Psychological, social and economic factors affect pregnant adolescents' utilisation of ANC services. Some cultural values have been observed to increase the poor utilisation of health care services (Ziyani, King & Ehlers 2004:16).

Psychological challenges among pregnant adolescents may contribute to difficulties in accessing ANC. A low power position in the new family, dealing with pregnancy and the new relationship, customary limitations and protocols reportedly interfere with access to basic ANC (WHO 2003:2). The majority of pregnant adolescents need acceptance and support, as they may experience social isolation resulting in non-utilisation of ANC, a situation that exposes them to poor pregnancy outcomes. The attitudes of health workers and society reportedly have psychological effects on pregnant adolescents who might avoid ANC for fear of being ridiculed and harassed by health workers and older pregnant women (Matua 2004:36).

Cultural beliefs and ideologies on seeking health care are determined by the way diseases or conditions are perceived and the subsequent actions taken. Culture provides a way of life and is the result of the way people have adapted to a particular environment, acting in line with their ideas, perceptions and shared knowledge (Bouwer, Dreyer, Herselman, Lock & Zeelie 1997:30). Cultural factors may limit or promote health care-seeking behaviours among pregnant adolescents (Reynolds et al 2006:9). According to George (2002:498), traditional factors and cultural values influence individuals' behaviours, thoughts, decisions and actions. Family members may expect the pregnant adolescents to be under their care and deliver with the help of TBAs without attending ANC (Irinoye et al 2001:14).

In Zimbabwe, TBAs have been equipped with information and basic hygienic skills. These TBAs are also informed about danger signs requiring immediate skilled attendance at the nearest health centre. Pregnant adolescents who are pregnant for the first time, and those aged 17 and younger, are classified as a 'high-risk' group and should not deliver their babies assisted by the TBAs. However, the training of TBAs in Zimbabwe has not achieved the goals for which it was designed. Some of the TBAs do not comply with the training regulations that 'high risk' women should receive care at a health centre (Mathole et al 2005a:953). Women who delay seeking skilled attendance may experience complications (MOHCW 2007:22). The MOHCW in Zimbabwe is aiming at reducing maternal mortality and morbidity by developing strategies to address the three delays that have been found to contribute to poor maternal and neonatal health outcomes (MOHCW 2007:22), namely the delay in

- seeking appropriate health care
- reaching a health facility
- receiving expeditious and effective care

The three delays also impact on the four safe-motherhood pillars, namely family planning, ANC, safe delivery and emergency obstetric and neonatal care as well as postnatal care.

Religious beliefs in certain societies may pose barriers to the utilisation of ANC services because some religious communities might believe in prayer and prefer home deliveries with no ANC from skilled health personnel. Bouwer et al (1997:30) recommend that health workers should understand variations in family compositions, social class, health beliefs and behaviours and be able to bridge the gaps between the beliefs and behaviours. Pregnant adolescents may be tied to

religious norms that might interfere with their freedom and power to make decisions about seeking early ANC. It is important that midwives inform pregnant adolescents and adolescent mothers on matters related to self-care during the preconception period, pregnancy and childbirth.

Poverty is one of the social factors responsible for the non-utilisation of health services, including ANC. Limited economic power may be an impediment in seeking ANC services among pregnant adolescents, since most of them might be school going and financially dependent on parents, spouses or boyfriends and might be unable to afford ANC fees and the basic requirements for delivery in a hospital. According to Matua (2004:36), some women preferred delivery by TBAs because their charges were lower than those of health facilities, and sometimes TBAs could be paid in kind. Some TBAs in Nigeria reportedly rendered unsafe care to women during pregnancy, using herbs and holy water to treat minor ailments, while fortune telling, visions and prayer were used to promote pregnancy well-being (Matua 2004:36).

In Zimbabwe all pregnant women, including pregnant adolescents, pay 1 million ZWD (USD 34.00) at the government hospitals, while the PHC clinics charge ZWD 750 000 (USD 25.00), according to the *Zimbabwe Chronicle* newspaper (2008:8) (see Annexure M), 1USD=ZWD30000.00 (see Annexure M). These fees cover consultation, examination and routine laboratory tests such as haemoglobin estimation, Rapid Plasma Reagin (RPR) and Rhesus factor determination. This may be viewed as one of the factors influencing pregnant adolescents' poor utilisation of ANC services in Bulawayo, since most pregnant adolescents have limited financial resources and depend on handouts from parents, partners or spouses.

According to the *Zimbabwe Chronicle* (2006:13) (see Annexure M), high maternity fees reportedly contribute to delays in seeking ANC, or not attending ANC at all and home deliveries (see Annexure M). However, studies done by Westaway et al (1998:57) in the Gauteng province of South Africa revealed that free ANC services did not automatically increase the utilisation of ANC services.

2.4.2 Structural variables (knowledge)

In this study knowledge was identified as a major structural variable that could influence the decision on whether to utilise ANC services. Adolescents need information about pregnancy and the ANC services during their preconception period so that they can make informed decisions

when they fall pregnant. The school health programmes should inform the adolescents about reproductive health knowledge related to sexuality, pregnancy, nutrition, family planning, malaria, STIs, HIV/AIDS including PPTCT (Barnet et al 2003:349; Lesser et al 2003:513). Information should indicate where these services are offered, including the requirements for attending ANC. In Zimbabwe ANC, including family planning (FP) services, are provided by both public and private health facilities.

Lack of knowledge about the ANC services in Bulawayo could be a major barrier to pregnant adolescents' utilisation of ANC services timeously or at all. Pregnant adolescents are likely to have limited knowledge and experiences in seeking health care. Matua (2004:34) and Jewkes et al (1998:23) cite lack of adequate knowledge and information about pregnancy, laboratory tests results and dangers of late bookings or not attending ANC at all, as contributors to the poor utilisation of ANC services.

Slap (1995:3) reports that high utilisation rates by adolescents in school-based reproductive health programmes, including improved contraceptive use, decreased rates of pregnancy, substance abuse and school dropouts. This suggests that increased knowledge about reproductive services increases compliance and promotes healthy behaviour.

Inadequate knowledge about ANC and its benefits to the mother's and the infant's health may also negatively influence the utilisation of ANC services. Sometimes pregnant adolescents may not be aware of the health problems related to poor or no utilisation of ANC services (Dennill et al 1999:156.) Lack of knowledge about the dangers of not seeking health care in pregnancy and delivery, including the inability to make independent decisions, were major barriers to seeking health care among pregnant women in Uganda (Matua 2004:35).

The Zimbabwe, the maternal and neonatal health road map developed by the MOCHW (2007:21), reports that many women and youths in Zimbabwe have limited knowledge about pregnancy and its complications. This has contributed to delays in seeking health care. Nurses, midwives and other health care personnel should provide accurate information about the signs and symptoms of pregnancy and the importance of initiating early ANC to pre-adolescent and adolescent girls and their parents (Lee & Grubbs 1995:38). This initiative might increase the likelihood of pregnant adolescents seeking early ANC and their parents supporting them. Some adolescents fail to initiate early ANC because they may not recognise pregnancy (Lee & Grubbs 1995:38). Pregnancy in adolescents may be masked by the menstrual irregularities of early adolescence (Karen et al 2006:243).

The contraceptive utilisation rate in Zimbabwe was 60% in 2006 and family planning is one of the pillars aimed at preventing unwanted pregnancies and encouraging child spacing (MOHCW 2007:10). Adolescents also need information on available contraceptives, and counselling helps delay future pregnancies and protects them from contracting STIs and possibly HIV. Biko (2006:55) found that many adolescents would not seek contraceptive advice until after sexual activities had been initiated or even until after the first child's birth.

Knowledge about the importance of good nutrition before pregnancy and during pregnancy should be given to adolescents, including the obstetric complications resulting from the poor nutritional status of the woman. Nutritional deficiencies in pregnancy have been found to contribute to poor maternal outcomes (Reynolds et al 2006:6).

Malaria and the complications of malaria such as anaemia should be discussed, and adolescents should be made aware of preventive measures such as mosquito nets, insecticide sprays and taking malarial prophylaxis (Van Eijk 2006:2; MOHCW 2001:25). Studies by Oboro, Tabowei and Jemikalajah (2002:612) revealed that 56% of women in developing countries present with iron deficiency anaemia in pregnancy. Pregnant adolescents are susceptible to malaria parasitic infection, which is one of the most common causes of iron deficiency anaemia during pregnancy in many African countries (Reynolds et al 2006:7). Anaemia is rated as a significant risk factor for pregnancy and child birth complications where there is late booking for ANC among young adolescents and those pregnant for the first time (Oboro et al 2002:612).

The adolescents need information pertaining to the transmission of HIV during unprotected sexual intercourse and the likelihood of transmission of the virus from the mother to the child (MTCT) during pregnancy, childbirth and lactation. Young people are at risk of STI and HIV because they are sexually active and they have a long period of sexual activities ahead of them (Zwane, Mgandi & Nxumalo 2004:16). Information on PPTCT programmes could be disseminated through community health education activities in the schools, during commemoration days and other multi-sectoral programmes. The rate of HIV infection in Zimbabwe is still high (18.1%) and is higher (21%) among female adolescents (MOHCW 2007:11). Pregnant adolescents might avoid attending ANC because of fears of testing for HIV status or even knowing their status. On the other hand, if they know the benefits of ANC and knowing their HIV status, and that chances are better for prevention of mother-to-child transmission (PMTCT) and anti-retroviral therapy (ART) for the mother and the baby, they are

likely to initiate ANC early. Jackson (2002:147) advocates the integration of the PPTCT package into ANC as a strategy for addressing HIV transmission to the babies.

2.4.3 Individual perceptions of pregnant adolescents that could influence the non-utilisation of ANC services

Individual perceptions involve individuals' beliefs about their susceptibility to disease, as well as the seriousness with which they view the perceived threat of illness (Omega 2000:271). Each individual has his or her own perceptions of the likelihood of experiencing a condition that would adversely affect their health. Individuals vary in their perceptions of susceptibility to a condition, and the nature and intensity of these perceptions may significantly affect their willingness to take preventive actions. In this study individual perceptions concern the pregnant adolescents' beliefs about their susceptibility to pregnancy complications if they attend ANC late in their pregnancies or not at all (Bellon, Delgado, De Dios, Luna & Lardelli 1999:1354).

The role of a need to seek ANC becomes important if the pregnant adolescent perceives the possibility of a condition that might complicate pregnancy such as hyperemesis gravidarum, diabetes mellitus or a previous poor pregnancy outcome (Perloff & Jaffee 1999:118). Pregnant adolescents with such needs are likely to initiate early ANC. Some pregnant adolescents might perceive ANC as not being important, with no effects to pregnancy and childbirth and their health in general. Pregnant adolescents in some studies have expressed doubts about the efficacy and benefits of ANC (Ikamari 2004:27). These perceptions, attitudes, beliefs and values may contribute to negative health seeking behaviours. Individual health seeking choices are influenced by the meaning attached to health (Bouwer et al 1997:24). Pregnant adolescents are at high risk for pregnancy complications and poor pregnancy outcomes and they might have distorted beliefs leading to inadequate or non-utilisation of ANC services. They may consider themselves not to be at risk (perceived lack of susceptibility) or believe that complications are genetic or a result of witchcraft (Llongo 2004:84). A study by Llongo (2004:84) on health belief gaps demonstrated that clients such as pregnant adolescents might consider themselves not at risk of developing obstetric complications if they did not attend adequate ANC. Repeated educational interventions are necessary to change the pregnant adolescents' beliefs about the utilisation of ANC services. According to Aretakis (2004:818), adolescents have limited experiences of independently seeking health care and they have varied opinions about health services and the providers of health care. ANC services may be viewed as fault-finding institutions that exist to rebuke adolescents and therefore compromise their privacy and dignity.

The individual's use of the health facility is also influenced by the characteristics of the community in which the person lives, indicating a need to look beyond the individual factors when examining health seeking behaviours (Stephenson & Tsui 2002:309).

Health care seeking during pregnancy provides an opportunity to teach pregnant adolescents how to recognise and respond to signs of obstetric complications and also helps to improve certain health outcomes through the detection and management of potential complications. Behaviour is expected to change if pregnant adolescents are aware of the implications of not attending ANC and if they are convinced of the benefits of practising preventive care (MOHCW 2001:25). Health professionals have an important advocacy role of ensuring that reproductive health services are available to meet specific needs and concerns of young people that are planned with the adolescents in mind. Health care programmes and policies should observe adolescents' rights to confidentiality, privacy and accessibility to low-cost and personalised services, including appropriate health information and services for adolescents (Lee & Grubbs 1995:38; Slap 1995:3).

2.5 VARIABLES AFFECTING THE LIKELIHOOD OF PREGNANT ADOLESCENTS' UTILISATION OF ANC SERVICES

Perceived benefits of and barriers to ANC influence pregnant adolescents' utilisation of ANC. The likelihood of early initiation of ANC is enhanced if the pregnant adolescents perceive the expected benefits of ANC as outweighing the disadvantages.

2.5.1 Perceived benefits of ANC utilisation

Perceived benefits of utilising ANC services provide a platform for interacting with the pregnant women, identifying needs or problems and jointly arriving at possible solutions to these needs. Good ANC should focus on adequacy, quality and effectiveness of care in promoting and protecting maternal and foetal health. The pregnant adolescents need to know the benefits of attending ANC, as well as the implications of not attending ANC. Perloff and Jaffee (1999:124) report that the pregnant adolescents are motivated to seek early ANC if they are not feeling well; when they have support from the spouse and/or parent and when they have a sufficient knowledge base about pregnancy (Bellon et al 1999:1355). Effective social support is closely

related with early-initiated, frequent ANC attendances. Pregnant adolescents who value the benefits of ANC and attend ANC regularly from the first trimester of pregnancy might see themselves as vulnerable to pregnancy complications if they do not attend ANC (Bellon et al 1999:1355).

2.5.1.1 The adequacy of ANC services

The pregnant adolescents might value the benefits of receiving adequate ANC services in Bulawayo, which are measured according to the timing and the quantity of care provided. The adequacy of ANC utilisation may be measured by initial and continuing access to care, weeks of gestation at initial booking and the actual number of ANC visits compared with the expected number of visits (Barnet et al 2003:353). The measure of adequacy of ANC utilisation also includes the concept of comprehensiveness, which can be assessed through a desk review of clinical records and determining whether the pregnant adolescents received all the expected care as stipulated in the guidelines. According to Barnet et al (2003:353), adequacy of ANC utilisation is classified as follows:

- Late initiation, which is up to 49% of expected visits
- Intermediate utilisation: that is 50% to 79% of the expected number of visits
- Adequate ANC utilisation, which is 80% to 109% of the expected number of ANC visits
- Adequate plus should be 110% and above the expected number of ANC visits

Adequate ANC utilisation implies that the initial ANC visit should take place before 16 weeks of gestation, with a minimum of four ANC visits during the pregnancy (MOHCW 2001:27). These visits are essential for monitoring the progress of the pregnancy where there are no complications. Adequacy also refers to interventions taken based on the results of laboratory tests such as haemoglobin estimations, urine analyses for glucose and albumen, syphilis, HIV, blood pressure and any danger signs (MOHCW 2001:27; Munjanja et al 1996:366; Villar et al 2001:1552). Pregnant adolescents might value the importance of ANC if they were aware of its benefits to their health and to that of their babies.

2.5.1.2 The quality of ANC services

Quality care in ANC should ultimately do what is right, acceptable to and good for the pregnant adolescents and should adhere to professional ethics. Quality ANC has to be imbued with the concept of caring, including the humanistic attributes of competence, confidence, commitment, compassion and conscience, and should be based on knowledge, skills, and values (Van der Wal 2002:16). Quality of ANC provision can be assessed through auditing ANC records, on the assumption that care recorded would reflect care rendered, while non-recorded expected care would reflect care not rendered (Mudokwenyu-Rawdon, Ehlers & Bezuidenhout 2005:76). In this study the review of ANC records, using a pre-developed checklist, was used to determine the quality of ANC rendered to the pregnant adolescents in Bulawayo. According to Mudokwenyu-Rawdon et al (2005:76), clinical records are a source of data and the aspects of care should correspond with the pre-set questions of the checklist.

Focused ANC, with reduced visits where there are no health problems, promotes qualitative and not quantitative care. The JHPIEGO/MNHP (2004:3-4) stipulates the following general principles in the provision of quality ANC care:

- Adolescent-friendly services inclusive of the partner
- Culturally appropriate ANC services
- Individualised services
- Preventive education, empowering the pregnant adolescents to protect themselves from HIV and promote gender equality

This approach requires midwives to spend more time with women, provide equitable and evidence-based care which is centred on the needs of pregnant adolescents and promotes partnership in care (Sidebotham 2003:705). According to Mbabazi and Cassimjee (2006:41), quality ANC should include complete and accurate documentation as well as the efficient flow of care activities.

2.5.1.3 The effectiveness of ANC services

The effectiveness of ANC has provoked much debate about its usefulness because little is known about its effectiveness in the reduction of maternal and infant mortality and morbidity (Carroli et al 2001:S1). Despite all these reservations, ANC in developing countries is important especially to pregnant adolescents. ANC provides the opportunity to identify health risks such as malaria,

which contributes to anaemia in pregnancy, syphilis, HIV status and malnutrition. These health interventions are effective in detecting, treating or minimising conditions in pregnancy that might contribute to maternal and neonatal morbidity and or mortality rates (Carolli et al 2001:5; Ehlers 2003:230). Efficacy of ANC should also ensure dissemination of information on maintaining good health in pregnancy, danger signs, and when and where to go for help should these appear (Yuster 1995:S61). The goal-oriented ANC guidelines, using need-focused care, have been designed to address aspects of quality, adequacy and effectiveness. However, studies continue to report late ANC bookings among pregnant adolescents in Zimbabwe (MOHCW 2001:27; Singh & Khare 2001:34; Westaway et al 1998:58).

With the advent of HIV, affecting many adolescents, early ANC including VCT for PPTCT would benefit the mother and the baby. Although several studies have questioned the efficiency of ANC, a number of obstetric complications can be diagnosed, reduced and managed during ANC. These complications include PIH, APH, anaemia, malaria, syphilis, HIV and cephalo-pelvic disproportion (CPD). Knowledge about the dangers of inadequate ANC and the poor obstetric outcomes resulting from inadequate care during pregnancy could motivate pregnant adolescents to appreciate the importance of attending ANC.

Adult women and pregnant adolescents have expressed doubts and uncertainties about the value of ANC services. The ANC procedures and health education have been labelled as repetitive routines failing to focus on the mothers' needs. Little is known about the effectiveness of the goal-oriented approach that is provided in Zimbabwe and in particular to pregnant adolescents in Bulawayo. The number of women who are not utilising the ANC programmes is increasing in developing countries. The shortage of midwives also contributes to the poor provision of ANC services (Yayla 2003:386).

2.5.2 Perceived barriers to the utilisation of ANC services

The major barriers to pregnant adolescents' utilisation of ANC services have been cited as staff attitudes, accessibility and affordability of ANC services in Zimbabwe (Ikamari 2004:27; Starrs 1997:12; Westaway et al 1998:58; Van Rensburg, Friedman, Ngwena, Pelsler, Steyn, Booysen & Adendorff 2002:46-47) .

2.5.2.1 The attitudes of health care workers

Pregnant adolescents have reported negative attitudes of health care providers (Matua 2004:36). Women, including adolescents, are sometimes reluctant to use maternity care services because health care providers are perceived to be rude, insensitive and threatening to these young mothers. Pregnant women can also base their behaviour on previous negative experiences and perceptions of care received (Matua 2004:36; Starrs 1997:12; Ziyani et al 2004:16.) This is an area of concern to midwifery practice, as it has serious implications for the accessibility of ANC services.

Seekoe (2005:22) studied the reproductive health needs and behaviour of youths in the Free State Province of South Africa, where health services did not cater for the specific needs of the youth, resulting in conflict between young people and staff members who emphasised 'abstinence' to young women who were already sexually active and pregnant. Khuluman, Tau, Ditirafalo, Koodibetsie, Kromberg, Skjemerud and Clark (2004:45) as well as Matua (2004:36) have reported similar findings that seemed to breach confidentiality and privacy with incidents of harassment characterised by health workers' poor attitudes towards pregnant adolescents, especially the primigravidas. Not only a low level of education, cultural values, peer pressure and fear of the unknown may contribute to the poor utilisation of ANC services, but also the negative attitudes of health care providers (Matua 2004:37; Ziyani et al 2004:16).

2.5.2.2 *The accessibility of ANC services*

Access to ANC is important in helping to modify adolescents' risk behaviours and promote positive health practices for adolescents at risk of future unplanned pregnancies and STI (Slap 1995:2). Antenatal care services should be accessible to all pregnant adolescents irrespective of their social status, age, race or level of education and HIV status, and should provide an environment of trust and confidentiality (Kluge 2006:24). Inaccessible ANC services have been an area of concern to the pregnant adolescents.

According to Kathyryn (1997:1) and Llongo (2004:84) the following factors contribute to perceived inaccessibility of ANC services:

- Stigma and beliefs about social rejection
- Lack of confidentiality and fear of the unknown

- Cultural beliefs and perceptions about ANC
- Expensive health care services
- Previous health care experiences and the reputation of the health centre
- Fear of positive HIV test results

2.5.2.3 Affordability of ANC services

The majority of pregnant adolescents might not be able to afford the maternity fees that are charged because most of them have financial limitations. Pregnant women pay ZWD 1 million (USD34.00) at central hospitals and ZWD 750 000 (USD 25.00) at the PHC clinics. The Government of Zimbabwe tries to assist those pregnant women who genuinely cannot afford to pay by referring them to social welfare. However, the process of obtaining state assistance is long and frustrating, causing mothers to shun social welfare. The perceived high fees might influence some pregnant women, including adolescents, to resort to the services of traditional birth attendants (TBAs), which are cheaper and can be paid in kind (Ikamari 2004:27). This has serious implications for the pregnant adolescents' health. Home care and home deliveries without ANC may contribute to poorer pregnancy outcomes for the adolescent mother and her baby. Many pregnant adolescents depend on spouses and/or parents and are unlikely to have health insurance to cover the health care costs. Reynolds et al (2006:6) cite socio-economic factors as contributing to poor ANC attendance and thus also to poor maternal and neonatal outcomes.

2.5.2.4 The acceptability of ANC services

Pregnant adolescents would be motivated to use the ANC services if they are acceptable and need focused without restrictions. Zimbabwe's Maternal and Neonatal Health Programme (MOHCW 2004b:3) recommends culturally appropriate, woman-friendly and individualised ANC services. Pregnant adolescents expect care that is acceptable and focuses on their individual needs. In Zimbabwe, there are no organised ANC services specifically for pregnant adolescents. Health education and information are usually disseminated to groups of mothers of different ages, in an environment that might not be conducive to the pregnant adolescents' enhanced understanding of the health issues at stake. A number of studies recommended the introduction or strengthening of school-based adolescents' pregnancy programmes that will ensure health care for the adolescents as well as continuity with their school education. There

should be adolescent-friendly programmes at the community settings, schools, nursing homes, surgeries and hospitals (Barnet et al 2003:349; Biddle 1997:1; Slap 1995:2).

2.5.2.5 *The availability of ANC services*

ANC services should be available to pregnant adolescents without any restrictions. Although in Zimbabwe ANC is provided at every health centre, it is not clear whether its availability is acceptable to the pregnant adolescents, since ANC services cater for all age groups.

2.6 SUMMARY

Chapter 2 discussed ANC, guided by the research questions and the HBM, attempting to explain factors influencing pregnant adolescents' utilisation of ANC services. Factors likely to influence ANC utilisation from related literature sources were identified, namely:

- Modifying factors such as age, marital status, parity and educational level of the individual pregnant adolescents
- Psychosocial and economic variables including cultural and religious factors
- Structural variables: knowledge about pregnancy, nutrition and health and PPTCT of HIV/AIDS
- Individual perceptions about ANC and aspects of ANC services
- Perceived benefits of utilisation of ANC
- Perceived barriers to its utilisation, including inaccessible, unacceptable, unaffordable and unavailable adolescent-friendly ANC services

The next chapter discusses the research methodology adopted to conduct the four phases of this study in attempting to identify factors that could influence pregnant adolescents' utilisation of ANC services in Bulawayo, Zimbabwe.

CHAPTER 3

Research methodology

3.1 INTRODUCTION

This chapter discusses the research methodology in four phases. The first phase describes the research methods that were applied during the review of ANC records for the adolescent mothers; the second phase discusses the process of eliciting data from pregnant adolescents, and the third from those adolescent mothers who delivered their babies without attending ANC. The fourth phase describes the data collecting process from the midwives working in the maternity settings of Bulawayo, Zimbabwe.

The chapter will describe triangulation, including the types of triangulation appropriate for the study. The descriptive research design for this study was applied in all four phases. Analyses of the findings for each of the four phases were done using triangulation in order to obtain diverse views about the utilisation of ANC services by adolescent mothers in Bulawayo (Burns & Grove 2005:229). This chapter will also outline the plan for data presentation and analysis. The actual analysis and discussion of the research results will be presented in subsequent chapters of this thesis; chapters 4-7 will analyse and discuss the results of phases one to four respectively. The results obtained during the four phases of the study will be compared and contrasted in chapter 8 of this thesis.

3.2 SCOPE OF THE STUDY

The study was conducted in Bulawayo, the second largest city in Zimbabwe. Bulawayo has an estimated population of 864 232 (City of Bulawayo 2004:1). In Bulawayo, health care services, including ANC, are provided by the PHC clinics, government hospitals, private hospitals, surgeries and nursing homes. This study focused on ANC services that are rendered at the 18 local government PHC and the two government hospitals. All 18 PHC clinics provide ANC services, but only four of them, together with the two government hospitals, provide delivery services. The two government hospitals provide specialist services to pregnant women with

health risks that require the services of obstetricians, physicians, paediatricians and intensive midwifery care. These women are referred from the PHC clinics and provincial hospitals in Matebeleland South, as well as in the Midlands and Masvingo regions of Zimbabwe. The study also focused on adolescent mothers who did not attend ANC but delivered their babies at the four PHC clinics and the two government hospitals that conduct deliveries. A total of 3 777 booked adolescent mothers and 965 unbooked adolescent mothers delivered their babies at the four PHC clinics and the two government hospitals during 2005 (MOHCW 2005:1).

3.3 DESIGN OF THE STUDY

A research design is an overall plan or picture of the study that spells out basic strategies and efficient methods that are used to obtain data about a specific phenomenon (Polit & Beck 2004:162). The research design is also defined as a complete strategy that provides the plan for the overall structure that the researcher follows, namely the data collected and the data analyses conducted. Decisions on methods to be used should aim at achieving greater control over factors that may interfere with the validity and reliability of the study findings. (Burns & Grove 2005:211; Brink & Wood 2001:99; Leedy & Ormrod 2001:91).

3.3.1 Quantitative research design

Qualitative research designs involve the collection of data using narrative descriptions, while quantitative designs involve the investigation of phenomena in a rigorous and controlled design using precise measurement (Polit & Beck 2006:508). The study utilised a quantitative non-experimental design in all four phases of the methodology. According to Brink and Wood (2001:99), the purpose of a design is to provide a plan for answering research questions and to specify control mechanisms. The quantitative nature of the research design is concerned with measurement and statistical analyses of data where the investigation of a phenomenon involves rigorous and controlled design as well as the use of both deductive and inductive reasoning (Cormack 1996:135; Polit & Hungler 1995:712). A quantitative research design provides a broad view of a large sample through using a representative sample (Mouton 2001:152).

According to Polit and Beck (2006:179), quantitative designs can be experimental, quasi-experimental or non-experimental and they use descriptive or inferential statistics. They can be cross-sectional in nature or longitudinal over an extended period of time. This study utilised non-experimental and cross-sectional designs because data were collected at specific points in time

and there was no experimental manipulation of the subjects. Data were collected from the natural environments, namely ANC records, the ANC clinics and the postnatal wards.

3.3.2 Non-experimental research design

Non-experimental designs are often used in nursing studies because some human characteristics are not subject to experimental manipulation because of ethical implications (Polit & Beck 2004:188). Non-experimental research designs are categorised into two broad classes: the ex-post facto correlational design and the descriptive research design (Polit & Beck 2004:192). Ex-post facto or correlational research is designed to explore the causal relationships and can be either retrospective or prospective. Retrospective designs link observed existing phenomena to the phenomena that occurred in the past, while prospective correlational designs attempt to link the presumed cause to the presumed future effect (Polit & Beck 2006:188). The non-experimental descriptive design was used in all four phases of the study in order to observe, describe and document factors influencing pregnant adolescents' utilisation of ANC services. None of the ANC records of the adolescent mothers in phase one, the pregnant adolescents in phase two and

the adolescent mothers in phase three or the midwives working in the ANC clinics and postnatal wards were subjected to any experimental manipulation in this attempt to understand the pregnant adolescents' utilisation of ANC services in Bulawayo.

3.3.3 Descriptive research design

Descriptive designs are used to obtain information about the characteristics of phenomena within a particular field of study. Descriptive designs can be used to develop a theory, identify problems in current practice, justify current practice, make judgments and determine what others are doing in similar situations (Burns & Grove 2005:232). Descriptive designs can be used in both qualitative and quantitative approaches. A quantitative descriptive research design was used in the study because it provides detailed information about the variables under study, namely pregnant adolescents and ANC utilisation (Brink & Wood 2001:108). According to Burns and Grove (2005:232) and Polit and Beck (2004:193), the purpose of the descriptive design is to provide a true picture of situations as they naturally happen by observing, describing and documenting. The descriptive design was expected to yield a true picture of ANC services in Bulawayo, identify challenges influencing the pregnant adolescents' utilisation of ANC services

in Bulawayo and make recommendations on ANC services that would meet the pregnant adolescents' needs.

3.4 TRIANGULATION

Triangulation is defined as the collection of data from a variety of sources in a study of the same phenomenon (Burns & Grove 2005:224). The purpose of using triangulation is to minimise the limitations that stem from using a single method (Ziyani et al 2004:12). The hypotheses are tested using a series of complementary methods which increase the reliability and validity of the findings.

Denzin (1989) in Burns and Grove (2005:225) identifies the following types of triangulation:

- *Data triangulation*, which involves the collection of data of the same foci from multiple sources in order to obtain diverse views of the phenomenon under study and for the purpose of enhancing validity (Burns & Grove 2005:225). Data triangulation was appropriate for this study as data were collected from subjects of different characteristics and different backgrounds, but the focus was on the utilisation of ANC services by pregnant adolescents. Data were collected from four categories of subjects of different characteristics. Data sources comprised the adolescent mothers' antenatal records; the pregnant adolescents attending ANC; the adolescent mothers who delivered in the postnatal wards without attending ANC; and the midwives working in the maternity settings of Bulawayo. Cross-tabulation of data using the Statistical Package for Social Sciences (SPSS) version 10 computer program was done in order to compare the findings about pregnant adolescents' utilisation of ANC services in Bulawayo. Different types of sources provide insights about the same phenomenon; provide an enriched explanation of the problem and assist in validating conclusions (De Vos, Strydom, Fouche & Delport 2005:362).
- *Time triangulation*, which involves gathering data at different times of the day or at different times of the year (Polit & Beck 2004:431). In this study data from ANC records were collected between December 2006 and January 2007, interviews with pregnant adolescents and the adolescent mothers who had delivered their babies without attending ANC were conducted between February 2007 and April 2007, while the self-administered questionnaires were distributed to midwives during July 2007. Time

triangulation is similar to test-retest reliability because it determines the congruence of the phenomenon across time (Polit & Beck 2004:431).

- *Space triangulation*, which aims to validate the data by testing them for consistency by gathering data of the same phenomenon from multiple sites (Polit & Hungler 1995:428). In this study data were collected from the PHC clinics and the central hospitals.
- *Person triangulation*, which involves collecting data from people of different types and different levels for the purpose of validating multiple perspectives on the phenomenon (Polit & Beck 2004:431). Data in this study were collected from the adolescents' ANC records, the pregnant adolescents attending ANC, the adolescent mothers who had delivered their babies in hospitals without attending ANC and from the midwives working in the maternity settings of Bulawayo.
- *Investigator triangulation*, which refers to a situation where two or more investigators with diverse backgrounds examine the same phenomenon and each one of them has a specific role in the study. This method removes the potential for bias which might occur if there is only one investigator (Burns & Grove 2005:225). The researcher utilised two trained research assistants for conducting interviews with pregnant adolescents in phase two and with adolescent mothers in phase three of the research. This reduced potential bias during the data collection stage because the research assistants were not involved in the other stages of the study.
- *Theoretical triangulation*, which uses all the theoretical interpretations that could be applied to a given phenomenon and critically examines them from different theoretical points of view (Polit & Beck 2004:431). Theoretical triangulation was not used in this study as only one theoretical framework the HBM was used to contextualise this study.
- *Methodological triangulation*, which refers to the use of two or more research methods in a single study to address a problem (Polit & Beck 2006:333). This study did not utilise this method as only one research design, the quantitative approach, was used in all four phases.
- *Analysis triangulation*, which uses two or more different analysis techniques in order to evaluate similarity of findings (Burns & Grove 2005:226). This study used the SPSS version 10 computer program to analyse data from closed questions, while simple descriptions were used to analyse data from open-ended questions of the interview schedule and the self administered questionnaires. Thus analysis triangulation was not used in this study.

3.5 ORGANISATION OF THE STUDY IN FOUR PHASES

The study was conducted in four phases. Phase one describes the procedure of collecting data from the adolescent mothers' ANC records, phases two and three deal with data collection procedures from the pregnant adolescents attending ANC and those adolescent mothers who delivered their babies without attending ANC, while phase four addresses the data collection process from midwives working in the maternity centres of Bulawayo. The research steps followed in these four phases are described according to the following areas:

Phase 1: Checklists: Adolescents' ANC records

- Population and sampling
- Research instrument and data collection procedure
- Validity
- Reliability
- Ethical considerations
- Method of data analysis

Phases 2 and 3: Structured interviews conducted with pregnant adolescents and post partum unbooked adolescent mothers

- Population and sampling
- Research instrument and data collection procedure
- Validity
- Reliability
- Ethical considerations
- Method of data analysis

Phase 4: Self-administered questionnaires for midwives

- Population and sampling
- Research instrument and data collection procedure
- Validity
- Reliability

- Ethical considerations
- Method of data analysis

3.6 PHASE 1: CHEKLIST FOR THE ADOLESCENTS' ANC RECORDS

Phase one describes the data collection process from adolescent mothers' ANC records using a quantitative, non-experimental and descriptive method. The findings attempted to assess the nature of recorded ANC provision in Bulawayo. The adequacy, quality and effectiveness of ANC provision might influence the utilisation of ANC services by pregnant adolescents in Bulawayo.

3.6.1 Population and sampling in phase 1

The population of adolescents' ANC records for phase 1 of the study comprised all the ANC records, of adolescents whose babies had been delivered between 1 September and 30 November 2006, at the four PHC clinics and two central hospitals in Bulawayo that participated in this study.

Sampling is the process of selecting a portion of the population and in quantitative studies the representativeness of the sample enhances generalisation of the findings (Polit & Beck 2004:291). Sampling methods are classified into probability and non-probability sampling methods. *Probability sampling* involves randomness in selecting elements into the sample and is the more respected of the two, as there is a probability that each element in the population will be included in the sample (Polit & Beck 2004:291). The commonly used probability sampling methods are simple random, stratified random, cluster and systematic sampling. In simple random sampling elements are selected from the sampling frame for inclusion in the study and each study element has a probability greater than zero of being selected for inclusion in the study (Burns & Grove 2005:751). Stratified random sampling is used when the researcher wants to include certain characteristics in the variables that are critical to the study such as age group, gender and social class (Burns & Grove 2005:753). According to Brink and Wood (2001:140), cluster sampling is used when the study elements cover a wide geographical area and it is not possible to use simple random sampling procedures. It involves the process of moving through stages until the sample has been selected. Systematic sampling involves selecting every *n*th individual on the list, provided that a list of all the members of the population is available, and

that the starting point is randomly selected (Burns & Grove 2005:753). Simple random sampling was used because it ensured that each adolescent mother's ANC record had a chance to be selected for the sample and generalisation of the findings would be possible (Polit & Beck 2004:290). Simple random sampling was possible because a complete list (census) of all pregnant adolescents attending ANC could be compiled from the ANC registers.

The ANC records were reviewed after delivery because by then they would provide a complete picture of the care rendered during pregnancy and whether the pregnant adolescents complied with the recommended four to six ANC visits when there were no risk factors (MOHCW 2001:27). The selected adolescent mothers' ANC records to be included in the sample were recorded using case numbers. Simple random selection was achieved by using pieces of paper with numbers corresponding to the case numbers on the ANC records. These were folded and placed in a box and an independent person picked one folded paper at a time until 10 papers had been picked up from clinics and two hospitals. The numbers written on the pieces of papers represented the case numbers on the ANC records and these comprised the sample of ANC records. Random sampling was used because it ensured that each adolescent mother's ANC record had a chance to be selected for the sample, and generalisation of the findings to the larger population would be possible (Burns & Grove 2005:346).

Ten ANC records for adolescent mothers who delivered between September 2006 and November 2006 at the four PHC clinics (4X10=40) that conduct deliveries and from the two (2X20=40) central hospitals were selected until a total of 80 ANC records had been checked by the researcher. Although pregnant women, including pregnant adolescents, attend ANC at any PHC clinic and the two central hospitals, deliveries are conducted in the four PHC clinics and the two central hospitals. The desk reviews of ANC records were done between December 2006 and January 2007. The findings from the desk review of ANC records assisted in determining the nature of ANC activities in terms of adequacy, quality and effectiveness (see sections 2.5.1.1; 2.5.1.2; 2.5.1.3), as these factors could influence pregnant adolescents' utilisation of ANC services.

3.6.2 The research instrument and data collection in phase 1

A checklist was designed to collect data from ANC records of booked adolescent mothers who delivered between September 2006 and November 2006 (see Annexure D). The review of the ANC records was an independent procedure that sought to verify documentation of care and

investigate the nature of recorded ANC care provided to pregnant adolescents (De Vos et al 2005:322), based on the assumptions that documented care reflected care rendered, and that poor ANC care might discourage adolescents from utilising ANC services.

A checklist is a type of a questionnaire consisting of a series of questions on a topic that require the same response format from each respondent (Polit & Hungler 1995:336). Checklists are relatively efficient and easy to understand, although they tend to have forced-choice and rigid questions (Polit & Hungler 1995:337). In this study, the checklist was used to review adolescent mothers' ANC records because its advantages outweighed the disadvantages. Items for the checklist were derived from the Zimbabwe goal-oriented protocol (see Annexure H) and the researcher recorded the care that was documented (see Annexure D). The use of a checklist is criticised for not reflecting human behaviour such as attitudes and non-verbal communication (De Vos et al 2005:323). However, analysis of the ANC records was the initial phase in attempting to determine whether the perceived benefits such as adequacy, quality and effectiveness of ANC could influence the pregnant adolescents' utilisation of ANC services in Bulawayo (see sections 2.5.1.1; 2.5.1.2; 2.5.1.3).

3.6.3 Validity of the checklist in phase 1

Validity is concerned with the extent to which the instrument reflects the phenomenon being examined and addresses the appropriateness, meaningfulness and usefulness of specific inferences drawn from instrument scores (Burns & Grove 2005:376). According to Polit and Beck (2004:423) and Leedy and Ormrod (2001:98), there are four types of validity, namely:

Face validity, which refers to whether the instrument looks as though it is measuring the appropriate constructs. This type of validity is not usually accepted as evidence of instrument validity as it appears to be subjective. Face validity was not used in this study.

Content validity, which is described as the degree to which an instrument provides an appropriate and adequate sample of items or content for the construct that is being measured. Content validity is based on judgment by experts but has no objective measure to reflect adequate content coverage (De Vos et al 2005:161). The content validity index (CVI) uses a four point scale (Polit & Beck 2004:423) whereby the experts rate the content validity as follows:

1= not relevant 2= average 3= relevant 4= very relevant.

A CVI score of 4 (.80) is rated high and indicates that the content is very relevant to the phenomenon to be studied. Midwifery experts and obstetricians were consulted to use the CVI formula to assess the content validity of the checklist. The average CVI score was 4 (.80) after repeated adjustments of the questions, which confirmed the content validity of the checklist. The project promoters also agreed that the checklist's items were relevant to the evaluation of recorded ANC services rendered to pregnant adolescents.

Criterion related validity refers to the extent to which the results of an assessment instrument correlate with another related measure. The availability of an acceptable, reliable and valid criterion is a requirement for measuring criterion-related validity (Leedy & Ormrod 2001:98). In this study the checklist was designed to measure the adequacy, quality and effectiveness of ANC services against the stipulated goal-oriented ANC guidelines (MOHCW 2001:27).

Construct validity is difficult to measure as it is more concerned with the underlying attribute than with the scores that the instrument produces and it uses both logical and empirical procedures (Polit & Hungler 1995:421). An approach developed by Campbell and Fiske (1959 in Polit & Hungler 1995:421), known as the multi-trait-multimethod matrix method (MTMM), ensures construct validity by relying on evidence of yielding similar results where different methods of measurement were applied (Polit & Hungler 1995:421). This type of validity was not measured due to the unavailability of other measuring methods. The validity of the checklist was enhanced through comparing the instrument's items with the Zimbabwe goal-oriented ANC guidelines and also by consulting midwifery experts, obstetricians, a statistician and two promoters.

3.6.4 Reliability of the checklist in phase 1

Reliability refers to the degree of consistency or dependability with which a research instrument measures the attributes it is designed to measure (De Vos, et al 2005: 169). Reliability of an instrument is crucial to consistency in producing similar results, if employed under similar conditions, regardless of who uses the instrument and irrespective of time and place. Polit and Hungler (1995:416) assert that an instrument is reliable if repeated measurements produce limited variations. Each ANC record was evaluated twice – at two separate occasions. The two checklists completed about each ANC record were compared. There were minimal differences in the test-retest scores, and the reliability coefficient was relatively high (= .80). The researcher used the services of the statistician in computing the reliability score.

3.6.5 Ethical considerations in phase 1

The ANC records contain confidential information about adolescent mothers' personal lives and health. It is important to protect the information and use it for research purpose only. Ethics in research refers to a set of moral principles, rules and behavioural expectations about accepted conduct towards the subjects, respondents and other stakeholders in the research community (De Vos et al 2005:57). The purpose of observing ethics when using the ANC records is for the research ethics committees to ensure that adequate provisions have been made to ensure confidentiality of information gathered from the ANC records and to protect the subjects from abuse by the research community.

Written permission to access and review the adolescent mothers' ANC records was sought from and granted by the Medical Research Council of Zimbabwe (MRCZ) and heads of the health centres prior to collecting data (see Annexure A). As no names and no ANC numbers were revealed, and as only the recorded data on the ANC records were analysed, it was deemed unnecessary to obtain permission from the adolescents concerned. Permission to conduct the research was also granted by the Research and Ethics Committee of the Department of Health Studies, University of South Africa (see Annexure B).

3.6.6 Method of data analysis in phase 1: ANC checklist

Data were encoded, presented in tables and bar charts and analysed using the SPSS version 10.0 computer program. The help of the statistician (Mr Amon Masache from the Faculty of Sciences, Mathematics Department of the Zimbabwe Open University – see Annexure L to this effect) was acquired.

3.7 PHASE 2: STRUCTURED INTERVIEWS CONDUCTED WITH PREGNANT ADOLESCENTS WHO UTILISED ANC SERVICES

Phase two of the study attempted to explore factors influencing pregnant adolescents' utilisation of ANC services through gathering data from the pregnant adolescents attending ANC at the 20 health centres that provide ANC services in Bulawayo. A quantitative non-experimental descriptive design was used. Descriptive designs, used in quantitative research, attempt to identify problems with current practice and determine what others in similar situations have done

(Burns & Grove 2005:232). Similarly this study sought to determine factors influencing pregnant adolescents' utilisation of ANC services.

3.7.1 Population and sampling in phase 2

The average ANC daily attendance of pregnant adolescents aged 19 years and younger was 3 mothers, with a weekly attendance of 15 mothers, making a monthly total of 60 mothers per health centre. The estimated study population for one month was $60 \times 20 = 1200$ mothers. The sample size was determined by performing a power analysis based on a significance level of 0.05, power of .80 and an effect size of 0.50. According to Burns and Grove (2005:354), "power is the capacity to correctly reject a null hypothesis" and an effective size is related to the extent of the presence of a phenomenon in a population.

A sample size of 200 pregnant adolescents utilising ANC services was considered to be sufficiently large (Polit & Beck 2004:300) It proved difficult to access this age group because on certain days no pregnant adolescents attended ANC clinics. The calculation of the sample size was also confirmed by the statistician.

The non-probability method using purposive sampling was used to collect data from 200 pregnant adolescents attending ANC between February 2007 and April 2007. The initial proposal was to sample ten pregnant adolescents from each of the 20 health centres that participated in the study until a total of 200 ($10 \times 20 = 200$) adolescents had been met. This proposal had to be modified because four PHC clinics were not busy and the patient flow was too low. A sample of five subjects from each of the four less busy PHC clinics was selected, making a total sample of 20. In view of this, the sample size was increased to 15 for each of the two ($15 \times 2 = 30$) very busy PHC centres that conducted deliveries and the two central hospitals, making a total sample of 60. The remaining 12 PHC clinics each provided 10 participants totalling 120 and an overall sample size of 200 subjects.

The pregnant adolescents were identified while they were waiting to be seen by the midwife and an appointment would be made to interview them afterwards. The purpose of the study and its benefits, including aspects of privacy and confidentiality, were explained. The pregnant adolescents were given the consent forms to read and sign. These were left in a box in the consulting rooms which was marked 'consent forms'. Each adolescent was then invited for the interview after her consultation, if she wanted to participate in the study. Every interviewee was

also assured that she was free to refuse participation or to withdraw from the study at any stage without incurring any negative consequences whatsoever. The interviews were conducted in private rooms and the respondents' completed structured interview schedules were kept secure by the researcher herself. These face-to-face interviews were conducted daily between 08:00 and 12:30 until the required sample size had been reached for the specific site. Inclusion in the sample ensured the selection of the following age groups:

- 15 years and younger
- 16 years–17 years
- 18 years–19 years

According to Burns and Grove (2005:348), age is crucial to achieving representativeness. Parity was not a factor for inclusion in the sample but those who had been referred from outside Bulawayo were excluded from the study, since the study was confined to Bulawayo's pregnant adolescents' utilisation of ANC services..

The purposive sampling method has been criticised for its failure to control and minimise bias (Burns & Grove 2005:350). It was appropriate in this study in which random sampling methods were not feasible because pregnant adolescents visited the ANC clinic at different times and they wanted to go home as soon as possible (Khuluman et al 2004:42). Purposive sampling was also preferred in this study because all 20 health centres were sampled, meaning that representativeness of pregnant adolescents in Bulawayo could be ensured and/or bias minimised. However, this representativeness of ANC sites might have been compromised to some extent by excluding the four PHC clinics with the smallest number of clients.

3.7.2 The research instrument and data collection in phase 2

A structured interview schedule was used to collect data from the pregnant adolescents aged 19 and younger who were attending the ANC clinic in the 6 participating health centres of Bulawayo (see Annexure C) during February, March and April 2007. Structured interviews were conducted

by the researcher and two research assistants. The researcher checked every completed structured interview schedule for completeness at the site so that any missing information could still be gathered from the adolescent concerned.

An interview involves communication between the researcher and the participants in order to elicit the required information. There are unstructured, semi-structured and structured types of interview.

Unstructured interviews are interactive and researchers do not have to prepare questions because the discussion is open and not focused. Unstructured interviews are mainly used in phenomenological and ethnographic studies (Polit & Beck 2004:340). In semi structured interviews the researcher prepares a topic guide in advance and the participants are encouraged to talk about the topics listed and provide unrestricted detailed information (Polit & Beck 2004:342).

The structured interview uses formal and written questions which are asked orally in face-to-face or telephone interviews (Polit & Beck 2004:349). The structured interview is widely used in descriptive quantitative studies (Burns & Grove 2005:396). Although the structured interview is time consuming and might be subject to bias, it was used in this study (Burns & Grove 2005: 396). The structured interview has the advantage of accommodating the semi-literate subjects and those who may find it difficult to understand technical terms (Polit & Beck 2004:351). The help of the interviewer is needed, especially when the literacy level of the subjects may be unknown to the researcher, as in this study.

The selection of questions for the interview schedule included factual and non-factual aspects. According to Brink and Wood (2001:160), factual questions focus on knowledge of self, situations or phenomena. In this study socio-demographic information and knowledge about ANC services were elicited from the pregnant adolescents, while non-factual information aimed at identifying their perceptions and opinions about ANC services in Bulawayo.

The structured interview's items attempted to elicit the following information, in terms of the HBM's major tenets (based on the literature reviewed in chapter 2, the contents of the goal-oriented ANC protocol (see Annexure H) and the type of care reflected on the ANC records):

- Socio-demographic data of pregnant adolescents as modifying factors
- Individual perceptions about ANC services
- Social values, beliefs, practices and economic factors likely to influence the utilisation of ANC services
- Structural variables (knowledge) likely to influence decisions on whether to use ANC services or not
- Perceived benefits of using ANC services
- Barriers likely to prevent pregnant adolescents' utilisation of ANC services
- Strategies to enhance the pregnant adolescents' utilisation of ANC services in Bulawayo

The structured interview schedules for phases 2 and 3 were designed in English and translated into Ndebele. Both versions of these structured interview schedules were checked by the researcher and by the two research assistant (who were midwives), both were fluent in English and Ndebele. They agreed that the meaning of each question was the same in the two languages, subsequent to the implementation of some minor changes in the Ndebele version

3.7.2.1 Training of the research assistants

Two research assistants were recruited to assist in collecting data from the pregnant adolescents. Recruitment paid attention to personal characteristics such as age, gender, race and the dress code of the research assistants as these could affect the quality of information collected during the interviews. The training of the research assistants ensured standardisation of the data collection process. The training covered topics and discussions on interview techniques, interviewing rules and ethics in research. This was followed by interview rehearsals, role plays and feedback until the research assistants had mastered the interviewing skills (Baker 1996:231). These research assistants were also advised to wear personal and simple clothes, adhere to research ethics, and not to collect data from those health centres where they had been working. This would minimise the potential victimisation of participants, since the research assistants could have been known by some participants. The recruited research assistants were mature ladies with a nursing and midwifery background who were familiar with reproductive health terms in both English and Ndebele.

3.7.3 Validity of the interview schedule in phase 2

Validity of the structured interview schedule was enhanced through the following measures:

- Triangulation of data, investigators, space, time and analysis methods (Polit & Beck 2004:431) was used.
- The participants were selected from the entire population of pregnant adolescents aged 19 and younger who attended ANC at the 6 participating health care centres of Bulawayo between February 2007 and April 2007.
- The questions asked were in line with the conceptual framework and literature review.
- Three midwifery tutors, three senior midwifery practitioners, one midwife, two promoters and a statistician were consulted to examine its appropriateness in terms of content validity and criterion-related validity using the CVI tests and literature review (Polit & Beck 2004:423; Polit & Hungler 1995:421). These persons' recommendations, which were implemented, included that: the term 'effective' preceding ANC services should be deleted because ANC services are not necessarily effective; it was also suggested that separate questions should address issues related to HIV/AIDS, parents, TBAs and guardians. One duplicate question (asking what improvements adolescents would like to see in ANC services) was deleted.
- The structured interview schedule was pre-tested on five pregnant adolescents who were excluded from participating in the actual study.
- An independent researcher was also invited to analyse its validity.

3.7.4 Reliability of the interview schedule in phase 2

Reliability of the structured interview schedule was enhanced by following the steps suggested by Brink and Wood (2001:184):

- The structured interview schedule was pre-tested on five adolescents, excluded from participating in the actual study, and yielded similar results to those obtained during the actual study with a coefficient value ($r = 0.95$).
- The five pre-test structured interviews were conducted by the researcher and the two research assistants; these results were compared and yielded similar results, leading to the acceptance of inter-rater reliability .

3.7.5 Bias in the interview schedule in phase 2

Bias in research refers to the influence or action in a study that distorts the findings or slants them away from the expected true picture (Burns & Grove 2005:727). According to Polit and Hungler (1995:290), interviewer bias and uncertainty of anonymity of the participants are some of the disadvantages of the face-to-face interviews. The participants may feel uncomfortable and provide responses to please the researcher. Pregnant adolescents are viewed as sensitive clients who are already suspicious about the attitudes of health care providers; they have multiple psychosocial problems, are still immature and may not value the benefits of the interview (Matua 2004:36).

Potential sources of bias were addressed through the following measures:

- Triangulation of data, persons, time, investigators and methods had been used to control bias (Polit & Beck 2004:431).
- The researcher and two research assistants dressed in a socially acceptable manner to the adolescents' communities and did not wear nurses' uniforms.
- The researcher and the research assistants were unknown to the participants.
- The interviews were conducted privately in a friendly environment that was free from any suggestion of victimisation (Polit & Beck 2004:37).
- Interviews were conducted in English or in Ndebele depending on the interviewee's preference.

3.7.6 Ethical considerations in phase 2

The purpose of observing ethics in research is to protect the subjects from harm and these subjects should be granted the autonomy to give informed consent and to participate voluntarily in the study without any repercussions in the event of withdrawal. When human beings are used as subjects, care must be exercised in protecting the rights of the subjects such as the pregnant adolescents who participated in the study (Polit & Beck 2004:141). According to Polit and Beck 2004:147-152), the research participants should be accorded the following rights:

- Respect for human dignity, which gives them the right to self determination, whereby these subjects should have the right to decide whether or not to participate in the study. They should also have the right to full disclosure of the nature and benefits of the study and the right to respect
- Justice, which assures the right to fair treatment as well as privacy, anonymity and confidentiality
- The right to informed consent, whereby the subjects make rational decisions to participate in the study after having been informed about the potential risks and benefits of participating in the study

Written consent was sought from the participants, the pregnant adolescents and/or their guardians after an explanation of the purpose and benefits of the study (see Annexures C). The subjects were assured of confidentiality, anonymity and non-victimisation should they refuse to participate in the study, or discontinue their participation at any stage.

The right of pregnant adolescents to consent varies widely from country to country and this age group is perceived to have difficulties in comprehending information or making decisions (Tillett 2005:112). The age of consent in Zimbabwe is 18 and pregnant adolescents who were younger than 18 were considered to be minors. Tillett (2005:116) says that “the Department of Human Services in the United States (USA) encourages parental consent but authorizes the Institutional Research Boards to waive or modify parental consent if the research involves no more than minimal risks...” However in Zimbabwe this waiver has not been ratified and for this reason all the pregnant adolescents who were younger than 18 years had their guardians countersigning their forms granting permission to be interviewed. Permission was also sought from the heads of the health centres to conduct the study in the ANC clinics and to interview the pregnant adolescents. Permission was again sought from the Medial Research Council of Zimbabwe (MRCZ); the letters requesting such permission were accompanied by the research proposal and a short resume of the researcher (see Annexure A).

Written and informed consent was sought from the pregnant adolescents attending the antenatal clinic, and their guardians if they were younger than 18 years of age, after the purpose and the benefits of the study had been explained and all the fears the pregnant adolescents might have had, such as victimisation by the midwives or the researchers themselves, had been addressed (see Annexure C).

3.7.7 Method of data analysis in phase 2

Data gathered through the structured interviews conducted with pregnant adolescents were encoded, presented in tables, bar and pie charts and analysed using the SPSS version 10.0 computer program. Data from open-ended questions were analysed using simple descriptive analyses and the help of the statistician was sought throughout the data management process.

3.8 PHASE 3: STRUCTURED INTERVIEWS CONDUCTED WITH POSTPARTUM ADOLESCENT MOTHERS WHO DID NOT ATTEND ANC

Phase three of the study describes the data collection process concerning adolescent mothers who delivered their babies without attending ANC. A quantitative non-experimental descriptive design was used to gather data from a natural setting and without employing any experimental manipulation with the participants.

3.8.1 Population and sampling in phase 3

The sample was selected from the accessible population of adolescent mothers who had delivered their babies, but did not attend ANC, in the six health centres that conducted deliveries in the Bulawayo area during May and June 2007. A sample of 10 or 15 adolescent mothers, aged 19 and younger, was selected from each health centre using purposive sampling methods, until a total sample size of 80 adolescent mothers had been interviewed. The number of participants varied because two of the four PHC were less busy than the other two. Ten participants were recruited from each of the two less busy clinics ($10 \times 2 = 20$). The remaining health centres each had a sample size of 15 subjects ($15 \times 4 = 60$). The overall total sample was 80 subjects. The numbers of unbooked deliveries averaged 4 to 5 deliveries per week per participating health care centre. Inclusion in the sample ensured the selection of mothers who were aged 19 or younger, and who had delivered their babies without attending ANC, regardless of their parity or mode of delivery. These adolescent mothers were interviewed daily in the postnatal wards before they were discharged.

Non-probability purposive sampling was used in this study because the researcher had to use her judgment and knowledge to select the participants that met the inclusion criterion from the mothers of all ages who had delivered their babies during the data collection period (Polit & Beck 2004:294). The procedure was repeated daily between 08:00 and 12:30 until a total of 80

[(10 x 2)+(15 x 4) = 80] adolescent mothers had been interviewed from the six health centres that conducted deliveries

3.8.2 The research instrument and data collection in phase 3

A structured interview schedule was used to collect data and the questions attempted to elicit information, guided by the research questions (see section 1.5 and Annexure F), as to why the interviewed post partum adolescent mothers did not utilise ANC services. The structured interview was preferred because it allowed the researcher to clarify unclear statements and any unfamiliar terms (see section 3.7.2 and Annexure F).

3.8.3 Validity of the interview schedule in phase 3

Validity of the structured interview schedule was enhanced through the following measures:

- The questions asked were in line with the conceptual framework and literature review.
- Three midwifery tutors, three senior midwifery practitioners, two promoters and a statistician were consulted to examine each item's appropriateness in terms of content validity and criterion related validity.
- The structured interview schedule was pretested on five adolescent mothers who did not participate in the actual study. No changes were effected as a result of this pretesting.
- An independent researcher was also invited to evaluate the validity of the structured interview schedule.

3.8.4 Reliability of the structured interview schedule in phase 3

Reliability of the structured interview schedule was enhanced by following the steps suggested by Brink and Wood (2001:184). The structured interview schedules were pre-tested on five adolescent mothers and yielded similar results to those of the actual interviews, indicating consistency and stability. The pre-test interviews were conducted by the researcher and two



research assistants. The information obtained by three different interviewers was compared and yielded similar results, amounting to inter-rater reliability.

3.8.5 Ethical considerations in phase 3

Permission was sought from the heads of the participating health centres to conduct the study in the postnatal wards and to interview the adolescent mothers (see Annexures A and B). Permission was also sought from and granted by the MRCZ (see Annexure C).

Informed consent was obtained from the adolescent mothers who had delivered their babies without attending ANC. The adolescent mothers were assured about the confidentiality and anonymity of the information. The purpose and benefits of the study, as well as issues of confidentiality, voluntary participation, privacy and anonymity were discussed prior to the interview. The adolescent mothers were asked to sign an informed consent form and to drop it in a box provided in the postnatal ward to ensure anonymity during the interview (Polit & Beck 2004:149).

3.8.6 Method of data analysis in phase 3

Data gathered through the structured interviews conducted with postpartum adolescent mothers who did not attend ANC were encoded, presented in tables, bar and pie charts and analysed using the SPSS version 10.0 package computer program. Data from open-ended questions were analysed using descriptive analyses with the help of a statistician.

3.9 PHASE 4: SELF-ADMINISTERED QUESTIONNAIRES FOR MIDWIVES WORKING IN MIDWIFERY DEPARTMENTS

Phase four of the study attempted to elicit the midwives' opinions about the ANC services rendered and the factors likely to influence adolescent mothers' utilisation of ANC services in Bulawayo. The adequacy and quality and effectiveness of ANC provision, as well as the attitudes of the midwives, might contribute to poor utilisation of ANC services (see sections 2.5.1.1; 2.5.1.2; 2.5.1.3; 2.5.2.1). The opinions of the midwives about factors likely to influence

the adolescent mothers' utilisation of ANC services in Bulawayo could assist in validating the findings from the interviews conducted with adolescent mothers and those obtained from the ANC records.

A quantitative descriptive and exploratory design was used to describe the midwives' opinions about factors influencing pregnant adolescents' utilisation of ANC services in the Bulawayo area. The descriptive design was appropriate in the sense that the findings of the study were expected to provide detailed information about the variables under study.

3.9.1 Population and sampling in phase 4

The sample was drawn from the population of 120 male and female midwives working in the maternity settings. Because the midwives worked different shifts, some were off duty and others were on leave or on business trips, 56 questionnaires were distributed to midwives using convenient sampling methods but only 52 were returned. Although convenience non-probability sampling provides limited opportunities to control for bias, it was preferred because it allowed the researcher to select those midwives who were available at the time of data collection (Burns & Grove 2005:350). All the nurses on duty who were working in different maternity sections were included in the sample. Unbooked deliveries go through labour wards, implying that all midwives working in maternity settings were involved in the care of those adolescent mothers who delivered their babies in hospitals, without attending ANC clinics (being so-called "unbooked cases").

The purpose and benefits of the study were explained on the front sheet of the questionnaires. Those willing to participate in the study would sign a consent form which they would drop into a separate box provided so that the researcher would not be able to associate the consent form with a particular completed questionnaire. The questionnaires were completed anonymously (Polit & Beck 2004:149). The respondents were also assured of confidentiality of the information they would give (Polit & Beck 2004:151).

3.9.2 The research instrument and data collection in phase 4

Information from the midwives was collected using self-administered questionnaires (see Annexure G). A questionnaire is a method of gathering self-report information from respondents who respond to a number of questions in written format (Polit & Beck 2006:508). In

questionnaires the respondents read the written questions on the form and answer the questions independently. Polit and Beck (2004:235) advise that self administered questionnaires must be simple, clear and unambiguous. Questionnaires were hand delivered (Babbie 1998:259).

The questionnaire has limitations when it comes to the literacy level of the respondents and their visual and writing competence, including limited scope in the responses (De Vos et al 2005:169). The self-administered questionnaire was, however, used in this study because its advantages outweighed the disadvantages. It was easy to deliver questionnaires to the midwives working in different health centres. All midwives were literate. Questionnaires were completed anonymously and independently, minimising the chances of researcher bias (Polit & Beck 2004:350).

Questionnaires can have both open-ended and closed questions. According to Polit and Beck (2004:349) open-ended questions allow the respondents to respond in their own words, while closed-ended questions offer responses from which the respondents have to select. Open-ended questions are easy to construct but difficult to analyse. Closed-ended questions are difficult to construct but easy to administer and analyse. In this study both open- and closed-ended questions were used in order to accommodate some ideas that could have been missed in closed questions.

The midwives, by virtue of their training, are literate and they understand the phenomenon under study. The questionnaire also ensured anonymity, minimising researcher bias, since most midwives might know the researcher from professional circles. The questionnaires were collected within 24 hours of dispatch during the month of July 2007.

3.9.3 Validity of the self-administered questionnaire in phase 4

Validity was enhanced through consulting three midwifery tutors, two promoters and a statistician to evaluate the instrument for content, construct and criterion-related validity (using the criteria specified in section 3.5.3).

3.9.4 Reliability of the self-administered questionnaire in phase 4

Reliability of the instrument for midwives was enhanced through pre-testing it on five midwives working in one of the health centres that did not participate in the main study (using the criteria described in section 3.6.4). The questionnaire items were pre-tested on midwives and these scores were compared to those obtained during the actual data collection phase. There were minimal differences in the scores, meaning that reliability of the instrument could be accepted (Polit & Beck 2006:326).

3.9.5 Ethical considerations in phase 4

The rights of and respect for the health institutions and midwives were observed. Written permission to collect data from the midwives was sought from the Director of City Health Services, heads of the two central hospitals and from the midwives themselves. The midwives willing to participate in the study signed consent forms, after explanations about the purpose and benefits of the study had been provided. The respondents were also assured that they were free to withdraw from the study at any stage with no victimisation whatsoever (see Annexure C).

3.10 SUMMARY

Chapter 3 described the methodology for collecting data during the four phases of the study. A non-experimental, quantitative and descriptive design was used throughout the four phases of the methodology. Data collection was done using various tools: a checklist, two structured interview schedules and a self-administered questionnaire.

The findings from the four phases, using different data collecting methods and different participants, were triangulated in order to obtain a cross-sectional understanding of the phenomenon under study from diverse sources. Triangulation minimises bias that might reside in data sources, the investigator and data collection methods (De Vos et al 2005:360). The engagement of research assistants, use of different sources of data such as the ANC records, adolescent mothers and the midwives, minimised bias. The next chapter discusses the findings of phase one of the study, namely the information obtained from the checklists used to evaluate the effectiveness of ANC care as recorded on adolescent mothers' ANC records.

CHAPTER 4

Analysis and discussion of the research results:

Phase 1:

Audit of adolescents' ANC records

4.1 INTRODUCTION

Chapter 4 will present the data analysis and discussions for phase 1 only, concerning a review of ANC records of pregnant adolescents who had attended ANC in Bulawayo. The study was guided by the Health Belief Model (HBM), as the conceptual framework and research questions were derived from the three major components of the HBM, namely:

- Modifying factors
- Individual perceptions
- Likelihood of action

The research questions relevant to phase 1 were as follows:

- Which modifying factors could influence pregnant adolescents' utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices, including economic factors, influence pregnant adolescents' decision on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?

4.2 DATA ANALYSIS: PHASE 1

Phase 1 of the study reviewed ANC records of pregnant adolescents who had attended ANC in Bulawayo, with a view to determining the quality, adequacy and efficacy of ANC services in Bulawayo. The study addressed specific aspects of the research questions that could influence

their perceptions on these aspects, as individual negative perceptions about the quality, adequacy and efficacy of ANC services have been cited as factors that could make adolescent mothers reluctant to use the services. Patients' satisfaction with ANC provision, their early initiation into prenatal care and their adherence to agreed review dates have been used as a measure of the quality of health care rendered (Ivanov & Flynn 1999:384). The goal-oriented guidelines were also used as a standard measure of the quality, adequacy and efficacy of ANC provision in Zimbabwe as prescribed in the reproductive health guidelines (MOHCW 2001:27).

Quality, adequacy and efficacy were measured through determining whether standard ANC activities as prescribed in the goal-oriented guidelines were rendered or not. These aspects were then assessed through auditing ANC records for expected ANC attendances, including complete documentation of such care. Documenting of antenatal care activities indicated care rendered, while lack of documentation of expected care suggested that such care was not rendered. Eighty (80) ANC records were audited, using a pre-designed checklist with questions drawn from the goal-oriented guidelines of Zimbabwe, at the same time addressing the HBM components.

According to the HBM, concepts of modifying factors include a variety of demographic, social, psychological and structural factors that could influence pregnant adolescents' utilisation of ANC services. In terms of the HBM, modifying factors such as age, parity, marital status and educational level could influence pregnant adolescents' utilisation of ANC services.

It is important to identify and gain knowledge about the influence of modifying factors, including socio-cultural factors, economic factors and structural variables likely to influence utilisation of ANC during health assessment. This information could assist the midwives to render focused care to individual pregnant adolescents who might have varied perceptions and challenges related to using ANC services in Bulawayo

4.3 OVERALL ANC DOCUMENTATION

Table 4.1 presents an overall summary of findings presented separately in subsequent tables in chapter 4. In order to provide an overall view the summary of the data obtained from the adolescent mothers' ANC records will be provided initially. More specific details will be presented in subsequent tables, but will refer to some of the statistics displayed in table 4.1.

Table 4.1 ANC documentation (N=80)

Type of ANC information	Documente d %	Not documented %
Demographic	71.2	28.8
Obstetric	77.0	23.0
Social history	44.2	55.8
Medical/surgical history	60.0	40.0
Physical examination findings	53.6	46.4
Abdominal palpation	65.8	34.2
Laboratory test results	56.3	43.8
Health promotion	36.8	63.2
Prophylaxis and other treatment	32.7	67.3
Documentation	88.8	11.2
Mean	58.6	41.4

Table 4.1 reveals that 58.6% (n=47) of the expected ANC activities were documented, while 41.4% (n=33) of the expected ANC activities were not documented. This suggests that in 58.6% (n=47) of the cases ANC was rendered, and that in 41.4% (n=34) of the cases it was not rendered. The findings also suggest that ANC services rendered to adolescent mothers in Bulawayo were inadequate and of poor quality, particularly information on social history and health promotion activities, and provision of prophylactic and other necessary treatments.

Further analyses of table 4.1 and figure 4.1 show that in 28.8% (n=23) of the cases demographic information was not documented; obstetric information was not documented in 23% (n=18) of the cases. Data revealed that in less than half (44.2%; n=35) of the cases, the social history was documented, but not in 55.8% (n=45) of the cases. In 60% (n=48) of the cases, data on medical and surgical history were documented, while in 40% (n=32) they were not. Data on physical examination and abdominal palpation were not documented in 46.4% (n=37) and 34.2% (n=27) ANC records respectively. Documentation on laboratory results was recorded in 56.2% (n=45) of the cases, and prophylaxis and other treatments 32.8% (n=26). The prophylaxis that is usually given to mothers includes tetanus toxoid and anti malaria drugs, while other treatments that could be given include anti viral therapy, iron supplements and other drugs that might be indicated (see table 4.9). The laboratory results in 43.8% (n=35) of cases, and prophylactic and other treatments in 67.2% (n=54), were not documented.

Documentation on health promotion was poor at only 36.8% (n =30). Health promotion is a key strategy in motivating and empowering adolescent mothers to appreciate the importance and benefits of early initiation of ANC and to take control of the factors that affect their health (Huang & Wang 2005:15). Health promotion information is expected to focus on family

planning methods, APH, PIH, labour, malaria, nutrition, important laboratory tests and results during pregnancy, counselling on PPTCT and ARV therapy, place of delivery and any information that might be relevant (see table 4.8). The overall picture of documentation on ANC records was 88.8% (n=71) while 11.2% (n=9) was not recorded.

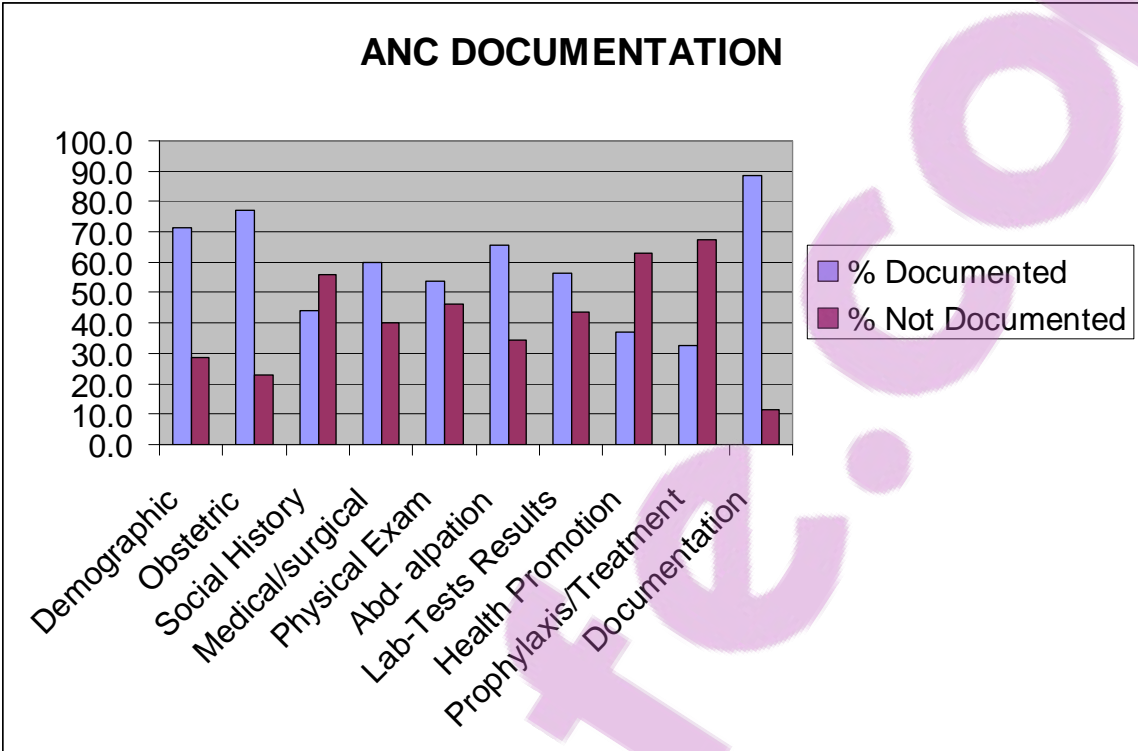


Figure 4.1: ANC documentation

4.4 MODIFYING FACTORS

The information representing modifying factors was organised into demographic, obstetric and social categories as well as medical and surgical history. Each category is discussed separately.

4.4.1 Demographic variables

Table 4.2 reveals that an overall percentage of 71.2% (n=56.5) of the demographic information was documented, while 28.8% (n=23.5) of the expected information on demographic data was not documented. These findings suggest that in some cases (28.8%; n=23.5) information was not adequately obtained, a situation that could be viewed as compromising the quality of ANC services.

Table 4.2: Demographic information (N=80)

Type of information	Documented n	Documented %	Not documented n	Not documented %
Case number	64	80	16	20
ANC site	80	100	0	0
Referring centre	80	100	0	0
Age	80	100	0	0
Marital status	62	77.5	18	22.5
Highest academic grade	38	47.5	42	52.8
Occupation	30	37.5	50	62.5
Source of income	22	27.5	58	72.5
Average	57.0	71.3	23.0	28.8

Further analysis of each variable on demographic information in table 4.2 reveals that 80% (n=64) of ANC records had case numbers indicated while 20% (n=16) had no case numbers recorded. This has implications for future references and filing, since it might be difficult to access the previous obstetric record in the next maternal care visit. If the laboratory tests are not filed correctly, pathological findings such as STIs could remain undetected with potential detrimental effects for both the mother and the baby. ANC records for December 2006 and January 2007 had not yet been filed in some of the institutions; it would be difficult to file those records that had no case numbers. In the PHC clinics the mothers were taking their ANC records home, so that these records could only be accessed in the postnatal wards before delivery and when the mothers came for the ten-day postnatal visit. (This decision was made to ensure that expectant mothers carried their ANC records wherever they decided to deliver their babies; the ANC sites were not necessarily the places of delivery, since some of the ANC centres did not conduct deliveries.) The findings in table 4.2 show that documentation on age was recorded in all the ANC records, 100% (n=80). However, information on marital status was not documented in 22.5% (n=18) of the cases, educational level not documented in 52.8% (n=42); nor were occupation (62.5%; n=50) and source of income (72.5%; n=58). The ANC site and referring centre were documented in all (100%; n=80) ANC records.

4.4.2 Obstetric variables

Accurate and complete obstetric information is important during history taking because it facilitates identifying clients at risk for pregnancy complications and it also allows for initiation of appropriate management (MOHCW 2001:2). Adolescents who are pregnant for the first time face higher risks of obstetric complications than women aged 20 or older (Reynolds et al 2006:7).

Table 4.3: Obstetric information (N=80)

Type of information	Documented n	Documented %	Not documented n	Not Documented %
Parity	80	100	0	0
Gravida	80	100	0	0
Live children	79	98.8	1	1.2
Last menstrual period	80	100	0	0
Estimated date of delivery	79	98.8	1	1.2
Gestation	75	93.8	5	6.2
First foetal movements	29	36.2	51	63.8
Number of antenatal care visits	79	98.8	1	1.2
History of abortion/ miscarriage	77	96.2	3	3.8
Multiple pregnancy	41	51.2	39	48.8
Family planning	20	25.0	60	75.0
Sexually Transmitted Infections	20	25.0	60	75.0
Mean	61.6	77.0	18.4	23.0

As far as documentation of obstetric information goes, table 4.3 reveals that all the ANC records (100%; n=80) reflected information on parity and gravida, while 98.8% (n=79) ANC records had information on the number of live children the adolescent mothers had had. The first day of the last menstrual period (LMP) was recorded in all 80 the ANC records (100%). Nearly all (98.8%; n=79) ANC records had information on the estimated date of delivery (EDD), while 1.2% (n=1) did not have that information recorded.

Gestation of the pregnancy in weeks at the initial visit was recorded on 93.8% (n=75) ANC records, while 6.2% (n=5) had no information on gestation. Information on the date of the first foetal movements as experienced by the pregnant adolescent mothers was documented on 36.2% (n= 29) ANC records, but 63.8% (n=51) did not have information on the date of the first foetal movements. The number of ANC visits made before delivery had been recorded on 98.8% (n=79) ANC records. Further analysis of information related to gestation revealed that the

majority, 98.8% (n=79), had made at least one ANC visit before delivery. Out of the 75 ANC records that had information recorded on gestation at the initial ANC visit, 41(54.7%) had initiated ANC after 28 weeks of gestation, 33 (44.0%) initiated ANC between 17 weeks and 28 weeks of gestation, while only 1 (1.3%) had as recommended initiated ANC during the first trimester of pregnancy at 16 weeks' gestation or earlier.

Obstetric information on the history of abortion or miscarriage was recorded on 96.2% (n=77) of the ANC records and 51.2% (n=41) for multiple pregnancies. The use of family planning methods and the history of STIs was recorded in only 25.0% (n=20) cases for each category.

4.4.3 Social history variables

Socio-economic factors might have positive or negative influences on the utilisation of ANC services. It is crucial that the midwives establish the socio-economic factors of the adolescent mothers during health assessment in order to be able to address them. These variables included persons living with the client, number of cigarettes smoked per day, alcohol consumption, drug use per day and any other relevant information.

Table 4.4: Social history (N=80)

Type of information	Documented	Documented	Not documented	Not documented
	n	%	N	%
Living with whom	56	70.0	24	30.0
Cigarettes smoked per day	36	45.0	44	55.0
Alcohol consumption per day	39	48.8	41	51.2
Drug use per day	29	36.2	51	68.8
Other relevant information	17	21.2	63	78.8
Mean	35.4	44.2	44.6	56.8

The findings from ANC records indicate that overall only 44.2% (n=35) recorded social history information, while 55.8% (n=45) did not.

Out of 80 ANC records, 70.0% (n=56) had documentation on the persons living with the clients, while 30.0% (n=24) had no such documentation. Forty five percent (n=36) had documentation on the number of cigarettes the client smoked per day but 55.0% (n=44) had nothing documented. Alcohol consumption per day was documented in only 48.8% (n=39) ANC records.

The use of drugs such as dagga (marijuana) was recorded in 36.2% (n=29) of the cases but 68.8% (n=51) did not have such information. Other information related to social history was documented in only 21.2% (n=17) ANC records; 78.2% (n=63) had no documentation of other social information.

4.4.4 Adolescents mothers’ previous illness variables

In order to render effective ANC to pregnant women, including adolescents, their previous surgical, medical and mental histories should be known as well as their family histories.

Table 4.5: Previous medical/surgical information (N=80)

Type of information	Documented n	Documented %	Not documented n	Not documented %
Hospital admission	37	46.3	43	53.8
Surgical illness	32	40.0	48	60.0
Medical illness	55	68.8	25	31.3
Family medical conditions	68	85.0	12	15.0
Mean	48	60.0	32	40.0

Table 4.5 shows that the mean information on previous medical and surgical history was recorded in only 60.0% (n=48) of the ANC records. The history of previous hospitalisations was documented in 46.3% (n=37) ANC records but 53.8% (n=43) did not have this information. Previous surgical history and medical history were not documented in 60.0% (n=48) and 31.3% (n=25) of the ANC records respectively. The history of medical conditions in the family such as tuberculosis, epilepsy, hypertension, and mental illness was reflected in 85.0% (n=68) ANC records while (15.0%; n=12) did not reflect such information.

4.5 INDIVIDUAL PERCEPTIONS

This section analysed physical examination, palpation and laboratory test results as factors that could influence individual perceptions about the adequacy, quality and effectiveness of ANC services. The way these services are provided might influence these pregnant adolescents’ decisions either to use or not to use the ANC services.

4.5.1 Physical examination and palpation

A thorough and well communicated physical examination and palpation could be perceived as evidence of quality, adequate and effective care, as most mothers are always keen to know about the condition of the foetus and what abnormalities could affect the well-being of the foetus.

Table 4.6 indicates that 59.7% (n=47) of information related to the important physical examination was documented, but as much as 40.3% (n=33) was not documented. The least recorded physical examination findings were percussion (only 1.2%; n=1), auscultation (only 3.8%; n=3), abdominal shape (only 12.5%; n=10) and the exclusion of multiple pregnancies (21.2%; n=17).

Further analysis shows that blood pressure readings were documented in 97.5% (n=78) of the ANC records. Clinical signs of anaemia were recorded in 93.8% (n=75) ANC records but not in 6.2% (n=5). Most of the ANC records (78.8%; n=63) had documentation on nutritional status. Signs of PIH and APH were recorded in 67.5% (n=54) and 56.2% (n=45) ANC records respectively.

Out of 80 ANC records, 71.2% (n=57) had symphysis-fundal measurement recorded, while 28.8% (n=23) had no such documentation. The foetal presentation and foetal size in weeks per ANC visit were documented in 98.8% (n=79) and 91.2% (n=73) of the ANC records respectively. The exclusion of multiple pregnancies was recorded in 21.2% (n=17) ANC records but 78.8% (n=63) were not documented.

Table 4.6: Physical examination and palpation (N=80)

Type of information	Documented N	Documented %	Not documented n	Not documented %
Blood pressure reading	78	97.5	2	2.5
Clinical signs of anaemia	75	93.8	5	6.2
Nutritional status	63	78.8	17	21.2
Signs of PIH	54	67.5	26	32.5
Signs of APH	45	56.2	35	43.8
Auscultation	3	3.8	77	96.2
Percussion	1	1.2	79	98.8
Symphisio-fundal measurement	57	71.2	23	28.8
Abdominal shape	10	12.5	70	87.5
Foetal size in weeks	73	91.2	7	8.8
Foetal presentation	79	98.8	1	1.2
Foetal heart rate	71	88.8	9	11.2
Exclusion of multiple pregnancies	17	21.2	63	78.8
Vulval examination	51	63.8	29	36.2
Mean	48.4	60.5	31.6	39.6

Vulval examination findings for sores, warts, vaginal bleeding and discharge and any abnormalities were documented in 63.8% (n=51) of the cases, with 36.2% (n=29) reflecting no documentation of such findings.

4.5.2 Laboratory tests

An essential part of effective ANC care is to have laboratory tests done, recorded and acted upon. Haemoglobin (Hb) levels need to be monitored and iron supplements given if necessary. HIV test results are essential to provide appropriate PMTCT counselling.

Table 4.7: Laboratory test results (N=80)

Type of information	Documented	Documented	Not documented	Not documented
	n	%	n	%
Urine for albumen	65	81.3	15	18.8
Urine for glucose	65	81.3	15	18.8
Haemoglobin estimate	24	30.0	56	70.0
Rapid plasma reagin	54	67.5	26	32.5
HIV test	57	71.3	23	28.8
Malaria parasites	5	6.2	75	93.8
Mean	45	56.3	35	43.8

Documentation on essential laboratory test results, shown in table 4.7, reveals that a mean of 56.2% (n=45) ANC records had information on laboratory test results, while 43.8% (n=35) had none. Documentation on urine results for albumen and glucose was reflected in 81.3% (n=65) of the cases, while 18.8% (n=15) ANC records had no information related to urine laboratory test results. However, it was observed that most ANC records had documentation noting that urine testing was not done because the tests reagents were out of stock. As regards the blood test documentation, information on haemoglobin was not recorded in 70.0% (n=56) of the cases, and documentation was not recorded on RPR (32.5%; n=26), HIV (28.8%; n=23) and malaria parasites (93.8%; n=75).

4.6 KNOWLEDGE AND PERCEIVED BENEFITS OF HEALTH PROMOTION AND PROPHYLACTIC TREATMENT

Information on reproductive health and prophylactic treatment for conditions that could threaten the well-being of the foetus could increase the mothers' knowledge about ANC, its benefits and the dangers that can be prevented if the mother is monitored by a skilled attendant during pregnancy. At the same time health information could be perceived as quality care that empowers the adolescent mothers in overcoming fears that could become barriers.

4.6.1 Health promotion

Health promotion is an essential component of ANC that provides the opportunity for the individual pregnant adolescent mother to discuss her health, pregnancy, labour and plans for childbirth and child care (JHPIEGO/MNHP 2004:1).

Table 4.8 shows that out of 80 ANC records the overall documentation on health promotion activities was only 36.8% (n=30), while 63.2% (n=50) had no such documentation. Though discussions on family planning were documented in 45.0% (n=36) ANC records, the majority, 55.0% (n=44), had no documentation. As many as 85.0% (n=68) and 83.8% (n=67) had no information on discussions on APH and PIH respectively. Similarly, the majority of ANC records reflected no discussions on labour (66.2%; n=53), malaria and malaria treatment (95.0%, n=76), or nutrition in pregnancy (77.5%; n=62).

Table 4.8: Health promotion (N=80)

Type of information	Documented n	Documented %	Not documented n	Not documented %
Discussion on family planning	36	45.0	44	55.0
Discussion on antepartum haemorrhage	12	15.0	68	85.0
Discussion on pregnancy-induced hypertension	13	16.2	67	83.8
Discussion on labour	27	33.8	53	66.2
Malaria and treatment	4	5.0	76	95.0
Nutrition	18	22.5	62	77.5
Laboratory results	5	6.2	75	93.8
Prevention of parent to child transmission of HIV: Counselling	67	83.8	13	16.2
Anti-retroviral therapy	49	61.2	31	38.8
Preferred place of delivery	67	83.8	13	16.2
Any other	26	32.5	54	67.5
Mean		36.8		63.2

Discussions on laboratory results were recorded in only 6.2% (n=5) of the ANC records, while the great majority of ANC records, 93.8% (n=75) had no such documentation. Counselling for PPTCT was documented in 83.8 % (n=67) ANC records, though 16.2% (n=13) had no such documentation. Discussions on ARV therapy options were recorded in 61.2% (n=49) ANC records, while 38.8% (n=31) did not record any such discussions. Discussions on the preferred place of delivery and any other information were documented in 83.8% (n=67) and 32.5% (n=26) ANC records respectively, but not in 16.2% (n=13) and 67.5% (n=54) ANC records respectively.

4.6.2 Prophylaxis

An essential part of effective ANC treatment is to provide adequate prophylaxis to enhance the pregnancy outcome for both the pregnant woman and her baby.

Table 4.9: Prophylaxis and other treatments (N=80)

Type of information	Documented		Not documented	
	n	%	n	%
Anti tetanus toxoid	72	90.0	8	10.0
Anti malaria prophylaxis	3	3.8	77	96.2
Anti malaria treatment	0	0.0	80	100.0
ARV	12	15.0	68	85.0
Iron supplements	51	63.8	29	36.2
Other drugs	19	23.8	61	76.2
Mean	26.2	32.7	53.8	67.3

Table 4.9 reveals that 90.0% (n=72) ANC records had documentation on tetanus toxoid given, though 10% (n=8) had no indication of whether tetanus toxoid had been given or not. According to the Zimbabwe Expanded Programme of Immunisation, those pregnant mothers who completed courses of childhood immunisations, including boosters, need only one booster of tetanus toxoid. However, those pregnant mothers who did not complete the courses of childhood immunisations and those who had never had tetanus toxoid during childhood are given catch-up doses of tetanus toxoid, according to the schedule (MOHCW 2006:67).

Out of 80 ANC records, only 3.8% (n=3) reflected information related to anti malarial prophylaxis. Anti-malaria prophylaxis is routinely given to pregnant mothers who live in regions that are prone to malaria and these are mainly rural areas. In urban settings such as Bulawayo, anti-malaria prophylaxis is given to pregnant mothers if it is indicated, such as when pregnant mothers have travelled to and from rural areas (MOHCW 2006:144). No information on malarial treatment was documented. Information on ARV options was recorded in 15.0 % (n=12) of the ANC records, while 85.0% (n=68) ANC records had no information on ARVs. Iron supplement prescriptions were documented in 63.5% (n=51) but not in 36.2% (n=29) of the cases. Other drugs that could have been prescribed and their indications were recorded in 23.8% (n=19) ANC records.

4.6.3 Overall documentation

The last three items on the checklist sought to determine whether care rendered was clearly documented and if care was rendered according to the goal-oriented protocols. This section also sought to determine whether follow-up visits were stipulated. The review of ANC records reveals that a mean of 86.2% (n=69) ANC records were clearly documented; care using the goal-oriented guidelines was documented in 82.5% (n=66) of the cases, while 17.5% (n=14) did not follow the guidelines. The findings did reveal that 97.5% (n=78) follow-up visit dates were documented.

4.7 SUMMARY OF RESULTS OBTAINED FROM ANC RECORDS

Phase 1 of data analysis described the results of data gathered from ANC records. The findings suggest that general documentation of ANC care was average (58.6%; n=47) and further analysis of the records revealed that midwives partially addressed the goal-oriented guidelines in some sections. These records, however, showed inadequate documentation in other sections, mainly those on health promotion, social history, laboratory tests and physical examination. The results also revealed that some midwives (17.5%; n=14) were not providing ANC according to the goal-oriented guidelines, meaning that the quality of ANC was sometimes compromised. These inadequacies in documentation of care could be perceived as factors influencing pregnant adolescents' utilisation of ANC services.

4.8 DISCUSSION OF THE FINDINGS IN THE RESULTS OF PHASE 1

The audit of clinical records is a useful tool for assessing the quality of ANC to adolescent mothers and it could help to identify and correct some deficiencies in the information system (Oyo-Ita, Van der Kool, Etuk, Nwagbara, Garner, Meremikwu & Smith 2007:35).

The findings in this study were drawn from a sample of 80 ANC records for adolescent mothers who attended ANC in the four PHC clinics and the two government hospitals that conduct deliveries. The clients who utilised these services were mainly those who were economically and socially disadvantaged and could not afford the services in the private hospitals. The findings were discussed within the framework of the HBM.

Phase 1 of the study sought to determine the quality, adequacy and efficacy of ANC through a

desk review of ANC records. Provision of quality, adequate and effective ANC services would benefit the adolescent mothers, while antenatal care services that are perceived as unsatisfactory might be viewed as barriers to pregnant adolescents' utilisation of ANC services in Bulawayo (Ivanov & Flynn 1999:384).

The findings in this study showed that certain aspects of ANC were poorly documented, particularly the documentation on social history, health promotion and prophylaxis (see tables 4.4; 4.8; 4.9). Comprehensiveness of care can be assessed through ANC records' reviews and through assessing the completeness of ANC records (Barnet, Arroyo, Devoe & Duggan 2004:267). These findings suggest that ANC services rendered in Bulawayo were not comprehensive and could have been perceived as inadequate and of poor quality by the adolescent mothers.

Analyses of specific variables revealed that while the majority (80.0%; n=64) ANC records had case numbers, 20.0% (n=16) had no case numbers indicated. This has implications for future references and filing systems, since it might be difficult to access the previous obstetric records at the next ANC visit. Documentation indicating the ANC site and referral centre was, however, reflected in all 100% (n=80). Knowledge of the ANC site and the referral centre helps in the management protocols of the pregnant adolescent.

4.8.1 Modifying factors phase 1

In this study, demographic information, obstetric information, social history, and medical or surgical history were discussed as modifying factors that are bio-psychosocial, cultural and economic in nature. In terms of the HBM, modifying factors such as age, parity, marital status and educational level could influence pregnant adolescents' utilisation of ANC services. Younger unmarried mothers of low income and those who attained a low educational level are usually at risk of inadequate ANC in developing countries, resulting in low birth-weight babies who may have perpetual health problems (Ford, Weglicki, Kershaw, Schram, Hoyer & Jacobson 2002:38; Ajayi et al 2004:36). The findings revealed that information on educational level, occupation and source of income was not adequately obtained during history taking; these variables could affect utilisation of ANC services, hence the importance of such information in order to provide developmentally appropriate and culturally oriented care (Cassata & Dallas 2005:72). Sourcing demographic information is crucial in the management of the adolescent

mothers during pregnancy, labour, childbirth and postpartum. The findings also denote that the adolescent mothers experienced schooling disruption and were denied employment opportunities. These factors lead to dependency upon others, lifetime poverty, health and social problems (Dlamini & Van der Merwe 2002:55)

Documentation on obstetric data was generally good (77.0%; n=62), although certain aspects were inadequately documented. These included the date of first foetal movements as noted by the adolescent mothers (36.2%; n=29), history of multiple pregnancies (51.2%; n=41), use of family planning methods (25.0%; n=20) and history of STIs (25.0%; n=20). Nevertheless there was a high percentage of documentation in most of the ANC records related to obstetric information (see table 4.3)

Accurate and complete obstetric information is important during history taking because it helps to identify clients at high risk for pregnancy complications and it also allows for early initiation of appropriate management (MOHCW 2001:2). Adolescents who are younger and pregnant for the first time face higher risks of obstetric complications; they tend to initiate ANC during the second semester or sometimes in the third trimester (Maimbolwa et al 2003:34). Knowledge of other obstetric information including a poor obstetric history gives the midwives opportunities to plan for individualised and focused ANC.

Overall information on previous medical and surgical history was recorded in only 60.0% (n=48) of ANC records (table 4.5). Knowledge of previous medical and surgical history helps the midwives to plan appropriate management of individual clients who may have had medical and surgical conditions that are likely to affect the current pregnancy.

4.8.2 Socio-cultural and economic factors phase 1

The findings from ANC records indicate that inadequate social information was obtained from the adolescent mothers (table 4.4). Socio-cultural and economic factors are closely associated with utilisation of health care services (Bellon et al 1999:1353). The majority of adolescent mothers are usually economically challenged; they lack social support and may not be able to make independent decisions on matters relating to their health. It is crucial that the midwives establish these factors from the individual adolescent mothers during health assessment in order to be able to provide need-focused ANC.



In taking a history from the pregnant adolescents it is important to explore any family and cultural issues that may play a role in their situation such as support systems, cultural beliefs and practices about pregnancy and the adolescent's role in the decision-making process (Kluge 2006:26). Substance and alcohol abuse in pregnancy has been known to contribute to low birth-weight babies, miscarriages, prematurity and mental retardation (Callahan, Caughey & Heffner 2004:113). It is important to establish information on drug and substance use in order to counsel the adolescent mother about the complications of drug and alcohol use in pregnancy.

4.8.3 Perceived benefits in phase 1

Physical examination and abdominal palpation could be perceived as quality, adequate and effective care that is beneficial to maternal and foetal well being. Physical examination without feedback to the adolescent mother could be perceived as inadequate care.

Physical examination and palpation were generally inadequately documented, though documentation of the blood pressure readings, signs of clinical anaemia, nutritional status, and signs of PIH and APH exceeded 56.2%. The least recorded physical examination findings were percussion (1.2%; n=1), auscultation (3.8%; n=3), abdominal shape (12.5%; n=10), exclusion of multiple pregnancies (21.2%; n=17) and other findings (31.2%; n=25).

Eclampsia due to PIH has been found to be common among adolescent women 19 years and younger, mainly those who are pregnant for the first time (Choudhary 2003:237). Physical examination including abdominal palpation is important during ANC as this could provide the adolescent mothers with the only opportunity to enter a health system and have a comprehensive health assessment (Reynolds et al 2006:7). The visit could also provide an avenue for establishing an interpersonal relationship of trust, and motivation to continue using ANC as agreed during the health assessment.

Documentation of these variables could assist in the management of the pregnancy, labour, postpartum period and in subsequent pregnancies, as well as other medical conditions that may contribute to poor pregnancy outcomes. Pregnant women with signs of malaria must receive malaria treatment immediately (MOHCW 2006:147). Malaria in pregnancy predisposes women to anaemia, which may contribute to poor pregnancy outcomes.

Documentation on health promotion was poor except for the aspect of PPTCT and the preferred place of delivery (see table 4.8). Health promotion is an essential component during ANC that provides the opportunity for the pregnant adolescent mother to discuss her health, her pregnancy, labour, her plans for childbirth and childcare (JHPIEGO/MNHP 2004:1). Individualised client education, confidentiality and privacy are key elements required for achieving open and frank discussions with pregnant adolescents (Kluge 2006:26). Counselling for PPTCT is crucial during pregnancy. The adolescent mothers are vulnerable to STI and HIV infections and need counselling on behaviour change. Information, education and counselling for malaria is important during pregnancy, as malaria is rated second among the top ten causes of death in Zimbabwe (MOHCW 1999:xiii) and in Zimbabwe people move frequently to and from rural areas. This study's finding suggests that the adolescent mothers did not receive adequate health promotion services.

Adolescent mothers need proper assessment and counselling on nutrition (which was poorly documented in the ANC records at 22.5%; n=18), because adolescence is a period of rapid physical growth which poses increased nutritional requirements (Stang, Story, & Feldman 2005:6). For this reason, adolescent pregnancy is associated with significant nutritional risks that can affect the health of the mother and her infant.

Information on routine laboratory test results in this study was inadequately documented (56.2%; n=45), an indication that some of the mothers did not have routine laboratory tests (table 4.7). These routine laboratory tests should include urine for albumen and glucose, blood for haemoglobin estimation, blood for syphilis, blood for HIV (optional) and blood for malaria parasites. Prevention and treatment of STIs are imperative actions, as syphilis has a positive correlation with HIV (Kluge 2006:24). Pregnant adolescents who initiate ANC late and are pregnant for the first time are at risk of anaemia (Oboro et al 2002:612). Early detection and management of anaemia during ANC can improve certain pregnancy outcomes (Reynolds et al 2006:7). Adolescent mothers who are pregnant for the first time are more susceptible to malarial infection, which is closely associated with anaemia (Reynolds et al 2006:7). The ANC records showed that 54.7 (41%) adolescent mothers initiated ANC during the third trimester of pregnancy, some as late as 38 weeks of gestation, meaning that they could have missed some of these tests, thereby exposing themselves to pregnancy complications (see section 4.5.2).

Urine testing for glucose helps to exclude diabetes mellitus or gestation diabetes, while testing urine for albumen may assist in detecting pregnancy-induced hypertension (PIH) which is one of

the major causes of poor pregnancy and childbirth outcomes if not managed well early in pregnancy.

The analysis of documentation of information on prophylactic drugs and other treatments revealed that 90.0%, (n=72) of the ANC records had documentation on tetanus toxoid given but only 3.8% (n=3) reflected information related to anti malarial prophylaxis. Information on ARV options was recorded in only 15.0% (n=12) of the ANC records. Counselling for PPTCT provides access to information, skills and services that are necessary for protecting the pregnant woman from HIV infection and for preventing transmission of HIV infection to the baby; it also allows the mother and the infant to receive appropriate treatment (WHO 2003:2). This could possibly mean that 85% (n=68) did not require ARV therapy (see table 4.9). It is still, however, important to document if there was no indication for ARV therapy. Iron supplement prescriptions were documented on 63.5% (n=51) ANC records. Other drugs and their indications that could have been prescribed were recorded in only 23.8% (n=19) of ANC records.

Clarity and accuracy of nursing documentation provides evidence of care to patients and their responses to that care (Mbabazi & Cassimjee 2006:33). Nursing documentation also provides a source of reference and communication between nurses and other health care workers. Nursing documentation is an assurance of quality care. In this study documentation was poor, suggesting that ANC provision was inadequate and of poor quality; adolescent mothers could have perceived such care as being of no benefit to them.

4.9 SUMMARY OF THE DISCUSSION ON PHASE 1's RESEARCH RESULTS

Phase 1 of the study analysed the results from a review of records of ANC visits by adolescent mothers with a view to determining whether perceptions of deficiencies in the quality, adequacy and efficacy of ANC services could be contributing to poor utilisation of ANC services in Bulawayo. The findings revealed that documentation in ANC records was incomplete, especially on key components such as health promotion and social history. These inadequacies could denote poor ANC to these adolescent mothers, limiting the benefits of the ANC visits to them. The next chapter will analyse and discuss the results of interviews conducted with adolescent mothers who attended ANC in Bulawayo.

CHAPTER 5

ANALYSIS AND DISCUSSION OF THE RESEARCH RESULTS OF PHASE 2: INTERVIEWS CONDUCTED WITH PREGNANT ADOLESCENTS WHO ATTENDED ANTENATAL CARE IN BULAWAYO

5.1 INTRODUCTION

Phase 2 analysed data gathered through interviews with pregnant adolescents attending ANC in Bulawayo. Face-to-face interviews were conducted with a sample of 200 pregnant adolescent who attended ANC in the 18 PHC clinics and the two government hospitals in Bulawayo. Their age group ranged from 13 to 19 years and the mean age was 18 years, while the mode was 19 years. The data analysis and discussion were guided by the following research questions, which were developed utilising the three components of the HBM:

- Which modifying factors could influence pregnant adolescents' utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices, including economic factors, influence pregnant adolescents' decision on whether to use ANC services?
- Which structural variables influence pregnant adolescents' decision on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?
- What barriers might impact negatively on pregnant adolescents' utilisation of ANC services?
- What can be done to enhance pregnant adolescents' utilisation of ANC services in Bulawayo?

5.2 PURPOSE OF PHASE 2 OF THE STUDY

The study sought to determine the reasons why some pregnant adolescents initiate ANC late in pregnancy, sometimes as late as the third trimester of pregnancy; it also sought to come up with effective strategies that would motivate pregnant adolescents to appreciate the benefits of ANC and initiate ANC early, during the first trimester of pregnancy.

5.3 MODIFYING FACTORS

This section discusses the respondents' ages, marital status, religion, educational level, employment status, source of income and parity. The significance of these modifying factors was determined by correlating them with gestation at the initial ANC visit.

5.3.1 Age of the respondents in phase 2

Figure 5.1 shows the demographic variables, usually referred to as modifying factors, that could influence utilisation of ANC services by pregnant adolescents. The mean age of the respondents was 18 years. The findings reveal that 38.5% (n=77) of the pregnant adolescents who attended ANC were 19 years, 25.5%(n=51) were 18 years, while 1.0%(n=2) were 13 years of age. More than half of the respondents (53.0%;n=106) had not been referred but had decided independently to initiate ANC; sometimes they had been either forced or encouraged, mainly by parents, to initiate ANC. Out of 200 respondents, 33.5%(n=67) had been referred from the PHC clinics, while 0.5%(n=1) was referred by the TBA.

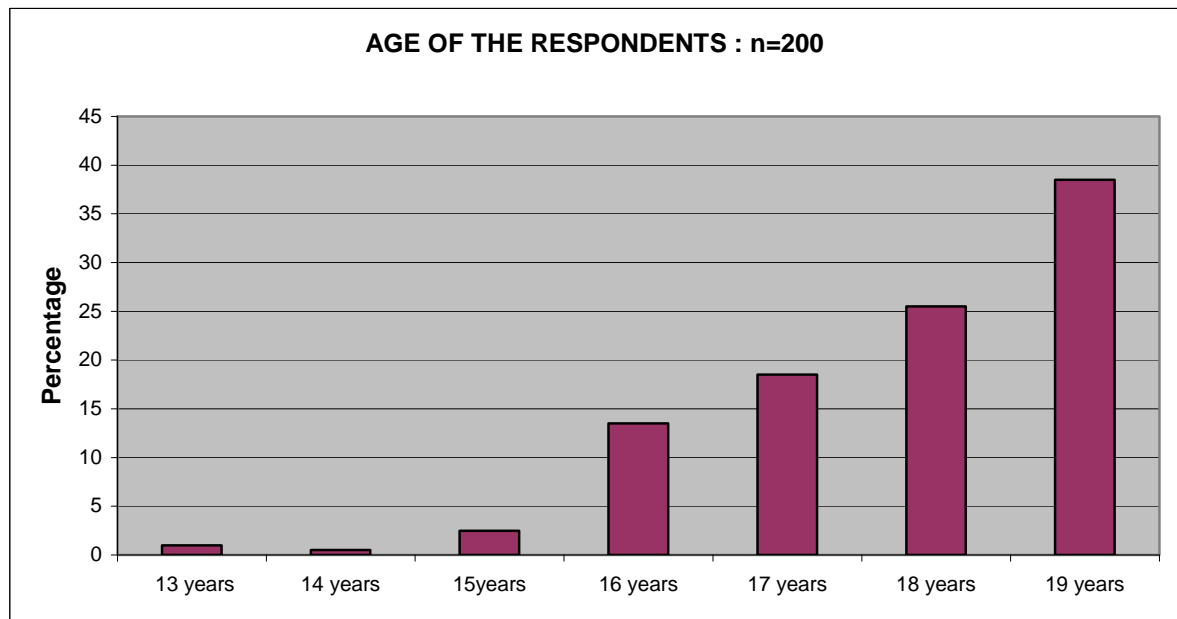


Figure 5.1: Age of respondents in phase 2 (N=200)

5.3.2 Marital status of the respondents in phase 2

More than half of the respondents (53.0%;n=106), were married, 39.5%(n=79) were cohabiting, 7.0%(n=14) were single parents, while 0.5%(n=1) was divorced (figure 5.2). Nearly a half, 45.0% (n=90) were living with their parents, 44.5%(n=89) with spouses, while 1% (n=2) were living with friends and 9.5%(n=19) lived with other relatives such as aunts, sisters and grandparents. There were 1% (n=2) street children with no fixed abode among the latter group.

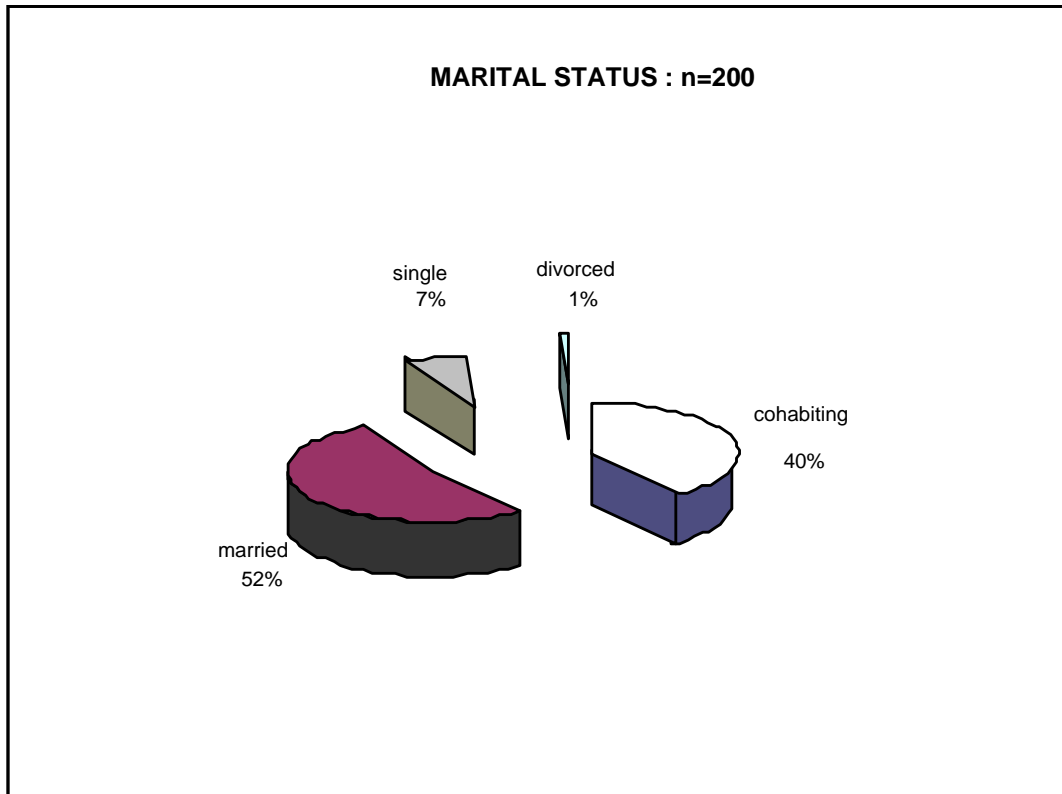


Figure 5.2: Marital status of the respondents in phase 2 (N=200)

5.3.3 Religion of the respondents in phase 2

A large percentage (95.5%;n=191) of the respondents indicated that they were Christians while 4.5% (n=9) belonged to other church denominations that included traditional and other denominations.

5.3.4 Educational level of the respondents in phase 2

Figure 5.3 shows that 48.0% (n=96) had studied up to Form 4 (four years of secondary education); 21.0% (n=42) had studied up to three years of secondary education (Form 3) and 12.5% (n=25) had attained two years of secondary education (Form 2). Among the remaining respondents, 6.0% (n=12) had attained advanced secondary education, while 9.5% (n=19) had had seven years of primary education. The main reasons for leaving school were given as pregnancy (31%; n=62), no money to pay school fees (30%; n=60),

and poor progress (22.5%; n=45). Other reasons were cited by 13.5% (n=27) respondents while 3.0% (n=6) indicated that they had found some form of employment.

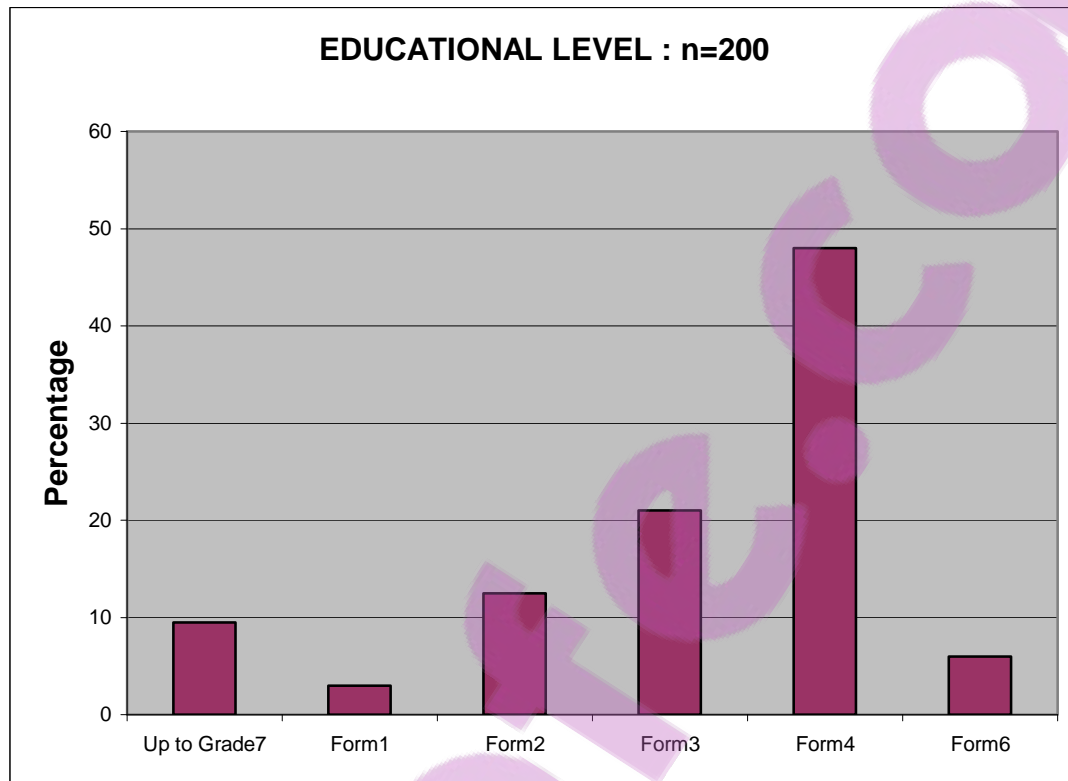


Figure 5.3: Educational level of respondents in phase 2 (N=200)

5.3.5 Employment status and source of income

The majority of the respondents (87.5%; n=175) were not employed, while 12.5% (n=25) were employed. Among those 25 who were employed, 76.0% (n=19 out of 25) were engaged in general work ranging from domestic work to work as messengers, office cleaners and general-purpose workers in shops and industries. Other employment named by them were skilled workers (40.0%;n=10); self-employment (24.0%;n=6) while 4.0% (n= 1) was a professional.

The employment status of the respondents' spouses revealed that 78.0%(n=156) spouses were employed and only 15.0% (n=30) were not employed. Some of the spouses' employment status was not known to the respondents, suggesting that the person responsible for the pregnancy was unknown or his details were unknown. The remaining spouses' type of employment (22%; n=14) was not applicable and these included the unemployed spouses and those whose employment was not known by pregnant adolescents. Thirty-six percent (n=72) of the respondents' spouses were in the skilled workers category, 24.5% (n=49) were general workers, 13.0% (n=26) were self-employed while 4.5% (n=9) were professionals. The source of income for most of the respondents (57.5%; n=115) was from their spouses, while 25.5% (n=51) sourced income from the respondents' parents and 3.5% (n=7) from other sources.

5.3.6 Parity and gravid status of respondents in phase 2

Parity refers to the number of pregnancies a woman has had that have each resulted in the birth of an infant capable of survival (*Dictionary for Nurses* 2003:468). *Gravid* refers to the status of a pregnant woman carrying a foetus, regardless of the gestation (*Dictionary for Nurses* 2003:268).

Table 5.1 Respondents' parity and gravid status (N=200)

Parity	n	%		Gravid	n	%
0	174	87.0		1	172	86.0
1	24	12.0		2	25	12.5
2	2	1.0		3	3	1.5
Total	200	100		Total	200	100

The respondents' parity status was: parity 0 (87.0%; n=174); parity 1 (12.0%; n=24) and parity 2 (1.0%; n=2). The majority (86.0%; n=172) were pregnant for the first time, 12.5% (n=25) were pregnant for the second time, while 1.5% (n=3) were carrying third pregnancies. Among the respondents who had live children, 9.0% (n=18) had children

aged between 13 and 18 months, 1.5% (n=3) between 19 and 24 months while 1% (n=2) had children older than 30 months.

5.3.7 Gestation

Information on gestation at the initiation of ANC reveals that 47.5% (n=95) initiated ANC between 17 and 28 weeks of pregnancy, 43.5% (n=87) between 29 and 40 weeks, while only 9.0% (n=18) of the respondents had initiated ANC at 16 weeks or earlier in pregnancy (figure 5.4). The correlations with gestation were age ($r = -0.174$), marital status ($r = 0.212$) and income ($r = 0.166$). The findings of the study suggest that ANC utilisation declined from younger to older pregnant adolescents.

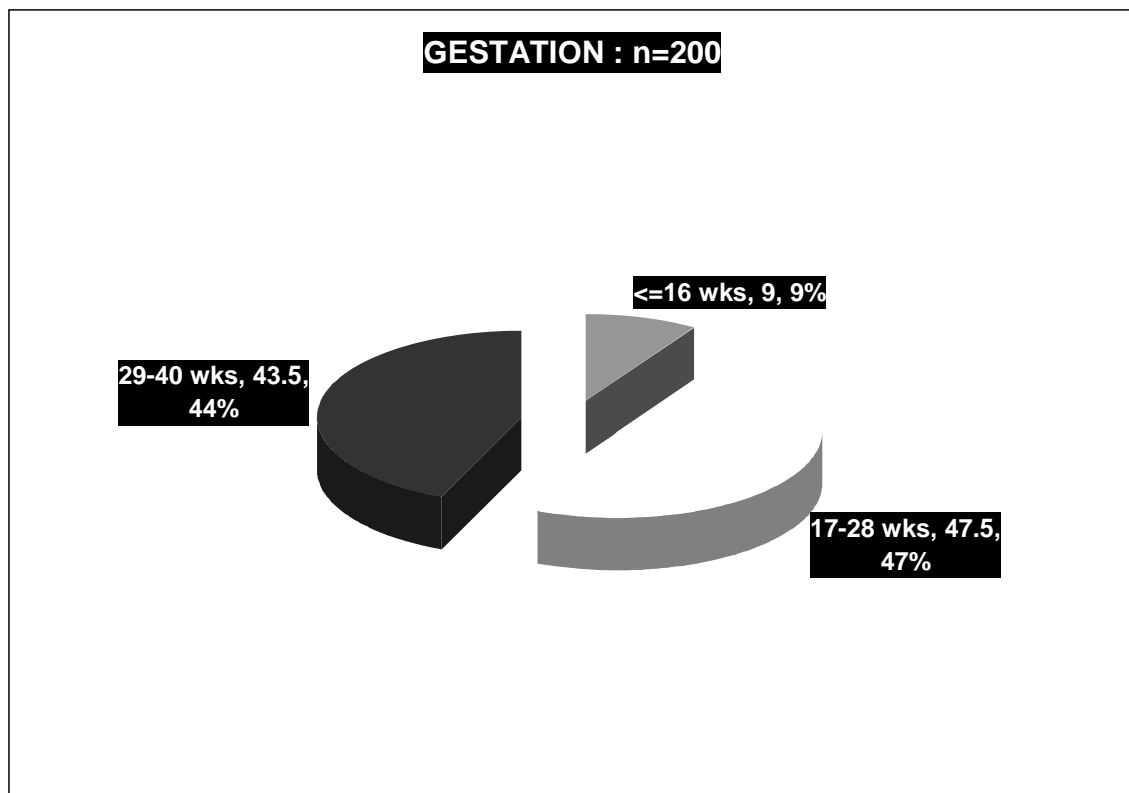


Figure 5.4: Gestation in weeks at initial ANC visit (N=200)

5.4 INDIVIDUAL PERCEPTIONS OF RESPONDENTS IN PHASE 2

The second research question sought to determine which individual perceptions could influence pregnant adolescents' utilisation of ANC services. The pregnant adolescents were asked to list at least three factors that influenced them to book for ANC. The responses given varied and each adolescent mother could give more than one response.

The following broad areas were deduced from the responses:

- Desire to be checked and ensure the well-being of the mother and the baby, including confirmation of the pregnancy and the estimated date of delivery (91.0%; n=182)
- Desire to be educated on safe motherhood (6.5%; n=13)
- Desire to be checked for disease and infection as well as getting the appropriate treatment (75.5%; n=151), including blood tests for STI and HIV and vaccination for tetanus toxoid
- Desire to secure a place for delivery (35.0%; n=70)
- Illness during pregnancy (6.5%; n=13)
- Problems with previous pregnancies such as neonatal deaths and abortions (1.5%; n=3)
- Advice from parents, nurses and peers (10.0%; n=20)
- Not sure (1.0%; n=2)

Social support systems could also influence individual perceptions about ANC and the services rendered. In this regard respondents were asked to indicate the person(s) who motivated them to book for ANC. Of the respondents 47.0% (n=94) were motivated by their parents, some (29.5%; n=59) were motivated by their spouses, while others (22.0%; n=44) were motivated by other relatives such as sisters, aunts, and grandparents who were not guardians. There were some respondents (1.0%; n=2) and (0.5%; n=1) who were motivated by peers and the media respectively.

Table 5.2: Respondents’ perceptions on the quality of ANC services (N=200)

Perception	Yes		No	
	n	%	N	%
Received individual ANC	161	80.5	39	19.5
Individualised health education	138	69.0	62	31.0
Privacy during examination	180	90.0	20	10.0
Confidentiality	126	63.0	74	37.0
Adequate information about pregnancy	118	59.0	82	41.0
Instructions on danger and warning signs	146	73.0	54	27.0
Would visit the same health centre on the next ANC visit	156	78.0	44	22.0

The respondents were further asked specific questions pertaining to the quality of ANC as they perceived it. The majority of respondents (80.5%; n=161) indicated that they had received individualised care and 69.0% (n=138) had received individualised health education. Privacy during the examination was accorded to 90.0% (n=180) of the respondents. Nearly two-thirds of the respondents (63.0%; n=126) were assured of confidentiality of information discussed during the health assessment, though some (37.0%; n=74) claimed that they had not been assured of confidentiality.

Most of the respondents (59.0%; n=118) reported that they had received adequate information about pregnancy, labour and childbirth, though a substantial number (41.0%; n=82) claimed that they had not received adequate information. The greater majority (73.0%; n=146) had received instructions on what danger signs or warning signs to look for and what to do if they suspected something unusual. Most of the respondents (75.0%; n=156) indicated that they would visit the same health centre for ANC with the next pregnancy, while under a quarter (22.0%; n=44) were not keen to attend ANC in the same health centres. Those who preferred to go back to the same health centre reported that this health centre was near where they lived (40.5%; n=81), while others (37.5%; n=75) cited good care. Those who preferred another health centre cited poor care (12.0%;

n=24), while yet others (10.0%; n=20) preferred private doctors or the health centres from which they had been referred.

5.5 SOCIO-ECONOMIC AND CULTURAL FACTORS OF RESPONDENTS IN PHASE 2

The respondents were asked questions pertaining to socio-cultural issues, including economic and reproductive health factors, which could influence decisions on either to use or not to use ANC services. This section addressed the third research question, which sought to establish the socio-cultural and economic factors that could influence utilisation of ANC services

Table 5.3: Family planning and reasons for not using a contraceptive method (N = 200)

Method	n	%	Reason	n	%
Pill	19	9.5	Default	31	15.5
IUCD	1	0.5	No reason	16	8.0
Injection	5	2.5	Not aware of FP	39	19.5
Condom	55	27.5	Method failure	3	1.5
Breastfeeding	4	2.0	Wanted a baby	40	20.0
Abstinence	13	6.5	Other	71	35.5
Nothing	103	51.5			
Total	200	100	Total	200	100

The respondents were asked if they had experienced problems with previous pregnancies and to state the problems experienced. They were also asked if they had used any form of contraception and to give their reasons for stopping or not initiating it. More respondents (8.5%; n=17) had not experienced any problems with their previous pregnancies, while some (5.5%; n=11) had experienced problems ranging from abortions (1.5%; n=3), neonatal death (0.5%; n=1), to PIH (0.5%; n=1) and other types of problem (3.0%; n=6). The majority of the respondents (86.0%; n= 172) were pregnant for the first time, meaning that the question of problems with previous pregnancies was not applicable to them.

Table 5.3 shows that family planning methods were not used by many respondents (n=51.5%; n=103). Some respondents (27.5%; n=55) used condoms, others (9.5%; n=19) used the pill while a few (6.5%; n=11) used the abstention technique. A small percentage (2.5%; n=5) used the injection, while the rest (2.0%; n=4) relied on breastfeeding as a contraceptive method. Interestingly, male condoms were used when condoms were used at all. The pregnant adolescents expressed fear of their spouses and lack of courage to negotiate for the couple to use the female condom and even to talk about the female condom to their spouses. The reasons given for stopping or not using FP methods were varied. Some of the respondents (20.0%; n=40) mentioned that they wanted to have a baby, others (19.5%; n=39) were not aware of how to access contraceptives, while some (15.5%; n=31) attributed pregnancy to method failure. Other reasons (35.0%; n=70) cited were that spouses were against the use of contraceptives; some of the respondents had the misconception that the use of contraceptives contributed to infertility, while others did not use the contraceptive methods for cultural and religious reasons.

The respondents were also asked to mention factors that would prevent them from utilising ANC services. They cited limited knowledge (25.0%; n=50), unplanned pregnancy (22.0%; n=44) financial constraints (12.0%; n=24), culture (16.0%; n=32), religion (11.0%; n=22), distance (7.0%; n=14) and fear of disclosing pregnancy (6.0%; n=12) as some of the factors that would contribute to non utilisation of ANC services in Bulawayo. In addition, they also mentioned other factors (1.0%; n=2) such as feeling well during pregnancy and using the services of TBAs during pregnancy (figure 5.5).

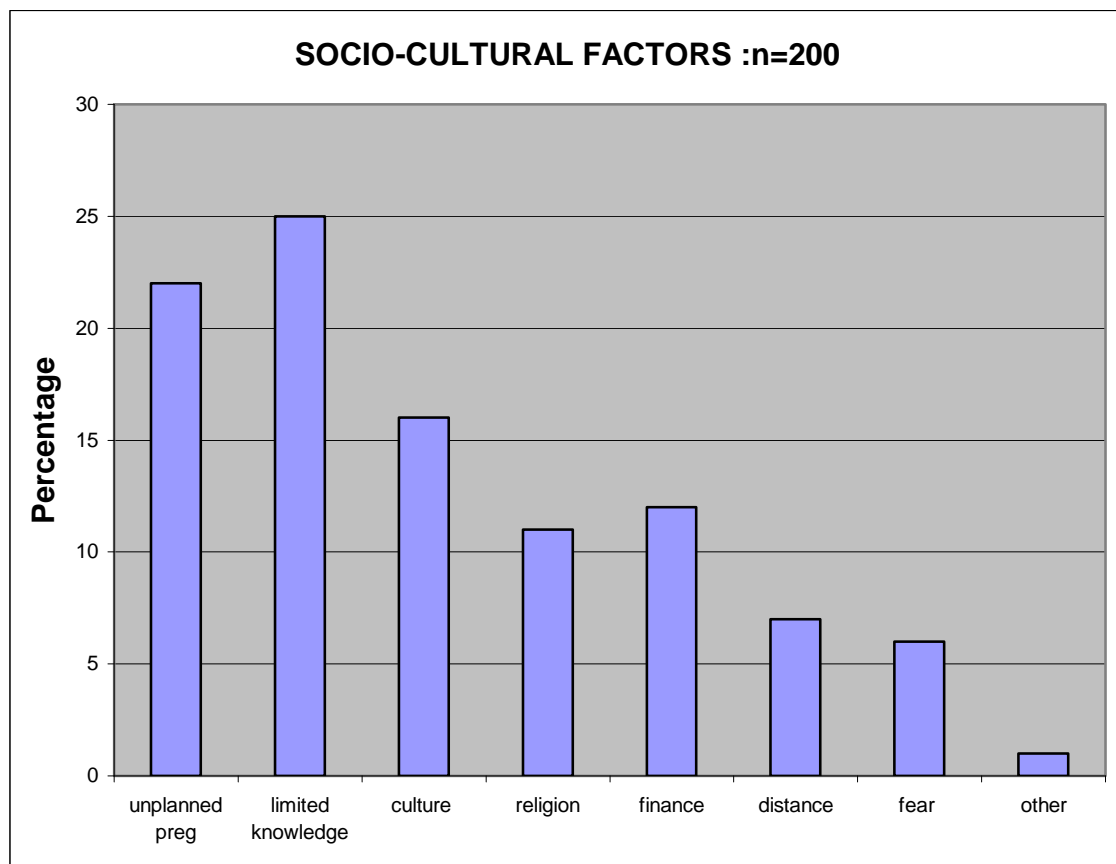


Figure 5.5; Socio-cultural factors contributing to non-utilisation of ANC services in Bulawayo (N=200)

5.6 STRUCTURAL VARIABLES (KNOWLEDGE) IN PHASE 2

The fourth research question was “Which structural variables could influence pregnant adolescents’ decision whether to utilise ANC services?”. In this study knowledge was identified as the major structural variable likely to influence decisions on whether to utilise ANC services in Bulawayo. Respondents were asked about ANC and the increased knowledge it would give on reproductive health in general. Generally the mean responses on knowledge items were “yes, definitely” (60.0%; n=120), “yes” (38.5%; n=77) and “no” (1.5%; n= 3).

Table 5.4: Respondents' ANC knowledge (N = 200)

<i>Knowledge items</i>	<i>Yes, definitely</i>		<i>Yes</i>		<i>No</i>		<i>No, definitely</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
ANC provides increased knowledge about reproductive health.	124	62.0	67	33.5	9	4.5	0	0
Early ANC booking enhances well-being	135	67.5	64	32.0	1	0.5	0	0
ANC provides the opportunity to detect and manage complications	128	64.0	70	35.0	1	0.5	1	0.5
ANC provides a learning opportunity	125	62.5	63	31.5	12	6.0	0	0
ANC empowers one to be able to identify danger signs and act promptly	125	62.5	64	32.0	11	5.5	0	0
ANC provides an opportunity to learn about STI, HIV and PMTCT	139	69.5	54	27.0	7	3.5	0	0

The respondents were asked to indicate the extent to which they supported the premise that knowledge influences decisions to utilise ANC services. Table 5.4 reveals that most of the respondents (62.0%; n=124) were definite that ANC provides increased knowledge about reproductive health, while 33.5% (n=67) supported the premise. Similarly, more than two-thirds (67.5%; n= 135) of the respondents definitely supported the theory that early ANC booking enhances the well-being of the mother and baby, together with 32.0% (n=64) who said “yes” and supported the statement.

The statement that ANC provides the opportunity to detect and manage complications was definitely confirmed by 64.0% (n=128) and supported by 35.0% (n=70); 62.5% (n=125) respondents said “*yes, definitely, ANC provides a learning opportunity*”; 31.5% (n=63) said “yes”, and 6.0% (n=12) said “*no, ANC does not provide a learning opportunity for the mother and her family about pregnancy, labour and child care.*” Most of the respondents (62.5%; n=125) definitely supported the assertion that ANC empowers the pregnant women to be able to identify danger signs and act promptly, 32.0% (n=64) agreed while 5.5% (n=11) did not agree with the assertion. Most of the pregnant

adolescents, 69.5% (n=139), and 27.0% (n=54) agreed while 3.5% (n=7) did not agree that ANC provides the opportunity to learn about STI and HIV including PPTCT.

5.7 PERCEIVED BENEFITS IN PHASE 2

Opinions were sought on perceived benefits and their influence on the decision on whether to attend ANC services. The results in table 5.5 reveal that all the perceived benefits are statistically significant ($p=0.000$ $p<0.05$), meaning that perceived benefits of ANC could motivate mothers to utilise ANC services. The mean response on perceived benefits was 50.5% (n=101) for yes, definitely, and 49.5% (n=99) for yes.

Table 5.5 Perceived benefits (N=200)

<i>Perceived benefits items</i>	<i>Yes, definitely</i>		<i>Yes</i>		<i>No</i>		<i>No, definitely</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Adequate knowledge about ANC and the services in Bulawayo	111	55.5	85	42.5	3	1.5	1	0.5
Accessible services	132	66.0	66	33.0	2	1.0	0	0.0
Acceptable services	136	68.0	63	31.5	1	0.5	0	0.0
Free ANC services	67	33.5	78	39.0	45	22.5	10	5.0
Quality services	112	56.0	80	40.0	8	4.0	0	0.0
ANC services that meet pregnant adolescents' needs	105	52.5	87	43.5	7	3.5	1	0.5
Individualised health education	100	50.0	90	45.0	8	4.0	2	1.0

The findings also indicate that the mothers generally agree that knowledge of ANC benefits would motivate the pregnant adolescents to initiate ANC early and adhere to the agreed ANC visits (see Annexure B). These perceived benefits, which were definitely supported, included adequate knowledge about ANC (55.0%; n=111), accessible ANC services (66.0%; n=132), acceptable ANC services (68.0%; n=136), free ANC services (33.5%; n=67), quality services (56.0%; n=112), ANC services that met the pregnant adolescents' needs (52.5%; n=105) and individualised health education (50.0%; n=100). However, 22.5% (n=45) did not agree that free ANC services would motivate them to initiate ANC. Five percent (5.0%; n=10) even strongly opposed the idea of free ANC services. The rest who said "yes, definitely" to free ANC services were 33.5% (n=67), while those who said "yes" amounted to 5.0% (n=10). Another 40.0% (n=80) also

supported (yes) that the provision of quality services would motivate them to utilise ANC services, while 4.0% (n=8) disagreed. Over half of the respondents (52.5%; n=105) were strongly in favour of ANC services that met the pregnant adolescents' needs, and another 43.5% (n=87) also supported the presence of such a benefit or advantage. Only 0.5% (n=10) did not support that provision. Individualised health education was also preferred as follows; "yes, definitely" (50.0%; n=100), "yes" (45.0%; n=90) "no" (4.0%; n= 8)) and "definitely" not (1.0%; n=2).

5.8 PERCEIVED BARRIERS IN PHASE 2

As indicated in table 5.6, the respondents' opinions were again sought on the extent to which they perceived certain identified barriers to contribute to poor or non-utilisation of ANC services. The mean responses on perceived barriers were 12.0% (n=24) for yes, definitely, 80.0% (n=160) for yes and 8.0% (n=16) for no barriers. All the barriers listed were statistically significant: $P=0.000$ ($P < 0.05$). This means that perceived barriers such as the ones mentioned in table 5.6 could prevent pregnant adolescents from utilising ANC services in Bulawayo.

Table 5.6: Perceived barriers (N=200)

<i>Perceived barrier items</i>	<i>Yes def</i>		<i>Yes</i>		<i>No</i>		<i>No Def</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
High ANC fees	66	33.0	98	49.0	35	17.5	1	0.5
Unfriendly health workers attitudes	114	57.0	46	23.0	40	20.0	0	0.0
Delays in attending to clients	47	23.5	100	50.0	53	26.5	0	0.0
Unfriendly attitude of older clients (mothers)	33	16.5	99	49.5	67	33.5	1	0.5
Poor family and support systems	68	34.0	97	48.5	26	13.0	9	4.5
Fear of testing for HIV status	124	62.0	54	27.0	21	10.5	1	0.5
Fear of positive HIV status	135	67.5	46	23.0	18	9.0	1	0.5
Inadequate knowledge about benefits of ANC	75	37.5	99	49.5	26	13.0	0	0.0
Poor economic power (poverty)	66	33.0	113	56.5	21	10.5	0	0.0
Limited decision making authority	49	24.5	122	61.0	29	14.5	0	0.0
Peer influence	82	41.0	58	29.0	58	29.0	2	1.0
Parents' influence	24	12.0	50	25.0	125	62.5	1	0.5
TBA influence	21	10.5	72	36.0	102	51.0	5	2.5

Among the listed barriers, the respondents strongly indicated that unfriendly attitudes of health workers (57.0%; n=114), fear of testing for HIV status (62.0%; n=124) and fear of positive HIV results (67.5%; n=135) were definitely preventing them from utilising ANC services in Bulawayo. Other barriers that could definitely prevent these respondents were high ANC fees (33.0%; n=66), delays in attending to clients (23.5%; n=47), poor family and social support (34.0%; n=68), inadequate knowledge about the benefits of ANC (37.5%; n=75) and poor economic power (33.0%; n=66). Limited decision-making authority (24.5%; n=49), peer influence (41.0%; n=82), parental influence (12.0%; n=24) and TBA influence (10.5%; n=21) were among those barriers perceived by a smaller percentage of respondents to definitely prevent the utilisation of ANC services by the pregnant adolescents. Among those who also agreed (yes) that certain barriers can be deterrents to utilisation, poor economic power (poverty) was supported by 56.5% (n=113) respondents and limited decision-making authority was supported by 61.0% (n=122) respondents. The majority did not agree that parents (62.5%; n=125) and TBAs (51.0%; n=102) could be perceived barriers to utilisation of ANC services.

Noteworthy percentages (over 15%) of those who did not perceive certain items as barriers ('no') included the following

- Unfriendly health workers' attitudes (20.0%; n=40)
- Delays in attending to clients (26.5%; n=53)
- Unfriendly attitudes of older clients (mothers) (33.5%; n=67)
- Peer influence (29.0%; n=58)
- Influence of parents (62.5%; n=125)
- TBAs' influence (51.0%; n= 102)

A minority of only 18 (9.0%) pregnant adolescents would not use ANC services for fear of HIV positive test results. No justification for this answer was requested from the respondents. Consequently no conclusions could be drawn based on this finding.

5.9 STRATEGIES TO ENHANCE UTILISATION OF ANC SERVICES IN PHASE 2

The last research question solicited suggestions for strategies that would enhance utilisation of ANC services in Bulawayo. Most respondents gave more than one response. and these were grouped into common themes. The issues that emerged were:

- Education for adolescents and their parents (89.0%; n=178)
- Advocacy for strong family and social support systems for pregnant adolescents (61.0%; n=122)
- Provision of accessible, acceptable and affordable ANC services that have no barriers (82.0%; n=164)
- Provision of outreach ANC services for pregnant adolescents (64.0%; n=128)

5.9.1 Education for adolescents and their parents

The majority of pregnant adolescents (82.0%; n=164) indicated that they needed education on safe motherhood even during the pre-conceptual period. These mothers also felt that they had inadequate information about ANC. They also recommended education for their parents, who do not support them when they are pregnant; instead they chase them away from home.

5.9.2 Advocacy for family and social support systems for pregnant adolescents

This need for family and social support system was echoed by 61.0% (n=122) respondents. They indicated that the community and family members were not supportive, especially when they fell pregnant while at school. They recommended education and advocacy to society for social support to pregnant adolescents.

5.9.3 Accessible, acceptable and affordable services

The majority of the respondents (82.0%; n=164) mentioned a number of barriers that should be overcome. These were cited as services unfriendly to adolescents, unkind nurses, unaffordable ANC fees, stigma and lack of confidentiality. They also mentioned that they were required to produce a national identity (ID) card to register for ANC or else they had to be accompanied by a spouse, parent or guardian. In Zimbabwe, one can only obtain a national ID after one turns 18 years of age. Some of these adolescents had fallen pregnant when they were less than 18 years of age. The respondents recommended that these barriers be removed.

5.9.4 Outreach ANC services

A number of respondents (64.0%; n=128) indicated that they would benefit from services that reached them wherever they were, including at schools. They suggested that the nurses should visit them and talk to them at home and in community settings such as churches, recreational and vocational centres, schools and universities.

5.10 SUMMARY OF PHASE 2

Phase 2 of data analysis presented the findings of data collected from pregnant adolescents who attended ANC in the 20 health centres in Bulawayo between February 2007 and April 2007. These findings were discussed within the framework of the HBM components. The findings revealed that certain modifying factors, individual perceptions, socio-cultural and economic factors significantly influenced pregnant adolescents' utilisation of ANC services in Bulawayo. In addition, knowledge, perceived benefits and barriers also played a major role in influencing pregnant adolescents' decisions on whether to utilise ANC services in Bulawayo.

5.11 DISCUSSION OF THE RESULTS IN PHASE 2

Adolescent pregnancy and childbirth are major public health challenges worldwide, especially in sub-Saharan Africa, where they are common due to varied socio-economic and cultural factors (Ebeigbe & Gharoro 2007:79). Effective utilisation of ANC services by pregnant adolescents has the potential to reduce pregnancy and childbirth complications. Inadequate ANC is associated with poor birth outcomes (Karen et al 2003:245). Delay in initiating ANC as well as inconsistencies in utilising these services could be attributed to the following factors as described in the HBM:

- Modifying factors that include a variety of demographic, social, economic and psychological factors
- Individual pregnant adolescents' perceptions about ANC
- Their knowledge level about ANC and its benefits
- Perceived benefits of ANC that could motivate pregnant adolescents to maximise utilisation of ANC services
- Perceived barriers that could prevent the pregnant adolescents from utilising ANC services.

The findings in phase 2 indicated that these factors as prescribed in the HBM could indeed influence pregnant adolescents' utilisation of ANC services in Bulawayo.

5.11.1 Modifying factors phase 2

The findings in this study revealed strongly significant correlations in age, marital status and income. The correlations in this study revealed that the utilisation of ANC services by young, unmarried and economically challenged pregnant adolescents was inadequate (see Annexure B); and these socio-demographic factors were found to influence their utilisation of ANC services. Cassata and Dallas (2005:72) also found that a young age, subordinate status, marital status and unstable economic power contributed to inadequate

utilisation of ANC services. These findings are also supported by Maimbolwa et al (2003:33), who found that young primigravid and unmarried pregnant adolescents usually initiate ANC only during the second or third trimester. Similarly, pregnant adolescents who had attained less than high school education were at risk of obtaining inadequate ANC.

Perloff and Jaffee (1999:117) also support the premise that age, educational level, and marital status play a role in the use of antenatal care. Pregnant adolescents in the study referred to were young (13-19 years), mainly single, unemployed and nulliparous, and therefore vulnerable to delayed or inadequate utilisation of ANC. Other studies have also cited educational level and religion as significantly influencing utilisation of ANC services (see section 2.4.1.1). In this study 7.0% (n=14) and 40.0% (n=80) of the pregnant adolescents who attended ANC were single and cohabiting respectively. Cohabiting does not equate to a legal marriage in the African culture; it is regarded as staying illegally with a partner. These are the young girls who might have gone into hiding because they had fallen pregnant and they did not want their parents to know that they were pregnant. Alternatively they may have been chased away by their parents because they were pregnant. The single and those cohabiting are usually denied family and social support by parents and/or their boyfriends, thereby being exposed to extreme poverty and high chances of inadequate prenatal care and subsequent poor pregnancy and childbirth outcomes (Adamu & Salihu 2002:601; Cassata & Dallas 2005:72).

In the current study 52.0% (n=104) of the pregnant adolescents were married (figure 5.2). This could mean that these pregnant adolescents initiated ANC because they got social and financial support from their spouses, since this study revealed that the majority of pregnant adolescents in the two groups were not employed. Studies by Wiemann, Berenson, Pino & McCombs (1997:274) revealed that pregnant adolescents who maintained a relationship with the father of the child initiated ANC early, and that younger adolescents were likely to live with their parents.

The employment status of the pregnant adolescents compared with that of their spouses showed that the majority of their spouses (78.0%; n=156) were employed, compared with 87.5% (n=175) pregnant adolescents who were unemployed. According to Reynolds et al (2006:6), poor economic power and lack of autonomy influence inadequate utilisation of ANC services, since adolescents are likely to delay initiating ANC because of financial factors as well as other socio-cultural factors such as culture and religion.

Many pregnant adolescents were pregnant for the first time (86.0%; n=172), and those who had had children before had children ranging from 13 months to over 30 months. Those who fell pregnant before the child was 24 months might not have been exposed to family planning methods.

The majority of the pregnant adolescents (91.0%; n=182) booked ANC from 17 to 40 weeks of gestation, with 43.5% (n=87) pregnant adolescents initiating ANC very late, between 29 and 40 weeks of gestation. According to the goal-oriented schedule, ANC should be initiated at 16 weeks of gestation or before, as soon as the pregnancy was confirmed. Initiating ANC late predisposes the woman to a number of pregnancy complications (Karen et al 2003:244). The World Health Organization (2005), cited by White and Carr (2007:14), confirms the research findings that one of the key strategies for reducing health risks is access to health care during pregnancy.

5.11.2 Individual perceptions phase 2

The quality of maternal care services is strongly linked to the health status of the unborn child, the mother and the family. The research findings portrayed in table 5.5 reveal that the general quality of ANC services was perceived as good (96.0%; n=198), while only 4.0% (n=8) indicated that the ANC services were poor. A number of respondents (37.0%; n=74) reported a lack of confidentiality at ANC clinics (see table 5.2). Nevertheless almost all (99.0%; n=198) pregnant adolescents reported that ANC clinics provided opportunities to detect and manage complications during pregnancy (see table 5.4). The report of JHPIEGO/MNHP (2004:2) recommends the provision of quality and focused

ANC that is adolescent-friendly, individualised and culturally appropriate. Some aspects of ANC care, such as the lack of confidentiality could have influenced individual pregnant adolescents' beliefs about the quality of ANC and subsequently led to their inadequate utilisation of the services.

Individual perceptions, similar to those that emerged in this study, that might influence poor or non-utilisation of the ANC services were also identified in other studies by Kluge (2006:26) and Matua (2004:36), who found that poor utilisation of ANC was associated with provision of services that were not friendly to the young. These services often lacked confidentiality, and pregnant adolescents did not receive adequate, safe information on motherhood. This study's findings were also consistent with the findings in phase one of data analysis, where the aspect of health promotion was found to be the least documented (see table 4.8).

The pregnant adolescents could easily perceive ANC as unimportant because they are not empowered by receiving knowledge about ANC knowledge that could help them to appreciate its benefits. Important information such as family planning, APH, PIH, labour, malaria in pregnancy and its prevention, nutrition and PMTCT including STI and HIV are important health promotion areas to be discussed with pregnant adolescents during pregnancy. Reynolds et al (2006:7) also point out that ANC provides an opportunity to teach pregnant adolescents how to recognise and react to signs of obstetric complications. Counselling for PMTCT in pregnancy is crucial as it allows the pregnant mother to choose to know her HIV status, and if it is positive, make informed decisions about ARV therapy and breast feeding options in order to prevent HIV transmission to her infant (Jackson 2002:147). The aspect of quality care could influence utilisation of ANC services, as this study found that most respondents would prefer to attend ANC at the same health centres with the next pregnancies, either because these health centres were near where they lived or because the care was perceived to be good. On the other hand, poor care could drive pregnant adolescents away from the particular health centre and opt for a clinic further away or seek unskilled attendants' services during pregnancy, labour

and childbirth. According to MOHCW (2007:21), maternal and neonatal morbidity and mortality have been attributed to three delays:

- Delay in seeking skilled health care in pregnancy
- Delay in accessing and/or reaching health care facilities
- Delay in getting skilled attendance.

The findings also revealed that pregnant adolescents are motivated to initiate ANC for various reasons. The pregnant adolescents indicated that one of the driving forces in their initiating ANC is their desire to know whether they and the baby in utero are both well. Another is the desire to get information about safe motherhood. The desire to be checked and, if necessary, receive treatment for conditions such as STIs and HIV/AIDS were the factors that would motivate them to initiate ANC. Interestingly, some pregnant adolescents indicated that they would initiate ANC in order to secure a place for delivery and others would initiate ANC if they were ill during pregnancy or if they had had complications in the previous pregnancies. Advice from peers, parents and nurses was also mentioned as one of the motivating factors. These findings are congruent with findings in previous studies of the importance of health promotion knowledge on safe motherhood, including nutrition, prophylactic treatment and treatment for infections such as STIs, HIV and malaria.

5.11.3 Socio-cultural and economic factors in phase 2

The findings in this study also concur with other studies and the HBM model in that socio-cultural, economic and religious factors were cited as some of the factors that could influence pregnant adolescents' utilisation of ANC services in Bulawayo (Aboyeji, Ijaiya & Fawole 2007:83).

The study showed that use of family planning services was poor among these pregnant adolescent (tables 5.3). The results of phase one showed that discussion on family planning was only recorded in under half the ANC records that were reviewed (45.0%; n=36). This could have been because the topic was not raised or because the pregnant

adolescents were reluctant to discuss the subject. Results of phase 2 showed that most of the pregnant adolescents (51.5%; n=103) did not use any form of family planning method although they were sexually active. These pregnant adolescents cited varied reasons for stopping or not initiating family planning methods. One of the reasons, related to socio cultural factors, was the misconception that family planning causes infertility. If a condom was used by a couple (27.5%; n=55), it was restricted to the usage of the male condom, so the woman had no control of when it was used. The partner could easily stop using condoms and the woman would not have the courage to challenge the decision or to convince him to allow her to use the female condom. This finding supports related literature findings that women, and in particular adolescent girls, have an inferior status in society that accords them a subordinate role in the decision making process (Dlamini & van der Merwe 2002:55; Tlou 2002:65).

With the HIV/AIDS threat ever present, condoms provide dual protection from falling pregnant and from contracting HIV and STI infections that are likely to be transmitted to the baby during pregnancy, labour and breastfeeding if the mother is not treated during the ANC period (Jackson 2002:146). Mbambo, Ehlers and Monareng (2006:9) also conducted a study on factors influencing adolescent girls' non-utilisation of contraceptives in the Mkhondo area in the Republic of South Africa. The findings of their study are congruent with the current study, in that adolescent girls lacked knowledge about contraceptives and even how to access them. Similar findings emerged in the study on unsafe induced abortions among adolescent girls in Zambia (Dahlback, Maimbolwa, Kasonka, Bergstrom & Ransjo-Arvidson 2007:671). This, then, means that limited knowledge and socio-cultural misconceptions about family planning could influence utilisation of reproductive health services. Family planning coverage in Zimbabwe was 60% in 2006 (MOHCW 2007:11) and the findings of this study confirmed that many adolescent girls are still not utilising family planning.

The study findings also showed that other socio-cultural and economic factors could have influenced late utilisation of ANC services in Bulawayo. These included cultural beliefs that pregnancy should not be disclosed until the woman is sure the foetal movements can

be felt and the abdomen is enlarged. This is to protect the pregnancy from witchcraft by enemies. This then explains the delay in initiating ANC. Certain religious sectors also believe in prayer rather than medical attention, and would not want the pregnant woman to attend ANC; instead they pray for the woman and give her holy water (Adamu & Salihu 2002:601).

Limited knowledge about ANC and its benefits, including prevention of unplanned pregnancies (45.0%; n=90) was evidenced by respondents, and this situation could influence these pregnant adolescents to delay or abstain from using ANC services, since they might not appreciate the value of early initiation of ANC. Financial constraints in terms of not being able to pay maternity fees and commuter fares to the nearest health centres, or referral centres which are usually far from the referring primary clinic, were also cited. The economic situation in Zimbabwe is unstable and is characterised by hyperinflation. The majority of women, particularly young adolescents who may be single, unemployed and subordinate to either their parents or spouses, face serious economic and socially related challenges. Not only are they vulnerable to unplanned pregnancies because of gender inequality, lack of empowerment and inability to protect themselves from pregnancy and HIV infection (WHO 2003:2), but they may simply have been unable to afford the cost of timely ANC or even travelling to the health facility (*Zimbabwe Chronicle* 2006:13). However, as mentioned earlier, a study by Westaway et al (1998:50) contradicts these findings; their study revealed that free ANC services did not guarantee an increase in the utilisation of ANC services.

In this study lack of family support and fear of disclosing the pregnancy to parents were also found to be determinants of poor utilisation of ANC services (supporting findings of De Villiers & Kekesi 2004: 24) These factors (socio economic and cultural), postulated in the study as the components of the HBM, could considerably influence pregnant adolescents' utilisation of ANC services.

5.11.4 Structural variables (knowledge) in phase 2

The HBM proposes that structural variables such as level of knowledge could influence utilisation of ANC services. The findings in this study demonstrated that the majority of the pregnant adolescents who participated in the study showed, when questioned, some appreciation of ANC and the increased knowledge it would give on reproductive health, (94.5%; n=197), despite their delay in initiating ANC (see table 5.4).

However, despite this perception of the respondents, their inadequate knowledge about ANC could influence poor utilisation of ANC services and eventually contribute to poor maternal and child health outcomes. Similar observations have been reported in the literature review. Many women and youths in Zimbabwe have limited knowledge regarding pregnancy and danger signs during pregnancy (MOHCW 2007:21).

5.11.5 Perceived benefits in phase 2

The pregnant adolescents' likelihood of utilising ANC services could be influenced by their awareness of the benefits offered by these services.

Early initiation of ANC could be a benefit that can improve certain pregnancy outcomes through detection and management of potential complications or prompt referral for further management (Reynolds et al 2006:7). The findings in this study supported this theory and the majority of the respondents strongly agreed that knowledge of the benefits of ANC would act as motivation for utilising ANC services in Bulawayo.

5.11.6 Perceived barriers in phase 2

Barriers to utilisation of ANC services such as high ANC fees, health workers' negative attitudes, fear of testing for HIV and knowing one's status, poor social and family support systems, including limited decision making and economic power, emerged in this study. Similar factors were also identified in the literature review as discouraging pregnant

adolescents from utilising ANC services (Adamu & Salihu 2002:600; Nindiri, Munjanja, Zhanda, Lindmark & Nystrom 1996:123). Studies by Adesegun, Fatusi and Chiwunzie (cited in Osubor, Fatusi & Chiwunzie 2006:168), as well as Ivanov and Flynn (1999:384), revealed that clients are usually prepared to overcome barriers such as high user fees if they are satisfied with the quality of care rendered and if the human and material resources are available. Similarly the pregnant adolescents might be motivated to attend ANC services if they perceived these services to be of good quality.

The study also revealed that there were some policy-related barriers that could prevent pregnant adolescents from utilising the ANC services. The pregnant adolescents mentioned that they were expected to bring their national identity cards in order to register for ANC, and they also explained that they were turned away if they did not have the money to book for ANC or if they had not been referred. This study also revealed the inadequate provision of reproductive health packages to pregnant adolescents.

5.11.7 Strategies to enhance utilisation of ANC services

Responses to this question revealed that pregnant adolescents had a number of unmet needs, challenges, and barriers that influenced their decisions on whether to utilise ANC services in Bulawayo.

These pregnant adolescents recommended the provision of education to pregnant adolescents and their parents. This study's findings demonstrated that despite the fact that the respondents showed, when questioned (table 5.4), some appreciation of the knowledge they could gain from ANC on reproductive health, they were not really aware of its benefits. The findings also revealed that these mothers lacked social, psychological and economic support from parents, society, the government and health workers themselves. Given these findings, the pregnant adolescents recommend enforcement of education about safe motherhood to them and their parents. They also recommended advocacy for strong social and family support systems and provision of quality ANC

services that are free, non restrictive, acceptable and need-focused. They also recommended outreach services so that they would not be missed wherever they were, be it at schools or in community settings.

5.12 SUMMARY OF THE DISCUSSION IN PHASE 2

Phase 2 discussed the results from interviews conducted with pregnant adolescents who were attending ANC in the four PHC clinics and the 2 government hospitals. The findings support the postulations of the HBM in that identified modifying factors, other socio-cultural and economic factors, individual perceptions, perceived benefits and perceived barriers have been found to strongly influence decisions either to utilise or not to utilise ANC services. The next chapter describes the analysis and discussion of the results of interviews conducted with adolescent mothers who had delivered their babies without attending ANC in Bulawayo.

CHAPTER 6

ANALYSIS AND DISCUSSION OF THE RESULTS OF PHASE 3 INTERVIEWS CONDUCTED WITH ADOLESCENT MOTHERS WHO DELIVERED THEIR BABIES WITHOUT ATTENDING ANTENATAL CARE

6.1 INTRODUCTION

Phase 3 analysed data obtained from adolescent mothers who delivered their babies without attending ANC in the four PHC clinics and the two central hospitals that conduct deliveries in Bulawayo. Eighty adolescent mothers who had delivered their babies without attending ANC were interviewed while they were still in the postnatal wards before their discharge home. The data in phase 3 were analysed using questions derived from the HBM components: modifying factors, individual perceptions, socio-cultural and economic factors, structural variables (knowledge), perceived benefits and barriers, and strategies that could improve utilisation of ANC services in Bulawayo.

The research questions guiding the study were:

- Which modifying factors could influence pregnant adolescents utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices, including economic factors, influence pregnant adolescents' decisions on whether to use ANC services?
- Which structural variables influence pregnant adolescents' decisions on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?

- What barriers might impact negatively on pregnant adolescents' utilisation of ANC services?
- What can be done to enhance pregnant adolescents' utilisation of ANC services in Bulawayo

6.2 PURPOSE OF THE STUDY IN PHASE 3

Phase 3 sought to determine why some pregnant adolescents did not initiate ANC and proceeded to deliver their babies without attending ANC. This phase also attempted to establish strategies, as perceived by the adolescent mothers themselves, which could be used to enhance their utilisation of ANC services in Bulawayo.

6.3 MODIFYING FACTORS IN PHASE 3

The questions in this section sought to find out which modifying factors could influence the pregnant adolescents' utilisation of ANC services. According to the HBM, modifying factors such as age, marital status, educational level, parity and income can influence decisions either to utilise or not to utilise ANC services.

6.3.1 Age

The mean age of the participants was 17 years and their ages ranged from 14 years to 19 years. Out of 80 participants, 27.5% (n=22) were aged 17 years, 27.5% (n=22) were 19 years old; 21.2% (n=17) were 18 years old, while 11.3% (n=9) were 16 years old. The sample also included participants who were 14 years (5.0%; n=4) and 15 years (7.5%; n=6) old respectively (see figure 6.1).

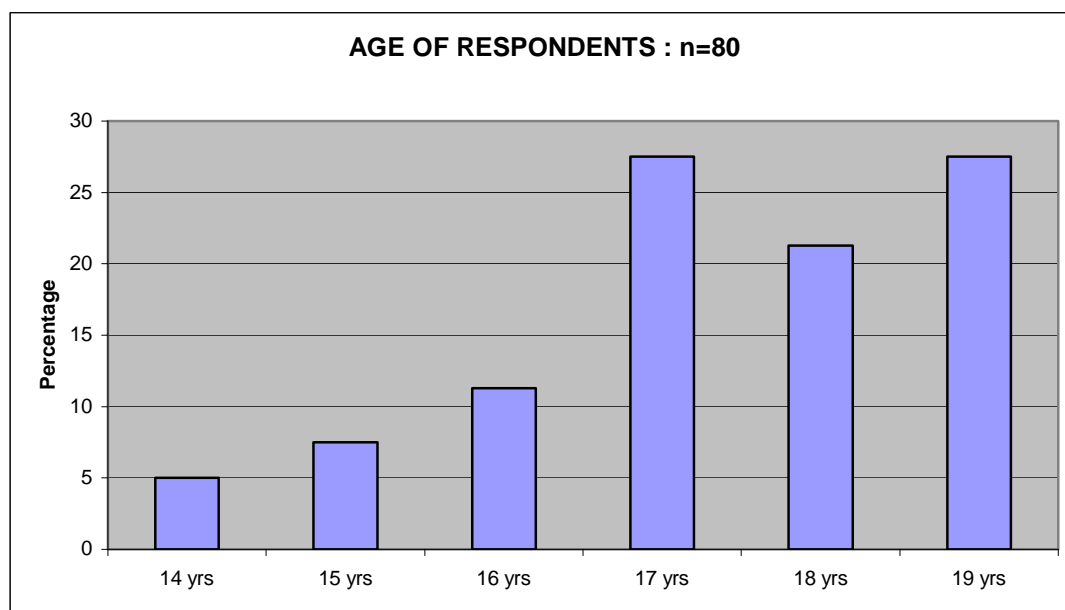


Figure 6.1: Age of the participants in phase 3 (N=80)

The referral system showed that 46.2% (n=37) had not been referred but had gone to the clinics because they were in labour or had noticed problems; 26.2% (n=21) had been referred from the PHC clinics to the government hospitals for further management due to complications that could not be handled at primary levels of care. Some (8.8%; n=7) had been referred from private doctors or from a private nursing home, while others (8.8%; n=7) were referred by the TBAs.

6.3.2 Marital status

Information on marital status revealed that 48.8% (n=39) of the participants were single, 33.8% (n=27) were married, while 17.5% (n=14) were cohabiting (figure 6.2). Forty-five percent (n=36) lived with their parents, 40.0% (n=32) lived with spouses, 11.3% (n=9) lived with other members of the extended family and 3.8% (n=3) lived with a friend. The majority of the participants belonged to the Christian religion (87.5%; n=70). One (1.2%; n=1) followed Islam, while 11.3% (n=9) belonged to other denominations.

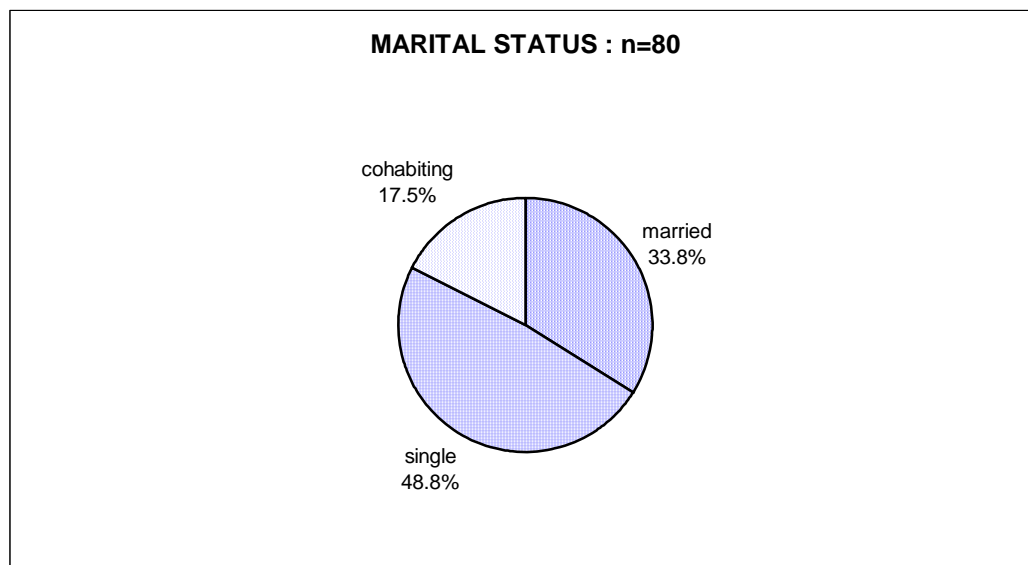


Figure 6.2: Marital status of the participants in phase 3 (N=80)

6.3.3 Educational level

The educational level statistics displayed in figure 6.3 show that 36.2% (n=29) had attended school up to Form 4, a quarter (25.0%; n=20) had gone up to Grade 7 and 20.0% (n=16) had left school after completing Form 2. Only one (1.2%; n=1) participant had attained advanced level education. The major reasons for leaving school were pregnancy (27.5%; n=22) and having no money to pay fees or proceed with their studies (27.5%; n=22), followed by poor progress (21.2%; n=17), started working (7.5%; n=6) and other reasons (16.2%; n= 13).

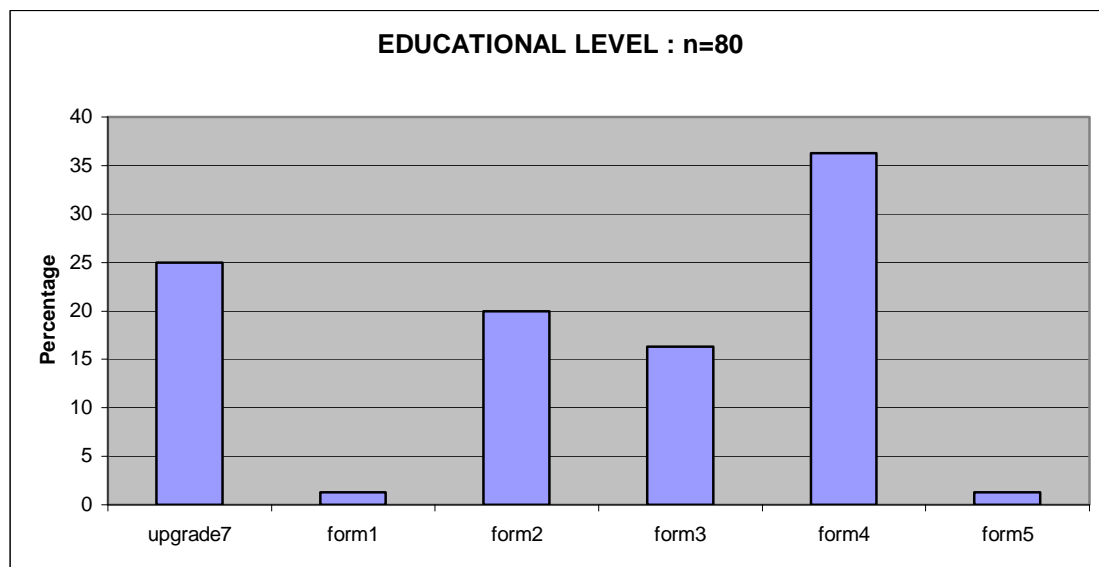


Figure 6.3: Educational level of the participants in phase 3 (N=80)

6.3.4 Employment status and sources of income

The majority of the interviewed adolescent mothers were unemployed (87.5%; n=70). Those who were employed comprised mainly general workers. The source of income for the participants was mainly from their spouses (50.0%; n=40), parents (37.5%; n=30), self (7.5%; n=6) and other sources (5.0%; n=4) including aid from NGOs and other well-wishers.

Answers on the employment status of the spouses revealed that 65.0% (n=52) of their spouses were employed, while 31.2% (n=25) were unemployed and the remaining (3.8%; n=3) spouses' employment status was not known by the participants. The job categories among those who were employed, were skilled work (31.3%; n=25), general work (13.8%; n=11), self-employment (11.3%; n=9) and professional work (8.75%; n=7).

6.3.5 Parity and gravid status of participants in phase 3

Out of 80 participants, 86.3% (n=69) were parity one, meaning that they had given birth for the first time, while 13.8% (n=11) were giving birth for the second time (parity two). Eighty-five percent (85.0; n=68) participants had one live baby, 11.2% (n=9) had two live children while 3.8% (n=3) had no live child because they had had either a stillbirth or neonatal death (NND).

6.4 INDIVIDUAL PERCEPTIONS IN PHASE 3

The participants were also asked in an open-ended question to mention at least 3 factors that would motivate them to utilise ANC services with their next pregnancy. Their responses varied and each participant gave more than one response. Main factors as perceived by the individual mothers were grouped into the following broad areas:

- Adequate knowledge about ANC services and benefits (72.5%; n=58)
- Accessible, acceptable and affordable services (77.5%; n=62)
- Favourable family and social support systems (68.8%; n=55)
- Quality services satisfying the needs of the adolescent mothers (61.3%; n=49)
- Don't know and not sure (20.0%; n=16)

In pursuance of the individual perceptions, the participants were also asked to indicate people who would influence their decision not to utilise ANC services. The majority (85.0%; n=68) cited "other reasons", meaning that they had just decided not to attend ANC because of personal reasons such as fear of disclosing the pregnancy. They agreed that attending ANC would be disclosing that they were pregnant. However, 10.0% (n=8) mentioned the influence of peers, while 5.0% (n=4) mentioned their parents.

6.5 SOCIO-ECONOMIC FACTORS IN PHASE 3

The third research question sought to determine which socio-economic factors influence utilisation of ANC services by adolescents. According to the HBM, socio-economic

factors are viewed as modifying factors that could influence utilisation of health care services and, in this study, ANC services. Socio-economic factors were discussed in the context that decisions made are influenced by individual beliefs, social and economic factors.

Table 6.1: Family Planning and reasons for not using a contraceptive method (N=80)

Method	n	%	Reason	n	%
Pill	9	11.3	Default	16	20.0
IUCD	0	0.0	No reason	0	0.0
Injection	4	5.0	Not aware of FP	40	50.0
Condom	17	21.3	Method failure	5	6.3
Breastfeeding	4	5.0	Wanted a baby	9	11.3
Abstinence	00	0.0	Other	10	12.5
Nothing	46	57.5	Total	80	100.1
Total	80	100.1			

The participants were asked about the type of family planning methods they had used before they fell pregnant. Table 6.1 shows that most of the participants (57.5%; n=46) indicated that they used nothing, 21.2% (n=17) used male condoms, 11.2% (n=9) used the pill, 5.0% (n=4) used the injection while another 5.0% (n=4) relied on breastfeeding as a family planning method.

The question on why they had stopped or not used contraceptive methods was asked because unplanned pregnancies due to non-use of contraceptives methods have strong socio-economic implications. Adolescent mothers may not use family planning methods because of lack of knowledge, social support and advice from parents, health workers and spouses. Half of the participants (50.0%; n=40) indicated that the reason why they were not using family planning was that they were not aware of how to safely access family planning services. Twenty percent (20.0%; n=16) admitted that they had defaulted, while other reasons (12.5%; n=10) such as cultural and religious factors were mentioned by some. Family planning was deliberately stopped by some (11.2%; n=9) because they wanted babies, while method failure (6.2%; n=5), despite using family planning methods, were cited by others.

A question was asked to establish if the participants attended ANC with their previous pregnancies (see table 6.2).

Table 6.2: Reasons for not attending ANC with the last pregnancy (N=80)

Reason	N	%
Fear of disclosing the pregnancy	19	23.8
Feeling well and the baby was kicking	18	22.5
No money to register for ANC	16	20.0
Limited knowledge about ANC and its benefits	14	17.5
No required documents to register for ANC	4	5.0
Attended ANC with TBAs	7	8.8
Other	2	2.5
Total	80	100.1

Out of 80 participants mothers who had delivered their babies without attending ANC, the majority (86.3%; n=69) had been pregnant for the first time. Some (3.8%; n=3) had experienced problems but 11.2% (n=9) had not experienced any problems with earlier pregnancies. The problems experienced were neonatal death (NND) (2.5%; n=2), abortion or miscarriage (1.2%; n=1) and other problems (1.2%; n=1) – in this case pre-eclampsia. The participants were also asked if they had attended ANC with previous pregnancies. The majority (86.3%; n=69) were pregnant for the first time so the question was deemed inapplicable. Of the remaining 13.7% (n=11) who had been pregnant more than once, only four reported that they had attended ANC with the previous pregnancies while seven had delivered their babies without attending ANC, with their previous pregnancies. Those few who had booked for ANC during their previous pregnancies said it was because it was their first pregnancy and they wanted to be monitored. The others who did not book for ANC in their previous pregnancies said they were feeling well, cited religious factors and financial constraints as well as fear of disclosing the pregnancy to parents.

A similar question was asked to determine why the participants refrained from attending ANC with their last pregnancy, for which they had been admitted in the post-natal wards. The results are displayed in table in 6.3.

Table 6.3: Factors contributing to non utilisation of ANC services with current pregnancy (N=80)

Main factors	n	%
Limited knowledge	25	31.3
Financial constraints	17	21.3
Fear of disclosing the pregnancy	12	15.0
Unplanned pregnancy	11	13.8
Religion	6	7.5
Culture	6	7.5
Distance from the health centre	1	1.3
Other	2	2.5
Total	80	100.2

According to the results in table 6.3 the main factors that contributed to non-utilisation of ANC services were cited as limited knowledge on the benefits of ANC (31.3%; n=25), financial constraints (21.3%; n=17), fear of disclosing pregnancy to parents (15.0%; n=12), unplanned pregnancy (13.8%; n=11), and other reasons such as wanting to terminate the pregnancy (abortion) (2.5%; n=2).

If they should have the money available, more than a quarter of the participants (36.2%; n=29) indicated that they would book for ANC, while an equal percentage (36.2%; n=29) were uncertain and would probably not do so. Just more than a quarter (26.2%; n= 21) were positive that they would definitely book for ANC if they had money, while one participant (1.2%; n=1) strongly indicated that she would not book for ANC even if she had money.

The participants were also asked why they had chosen to deliver at health centres when they had not attended ANC. More than half (52.5%; n=42) said that they wanted to be assured of a safe delivery by a skilled attendant, others (43.8%; n=35) developed obstetric complications which forced them to seek skilled health care, while a few (3.8%; n=3) said that they wanted to get a birth record notification letter for the child from the hospital in order to get the birth certificate for the child without hassles from the Ministry of Home Affairs.

The participants were further asked if the complications could have been prevented if they had attended ANC. A number of participants (36.3%; n=29) indicated that they were not affected (N/A) because the reason for delivering under a skilled attendant was not due to complications but for safe delivery and for getting a birth notification slip.

When the participants were asked about who was looking after their health during pregnancy, most of them (67.5%; n=54) cited other reasons such as that they looked after themselves, or “no one” because they felt “well and healthy” throughout the pregnancy. Mothers and grandmothers take care of some of the participants (28.8%; n=23), while TBAs (3.8%; n=3) were cited as their carers by some of the participants while pregnant.

6.6 KNOWLEDGE OF ANC IN PHASE 3

Knowledge was identified as the major structural variable that could affect utilisation of ANC services. The adolescent mothers’ knowledge on ANC and appreciation of its benefits for reproductive health was tested. The response scores were expected to be *yes definitely, yes, no, and no definitely not*. The mean response score was $1.66 \cong 2$ (yes). The responses are shown in table 6.4.

Table 6.4 Respondents’ knowledge of ANC (N=80)

<i>Knowledge items</i>	<i>Yes, definitely</i>		<i>Yes</i>		<i>No</i>		<i>No, definitely not</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
ANC provides increased knowledge about reproductive health.	30	37.5	48	60.0	2	2.5	0	0.0
Early ANC booking ensures well being	37	46.3	40	50.0	3	3.8	0	0.0
ANC provides the opportunity to detect and manage complications	30	37.5	47	58.8	3	3.8	0	0.0
ANC provides a learning opportunity	27	33.8	50	62.5	3	3.8	0	0.0
ANC empowers one to be able to identify danger signs and act promptly	25	31.3	52	65.0	3	3.8	0	0.0
ANC provides an opportunity to learn about STI, HIV and PMTCT	34	42.5	43	53.8	3	3.8	0	0.0

Forty-eight (60.0%) of the participants agreed (yes) that ANC provides increased knowledge about reproductive health, and 37.5% (n=30) said yes, definitely. Half of the participants (50.0%; n=40) said yes, and 46.3% (n=37) said yes definitely that early ANC booking enhances the well-being of the mother and the baby. Only 3.8% (n=3) refuted the assertion that ANC provides the opportunity to ensure the well-being of the mother and baby and detect and manage complications related to pregnancy and child birth.

Similarly only 3.8% (n=3) disagreed with the statement that ANC provides a learning opportunity, and that it empowers one to be able to identify signs of complications and act promptly. All other participants supported or strongly supported the statements.

The participants were also asked to indicate the extent of their knowledge about the statement that “ANC provides the opportunity to learn about the prevention of STI, HIV and MTCT.” More than half of the participants (53.5%; n=43) said yes, while 42.5% (n=34) said yes, definitely, while 3.8% (n=3) still denied the truth of the statement.

6.7 PERCEIVED BENEFITS IN PHASE 3

The fourth research question sought to determine which perceived benefits could influence the pregnant adolescents’ decisions to utilise ANC services in Bulawayo. The mean score for perceived benefits was 1.6 \cong 2 (yes). The results also demonstrated a strong significance ($p=0.000$ $p<0.05$). This means that that there is a strong association between awareness of perceived benefits of ANC and utilisation of ANC. If adolescent mothers were aware of the ANC benefits their chances of effectively utilising ANC services would be high. Table 6.5 shows the results.

Table 6.5 Perceived benefits of ANC (N=80)

<i>Perceived benefit items</i>	<i>Yes def</i>		<i>Yes</i>		<i>No</i>		<i>No Def</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Adequate knowledge about ANC and the services in Bulawayo	44	55.0	35	43.8	1	1.3	0	0.0
Accessible services	38	47.5	40	50.0	2	2.5	0	0.0
Acceptable services	38	47.5	40	50.0	2	2.5	0	0.0
Free ANC services	36	45.0	30	37.5	14	17.5	0	0.0
Quality services	29	36.3	49	61.3	2	2.5	0	0.0
ANC services that meet adolescent needs	43	53.8	36	45.0	1	1.3	0	0.0

A small percentage (1.3%; n=1) did not agree that adequate knowledge of ANC services in Bulawayo would motivate her to utilise ANC services; 2.5% (n=2) did not agree that accessible and acceptable ANC services could be perceived as benefits. Some of the participants (45%; n=36) said yes, definitely, free ANC services could be perceived as benefits, 37.5% (n=30) just said yes, while 17.5% (n=14) felt that free services would not be perceived as benefits. A large majority of the participants agreed that quality ANC services would motivate them to utilise ANC services, and only 2.5% (n=2) did not agree. Antenatal care services that meet adolescent needs were strongly favoured by all but 1.3% (n=1) of the participants.

6.8 PERCEIVED BARRIERS IN PHASE 3

The sixth research question sought to determine the perceived barriers that could prevent pregnant adolescents from utilising ANC services in Bulawayo. The mean perceived barrier score was $1.98 \cong 2$ (yes).

Most of the participants (55.0%; n=44) strongly felt that high ANC fees were perceived as barriers, 31.3% (n=25) also agreed, while 13.8% (n=11) felt that high ANC fees were not barriers to utilisation of ANC services in Bulawayo. Unfriendly attitudes of health workers were strongly perceived as barriers (43.8%; n=35), perceived (yes) as barriers (20.0%; n=16) and not as barriers (36.2%; n=29).

Table 6.6 Perceived barriers of ANC (N=80)

<i>Perceived barrier items</i>	<i>Yes definitely</i>		<i>Yes</i>		<i>No</i>		<i>No, definitely</i>	
	<i>N</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
High ANC fees	44	55.0	25	31.3	11	13.8	0	0.0
Unfriendly health workers' attitudes	35	43.8	16	20.0	29	36.3	0	0.0
Delays in attending to clients	9	11.3	40	50.0	31	38.8	0	0.0
Unfriendly attitudes of older clients (mothers)	5	6.3	37	46.3	30	37.5	8	10.0
Poor family and support systems	25	31.3	49	61.3	6	7.5	0	0.0
Fear of testing for HIV status	41	51.3	32	40.0	7	8.8	0	0.0
Fear of positive HIV status	39	48.8	36	45.0	5	6.3	0	0.0
Inadequate knowledge about benefits of ANC	47	58.8	32	40.0	1	1.3	0	0.0
Poor economic power (poverty)	22	27.5	55	68.8	3	3.8	0	0.0
Limited decision making authority	9	11.3	58	72.5	13	16.3	0	0.0
Peer influence	22	27.5	24	30.0	34	42.5	0	0.0
Parents' influence	8	10.0	30	37.5	42	52.5	0	0.0
TBA influence	7	8.8	26	32.5	39	48.8	8	10.0

Many participants agreed (61.3%; n=49) or strongly agreed (31.3%; n=25) that poor family and social support systems could be barriers to utilisation of ANC services; those who disagreed were 7.5% (n=6) of the participants.

Fear of testing for HIV status was not perceived as a barrier by only 8.8 (n=7) of the participants. Even fewer (6.3%; n=5) disagreed that fear of HIV positive results could be a barrier to utilisation of ANC services in Bulawayo. Similarly only 1.3% (n=1) did not agree that inadequate knowledge about the benefits of ANC could be a barrier to utilisation of ANC services.

Limited economic power among adolescent mothers was perceived (68.8%; n=55) or strongly perceived (27.5%; n=22) to be a barrier. Limited decision-making authority among adolescent mothers was perceived less widely as a barrier (16.3%; n=13) by the participants. The opinion on peer influence revealed mixed perceptions. About the same percentage strongly agreed (27.5%; 22) or agreed (30.0%; n=24), while more (42.5%; n=34) did not agree that peer influence could prevent pregnant adolescents from utilising ANC services.

Most of the participants (52.5%; n=42) did not agree that parents could prevent them from utilising ANC services. However, 37.5% (n=30) agreed, and 10.0% (n=8) strongly agreed that parents could influence non-utilisation of ANC services. Traditional Birth Attendants (TBAs) were not perceived to pose barriers by almost half of the respondents (48.8%; n=39). Some (10.0%; n=8) definitely perceived TBAs as barriers to utilisation of ANC services.

6.9 STRATEGIES TO ENHANCE UTILISATION OF ANC SERVICES IN PHASE 3

The last research question sought information on strategies that would enhance utilisation of ANC services in Bulawayo. The responses were diverse and each participant gave more than one response. The issues that emerged were similar to those in item 5.9 and these were:

- Education for the adolescent mothers on safe motherhood as early as during the preconception period (75.0%; n=60)
- Provision of quality ANC services that are acceptable, affordable and accessible to adolescent mothers without fear or stigma and services that maintain confidentiality (72.5%; n=58)
- Education of the community and family members to learn to support and accept them despite their “mistake” of falling pregnant (51.3%; n=41)
- Improvement of policies that act as barriers and consider legalising abortion for unwanted pregnancies (8.8%; n=7)
- Not sure (3.8%; n=3)

6.10 DISCUSSION OF RESULTS IN PHASE 3

Phase 3 presented an analysis of data obtained from adolescent mothers who had delivered their babies without attending ANC. Data were analysed according to the components of the HBM.

There is a higher incidence of complications among the unbooked adolescents than the booked ones (Loto et al 2004:395). The findings in this section were congruent with postulations of the HBM in that a variety of factors, namely modifying factors, individual perceptions, and structural variables such as knowledge, perceived benefits, and perceived barriers could influence pregnant adolescents' utilisation of ANC services. These adolescent mothers delivered their babies without attending ANC because of a number of socio-demographic factors, their individual perceptions about ANC, limited knowledge about ANC and socio-economic, policy-related and structural barriers

6.10.1 Modifying factors phase 3

The study findings in phase 3 revealed that modifying factors such as age, parity and marital status and educational status significantly influenced pregnant adolescents' utilisation of ANC services. The older adolescents who were aged 17, 18 and 19 years were in the majority (figure 6.1). These findings are in contrast with other study findings (Reynolds et al 2006:9) that it is the younger adolescent mothers who tend to delay or not attend ANC (Ford et al 2002:38). However, Wieman et al (1997:274) as well as Perloff and Jaffee (1999:117) support these study findings, in that age and prior birth experience can influence utilisation of the ANC services. In this study most of the adolescent mothers were aged 18 and 19 years and among them some had had a previous birth experience (parity). The study findings also indicate that the majority of older adolescent mothers had delayed falling pregnant. This could be a sign of responsible behaviour, which could mean abstinence or effective use of contraception, although the findings indicated that the majority were not using contraceptives and were not aware of how to access them.

Nearly half (48.8%; n=39) were single and the majority (87.5%; n=70) were unemployed: the majority of their spouses (65.0%) were employed and these mothers therefore had increased chances of both financial and psychological support from their spouses (Adamu & Salihu 2002:600; Perloff & Jaffee 1999:117). A high percentage (45.0%; n=36) lived with their parents while 40.0% (n=32) were living with their spouses. These findings are supported by Cassata and Dallas (2005:72), who also observed that the unemployed, single and economically dependent adolescent mothers were not likely to utilise ANC services.

Most of the adolescent mothers had secondary education and the most significant reasons for leaving school were financial limitations and pregnancy. Although ANC fees appeared to be within affordable limits, most of these mothers were socially and economically subordinate to either parents or spouses, meaning that their decision-making power and the effects of gender inequality were strongly and significantly correlated to inadequate utilisation of ANC services (Reynolds et al 2006: 25).

6.10.2 Individual perceptions about ANC in phase 3

The findings about individual perceptions were consistent with those in the literature review. The adolescent mothers in this study believed they would benefit from acquiring adequate knowledge about ANC services and their benefits. They also thought they would benefit from attending services that were quality, adequate, accessible, acceptable and affordable. They also believed in strong family and social support systems as motivators. However, the findings also showed that these adolescent mothers lacked self-motivation, as the majority 85.0%; n=68) were not prevented by anybody from initiating ANC. These adolescent mothers could have avoided initiating ANC because of their individual perceptions about ANC services due to limited knowledge and misconceptions, and perceived poor quality services that would not benefit them. Individuals are likely to take preventive action to asymptomatic conditions such as pregnancy if they perceive that such action would be beneficial, for instance in reducing the probability of pregnancy complications (Bellon et al 1999:1353).

6.10.3 Socio-cultural and economic factors and individual perceptions: phase 3

The findings of this study are similar to those in the literature review in that more than half of the adolescent mothers (57.5%; n=46) in phase 3 did not use any contraceptive method for protection and/or to delay pregnancy because they did not know how to access contraceptive methods (Dahlback et al 2007:670). As in phase two, those who had used condoms stated that they used male condoms that were controlled by their partners (Dahlback et al 2007:670). They themselves (adolescent mothers) did not have the confidence to introduce the subject of female condoms to their spouses. The findings are also similar to those of Mbambo et al (2006:8) that most adolescent mothers did not use contraceptives and that most of them did not know much about contraceptives. Individual perceptions about contraceptives in related studies also emerged in this study; they included misconceptions about the efficacy, complications of sub-fertility after using contraceptives and fear of parents (Ehlers 2003:229).

Although the majority of the adolescent mothers were giving birth for the first time, some of those who had been pregnant before had experienced problems from previous pregnancies and this is consistent with the findings of Trivedi and Pasrija (2007:85). Inadequate ANC predisposes adolescent mothers to risks of anaemia, eclampsia, pre-term labour and low birth weight babies.

Socio-economic factors in this study, such as fear of disclosing pregnancy and financial constraints, echo those of other studies. Reynolds et al (2006:6) reported that poor maternal outcomes were associated with socio-cultural factors that restrict women's autonomy and support harmful traditional and religious practices. Maimbolwa et al (2003:33) also reported that adolescents were ashamed and afraid to reveal their pregnancies, to the extent that they would risk their lives through unsafe and induced abortions. Communication with their family members was reported to be poor and some adolescent mothers were likely to be expelled from home and from school.

The reasons for not attending ANC were similar to findings cited in the literature review, namely:

- Feeling well throughout pregnancy
- Fear of disclosing pregnancy to parents and school authorities
- Financial constraints; unable to pay ANC fees
- Not having the required documents to register for ANC

These findings have serious implications for policy issues and for midwives as advocates for social support and policy change. Most of the mothers indicated that if they could afford it they would book for ANC, although a few were not sure. These findings indicate that if barriers such as ANC fees and poor family and social support systems, including restrictive policies, were minimised, these mothers could initiate ANC when they fell pregnant. These adolescent mothers also reported that they had chosen to deliver at health centres because they wanted to be assured of safe deliveries; some wanted birth records for their babies in order to obtain birth certificates for the babies with no hassles. The remainder developed complications that required the services of a skilled attendant. These findings are consistent with the report of MOHCW (2007:21), which acknowledges that the majority of women and youths in Zimbabwe lack knowledge about recognising obstetric complications and the need to seek health care. The report further identified as contributing factors lack of confidence in health care personnel, costs of health services, poverty, traditional beliefs and pressure from relatives to stay home

6.10.4 Structural variables (knowledge) phase 3

Adequate knowledge of ANC could influence positive health-seeking behaviour by utilising ANC services. The overall mean knowledge response (1.66 \approx 2) indicating 'yes' revealed that most of the adolescent mothers had some appreciation of what ANC could offer, although there were some who denied that it could offer any benefits (table 6.4), and these cause concern. Similar findings have been reported by Matua (2004:35). Although the findings revealed appreciation of ANC benefits which could have motivated these mothers to attend ANC, other factors cited elsewhere in this study could

have been what modified their decisions not to utilise ANC but deliver without attending ANC (section 6.3). These adolescent mothers did agree in other sections of the study that they lacked knowledge about ANC and they also agreed in section 6.10.5 that adequate knowledge about ANC and its benefits would motivate them to initiate ANC.

6.10.5 Perceived benefits in phase 3

The findings confirmed that more awareness of the benefits of ANC would motivate these adolescent mothers to maximise utilisation of ANC services in Bulawayo. ($p=0.000 < p < 0.05$). The argument was statistically significant ($p=0.000 < p < 0.05$) in that perceived benefits of ANC were found to influence decisions on whether to utilise ANC services. It can be concluded that one of the factors that contributed to the unbooked status of these adolescent mothers was inadequate knowledge about ANC and its benefits. The study findings also revealed a new dimension, that of fear of disclosing the pregnancy to the parents, which also indicates poor and hostile family and social support systems within families and the communities. The young mothers may feel that perceived benefits stemming from attending ANC are unlikely to outweigh the costs of revealing the pregnancy. ANC utilisation is subject to both individual and contextual influences, meaning that friends, family members and other social groups influence individual health care utilisation (Perloff & Jaffee 1999:118). Adolescent mothers are, however, likely to utilise ANC services if they perceive that attending ANC would be beneficial in either reducing the incidence of complications or preventing them, while identifying and resolving any barriers to reproductive health (Biko 2006:55).

6.10.6 Perceived barriers in phase 3

Perceived barriers in this study were identified as the most influential variables ($p=0.00 < p < 0.05$). Utilisation of ANC services was also observed to be strongly influenced by perceived barriers such as high user's fees and unfriendly attitudes of health workers, lack of confidence and lack of confidentiality among health staff (Dahlback et al 2007:670; Nindiri et al 1996:123). The findings in this study are consistent with other

studies for predicting and explaining health related behaviours described in the literature review (chapter 2). Poor social support systems and economic powerlessness were also found to be barriers to utilisation of ANC services. According to Bellon et al (1999:1355), there is a strong association of affective psychological factors (social support) and utilisation of health care services. This means that pregnant adolescent and adolescent mothers need support from parents, spouses and health workers during their reproductive life.

Other dimensions of barriers that emerged in this study were fear of testing for HIV status and knowing one's status. Some adolescent mothers in this study were still sceptical about knowing their HIV status. Despite all these fears Jackson (2002:149) recommends support services for young people and the creation of awareness in men and women on the advantages of HIV testing during pregnancy in order to safeguard the baby from HIV transmission. Friends were also cited in the literature as strongly influential, as pressure from peers and the embarrassment of being pregnant have been found to be obstacles to attending ANC (Jonge 2001:55). Related literature in this study supported the findings that TBAs continue to provide services to some groups of adolescents such as those who continue to deliver at home (MOHCW 2007:20).

6.10.7 Strategies for enhancing utilisation of ANC services: phase 3

The recommendations were similar to those in section 5.9 and they also emerged in the literature review. These adolescent mothers also demonstrated a quest for more knowledge about safe motherhood. They also advocated accessible, affordable and acceptable ANC services that are without barriers. They advocate acceptance and financial and social support from the parents, spouses, the community, health workers and policy makers. Some of the adolescent mothers were not sure of what strategies could be put into place to enhance their utilisation of ANC services. Others even advocated policies that legalise abortions where pregnancies were unplanned and unwanted. In Zimbabwe abortion or termination of pregnancy can only be facilitated if the pregnancy is life threatening, such as in the case of severe PIH and HIV /AIDS.

6.11 SUMMARY

The findings of phase 3 confirmed the postulations of the HBM. Certain modifying factors, individual perceptions, socio-economic factors, knowledge, perceived benefits and barriers in this study influenced the adolescent mothers' decisions not to utilise ANC services. The adolescent mothers also came up with strategies to enhance their utilisation of ANC services in Bulawayo. The next chapter discusses data obtained from midwives working in the four PHC clinics and the two government hospitals in Bulawayo.

CHAPTER 7

ANALYSIS AND DISCUSSION OF THE RESEARCH RESULTS PHASE 4: QUESTIONNAIRE RESPONSES FROM MIDWIVES

7.1 INTRODUCTION

Phase 4 analysed data from midwives working in the four PHC clinics and the two government hospitals in Bulawayo. The first section of the questionnaire sought demographic information about these midwives, including their professional qualifications and number of years' experience in the maternity settings. The questions in the next section focused on utilisation of the goal-oriented guidelines in order to establish the quality, adequacy and efficacy of ANC provision in Bulawayo. The rest of the questions attempted to seek information according to the research questions that were guided by the components of the HBM. Midwives' opinions and views were sought on the influence of selected factors on pregnant adolescents' utilisation of ANC services in Bulawayo. These were modifying factors, individual perceptions, knowledge, perceived benefits and perceived barriers that could influence utilisation of ANC services. Fifty-six questionnaires were distributed to midwives working in these four PHC clinics and the two government hospitals and 52 were returned.

7.2 PURPOSE OF THE STUDY IN PHASE 4

This section aimed at determining the views of the midwives about why some pregnant adolescents delay initiating ANC while others deliver their babies without even attending ANC. The midwives themselves were also asked to suggest strategies for improving pregnant adolescents' utilisation of ANC services in Bulawayo. This section was included in the study to strengthen the validity of the results by getting broader and diverse views from the midwives and also to assess the quality and efficacy of ANC services provision in Bulawayo.

7.3 DEMOGRAPHIC VARIABLES OF MIDWIVES

Some personal information was requested from the participating midwives so that the rest of the information in phase 4 of the research project could be contextualised against the background information of who the midwives were, what qualifications they hold, how old they were and how many years' experiences they had in midwifery departments.

Table 7.1: Midwives' ages and marital status (N=52)

Age	n	%	Marital status	n	%
<25 years	5	9.6	Single	15	28.8
25-35 years	17	32.7	Married	28	53.8
36-45 years	12	23.1	Divorced	2	3.8
>45 years	18	34.6	Separated	6	11.5
			Other (widowed)	1	1.9
Total	52	100	Total	52	99.8

The results in table 7.1 reveal that 18 (34.6%) respondents were over 45 years of age, 17 (32.7%) were 25–35years, 12 (23.1%) were 36–45 years while 5 (9.6%) were below 25 years of age. More than half of the respondents (n=30; 57.7%) were at least 36 years old; 28 (53.8%) were married, 15 (28.8%) were single, 6 (11.5%) were separated, 2 (3.8%) were divorced while 1 (1.9%) was widowed.

Table 7.2 Respondents' professional qualifications (N=52)

Qualifications	n	%
General nurse only	7	13.5
Midwife only	3	5.8
General nurse and midwife	34	65.4
Other	8	15.4
Total	52	100.1

Out of 52 respondents 34 (65.4%), were general nurses with midwifery qualifications, 3 (5.8) were midwives only, 7 (13.5%) were general nurses only, while 8 (15.4) were state certified nurses with midwifery qualifications. The duration of their experience in

maternity departments ranged from 0-1 year (n=21; 40.4%), 2-3 years (n=13; 25%), 4-5 years (n=3; 5.8%) to 6 years and more (n=15; 28.8%). The majority (n=33; 63.5%) were working in the government hospitals while the rest (n=19; 36.5%) were working in the PHC clinics.

7.4 QUALITY, ADEQUACY AND EFFICACY OF ANC AS INFLUENCED BY THE GOAL-ORIENTED APPROACH

The respondents were also asked questions relating to the goal-oriented approach as a way of determining the quality, adequacy and efficacy of care provided.

Table 7.3: Midwives' use of the goal-oriented approach (N=52)

Questions relating to the goal-oriented approach	Yes		No	
	n	%	n	%
Do you use the goal-oriented-approach?	40	76.9	12	23.1
Are you familiar with the goal-oriented approach?	42	80.8	10	19.2
Is the goal-oriented approach easily implemented?	33	63.5	19	36.5
Do you feel competent to use the goal-oriented approach?	35	67.3	17	32.7
Have you received training on the goal-oriented approach?	33	63.5	19	36.5
Do pregnant adolescents maximise the use of ANC services?	16	30.8	36	69.2
Would pregnant adolescents benefit from ANC?	48	92.3	4	7.7

Table 7.3 shows that the majority (n=40; 76.9%) said they were using the goal-oriented approach during ANC. Forty two respondents (n=42; 80.8%) said they were familiar with the approach. Well over half of the respondents (n=33; 63.5%) reported that it was easy to use, while others (n=19; 36.5%) felt it was not easy to use. Thirty-five respondents (n=35; 67.2%) reported that they were competent in applying the approach, while others (n=17; 32.8%) did not feel competent. Out of the 52 respondents who participated in the study, more than half of the respondents (n=33; 63.5%) indicated that they had not received training on the goal-oriented approach; more than a third (n=19; 36.5%) said they had received some training on the approach. Some even added that the approach was just imposed on them but they were not trained how to use it. Most of the respondents (n=36; 69.2%) indicated that pregnant adolescents did not maximise the use of ANC

services. However, the majority (n=48; 92.3%) agreed that pregnant adolescents would benefit from attending ANC.

7.5 MODIFYING AND SOCIO-CULTURAL FACTORS AS PERCEIVED BY MIDWIVES

The midwives' opinions were sought on whether they thought that certain modifying factors, including socio-economic factors as postulated in the HBM, could influence pregnant adolescents to utilise ANC services or not. The variables analysed were age, marital status, educational level, parity, socio-cultural and economic factors, health workers' attitudes and fear of disclosing the pregnancy.

The majority of the respondents (n=47; 90.4%) agreed that age strongly influences pregnant adolescents' decision on whether to utilise ANC services and only a few (n=5; 9.6%) indicated that age had no influence on such a decision. Forty-four respondents (n=44; 84.6%) also agreed that parity influences this decision. Similarly, the majority (n=41; 78.8%) of the respondents were of the opinion that marital status could influence pregnant adolescents' decisions to utilise ANC services. Socio-cultural and religious factors were perceived by 48 (92.2%) of the respondents to influence pregnant adolescents' decisions. A large percentage of the respondents (n=49; 94.2%) were of the opinion that financial constraints could be a limiting factor to utilisation of ANC services in Bulawayo. Thirty-seven respondents (71.2%) agreed that health workers' attitudes could influence decisions to utilise or not utilise ANC services in Bulawayo but some (n=15; 28.8%) respondents disagreed. Adolescents' fear of disclosing their pregnancies to their parents was perceived as a factor that could influence ANC utilisation by most adolescents according to the midwives (n=47; 90.4%).

7.6 INDIVIDUAL PERCEPTIONS OF PREGNANT ADOLESCENTS AS REPORTED BY THE RESPONDENTS (MIDWIVES)

The respondents were also asked to give their opinion about pregnant adolescents' individual perceptions that could influence decisions to utilise ANC services. Most of the respondents (n=45; 86.5%) felt that perceptions of the quality of ANC services could influence this decision. Twenty-nine respondents (55.8%) felt that pregnant adolescents perceive ANC as beneficial, while 23 (44.2%) were of the opinion that pregnant adolescents might not perceive ANC as beneficial.

7.7 PREGNANT ADOLESCENTS' KNOWLEDGE OF ANC AS PERCEIVED BY MIDWIVES

The respondents were asked if they felt pregnant adolescents' adequacy of knowledge about ANC could influence the decision on whether to utilise ANC services. Fewer than half (n=24; 46.2%) felt that adequate ANC knowledge could influence the pregnant adolescents' decision, while 28 (53.8%) were of the opinion that adequate knowledge would not be a factor likely to influence these mothers' decision on whether to utilise ANC services.

7.8 MIDWIVES' OPINIONS ABOUT PERCEIVED ANC BENEFITS ON THE PART OF PREGNANT ADOLESCENTS

The respondents were also asked for their opinions on whether perceived benefits of ANC could influence pregnant adolescents' utilisation of ANC as postulated in the HBM. The findings in table 7.4 indicate that generally the respondents agreed that factors perceived as benefits of ANC could influence pregnant adolescents to maximise use of these services.

Table 7.4: Midwives' opinions about perceived benefits of ANC (N=52)

<i>Perceived benefits items</i>	<i>Yes, definitely</i>		<i>Yes</i>		<i>No</i>		<i>Definitely no</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Adequate knowledge about ANC and the services in Bulawayo	11	21.2	37	71.2	4	7.7	0	0.0
Accessible/Acceptable services	9	17.3	42	80.8	1	1.9	0	0.0
Affordable ANC Services	6	11.5	42	80.8	4	7.7	0	0.0
Need-focused ANC	4	7.7	44	84.6	4	7.7	0	0.0
Prompt Services	6	11.5	40	76.9	6	11.5	0	0.0
Perceived benefits of ANC	4	7.7	40	76.9	8	15.4	0	0.0

Table 7.4 shows that the majority of the respondents said 'yes', adequate knowledge about ANC services (n=37; 71.2%), accessible and acceptable services (n=42; 80.8%), affordable services (n=42; 80.8%), need-focused ANC services (n=44; 84.6%), prompt services (n=40; 76.9) and perceived benefits (n=40; 76.9%) could influence pregnant adolescents' decisions to utilise ANC services in Bulawayo. Very few respondents, with an average percentage of 8.7% (n=5), felt that perceived benefits of ANC could not influence pregnant adolescents to use the ANC services. Another 7 (12.8%) midwives strongly agreed that perceived benefits of ANC could influence adolescents' utilisation of ANC services.

7.9 MIDWIVES' OPINIONS ABOUT PERCEIVED BARRIERS AFFECTING PREGNANT ADOLESCENTS' UTILISATION OF ANC SERVICES

The midwives' opinions about perceived barriers that could prevent pregnant adolescents from utilising ANC revealed that generally the midwives agreed that some of the barriers could negatively influence utilisation of ANC services.

Table 7.5: Midwives' opinions about perceived barriers to use of ANC (N=52)

<i>Perceived barrier items</i>	<i>Yes, definitely</i> <i>n</i> <i>%</i>	<i>Yes</i> <i>n</i> <i>%</i>	<i>No</i> <i>n</i> <i>%</i>	<i>No, definitely</i> <i>n</i> <i>%</i>
High ANC fees	14 26.9	28 53.8	10 19.2	0 0.0
Unfriendly health workers' attitudes	6 11.5	38 73.1	8 15.4	0 0.0
Poor family and support systems	7 13.5	45 86.5	0 0.0	0 0.0
Fear of testing for HIV status	4 7.7	40 76.9	8 15.4	0 0.0
Fear of positive HIV status	4 7.7	39 75.0	9 17.3	0 0.0
Inadequate knowledge about benefits of ANC	7 13.5	40 76.9	5 9.6	0 0.0
Poor economic power (poverty)	6 11.5	43 82.7	3 5.8	0 0.0
Low status of women in society	4 7.7	37 71.2	11 21.2	0 0.0
Peer influence	3 5.8	43 82.7	6 11.5	0 0.0
Parents' influence	1 1.9	26 50.0	25 48.1	0 0.0
TBA influence	0 0.0	23 44.2	29 55.8	0 0.0

The selected barriers and results shown in table 7.5 include:

- ❖ Twenty-eight (n=28; 53.8%) said “yes” high ANC fees could be perceived as a barrier to utilisation of ANC; 14 (26.9%) strongly agreed while 10 (19.2%) did not agree with this statement.
- ❖ Thirty-eight respondents (n=38; 73.1%) agreed that health workers' attitudes can be perceived as barriers.
- ❖ Poor family and social support systems were viewed (n=45; 86.5%) and strongly viewed (n=7; 13.5%) as barriers to utilisation of ANC services.
- ❖ Fear of testing for HIV status was confirmed by 40 (76.9%) as a major barrier.
- ❖ Thirty-nine respondents (n=39; 75.0%) agreed that fear of knowing one's HIV positive status could be a barrier, 4 (7.7%) strongly agreed while 9 (17.3%) did not agree.

- ❖ Inadequate knowledge about ANC benefits was confirmed (n=40; 76.9%), and strongly confirmed (n=7; 13.5%) to be a barrier to utilisation of ANC services in Bulawayo.
- ❖ Poor economic power was seen as a barrier by 43 (82.7%), strongly viewed as a barrier by 6 (11.5%) while 3 (5.8%) did not agree.
- ❖ The low status of women was believed to be a barrier by most (n=37; 71.2%).
- ❖ The majority of respondents (n=43; 82.7%) said “yes”, negative influence of peers could be some form of barriers, others (n=3; 5.8%) said “yes, definitely” while the remainder (n=6; 11.5%) said “no”.
- ❖ Parental influence on not utilising the services was supported by 26 (50.0%) respondents and not supported by 25 (48.1%).
- ❖ TBAs were reported as not influential by a small majority (n=29; 55.8%), though 23 (44.2%) believed that TBAs can influence these pregnant adolescents to avoid ANC services

7.10 STRATEGIES TO ENHANCE UTILISATION OF ANC SERVICES

This section was not answered by several respondents. Those who responded (n=47) to the question recommended information, education and communication to the pregnant adolescents and their social support systems. They also advocated free and user-friendly ANC services. The respondents also recommended adequate human resources in order to respond appropriately and adequately to the needs of clients such as pregnant adolescents.

7.11 SUMMARY OF THE RESULTS OBTAINED FROM THE MIDWIVES IN PHASE 4

Phase four of data analysis described the findings of data gathered from a sample of 52 midwives working in the maternity centres of Bulawayo. The findings are consistent with those of data collected from the pregnant adolescents in phase 2, from the adolescent mothers in phase 3 and with the postulations of the HBM.

7.12 DISCUSSION OF THE RESULTS OF PHASE 4

Phase 4 gathered and analysed data from the midwives working in the maternity centres of Bulawayo. Data analysed comprised demographic information about the midwives themselves, information about the goal-oriented approach and information according to the components of the HBM as perceived by the midwives.

7.12.1 Demographic information on the midwives

The study findings revealed that the mean age of the midwives was between 36 and 45 years and most of them (53.8%) were married (see table 7.1). Most of them were general nurses with an additional qualification of midwifery. Of the nurses working in the maternity centres, some (n=7; 13.5%) had no midwifery qualifications and had been placed in the maternity wards because of the acute shortage of midwives in Zimbabwe (see table 7.2) This situation could be viewed as compromising the quality, adequacy and efficacy of midwifery care to women and their children. However, the MOHCW in Zimbabwe recognises the shortage of trained midwives (MOHCW 2007:22). Of the respondents 34 (65.4%) had up to three years' experience in the midwifery departments, indicating a potential lack of experience in providing ANC and midwifery services.

7.12.2 Use of the goal-oriented approach (GOA)

The findings of this study reveal that the majority of the participating midwives (n=40; 76.9%) were using the GOA approach, but 12 (23.1%) were not using it. Again the majority indicated that they were familiar with the approach. Some (n=33; 63.5%) said it was easy to implement while the remainder did not think so. Generally over 50.0% indicated that they had received training on the use of the GOA; they were competent to use it. The goal-oriented approach was recommended by WHO and Zimbabwe has since adopted it (see Annexure H). The guidelines are used as a standard measure of quality provision for ANC in Zimbabwe (MOHCW 2001:27). Those centres or midwives who

are not implementing the goal-oriented approach and those who did not receive training and are not competent to use the tool could be compromising the quality of ANC and midwifery services rendered to women in Bulawayo.

7.12.3 Modifying factors and socio-economic factors as perceived by midwives

The findings in phase 4 are similar to those in phases 2 and 3 in that modifying factors as postulated in the HBM were perceived by midwives as strongly influencing pregnant adolescents' decisions to utilise ANC services in Bulawayo. These factors (as shown in table 7.4) include age, marital status, parity, socio-economic factors including social support systems, and health workers' attitudes. Similar findings have also been found in previous studies discussed in chapter two.

7.12.4 Influence of pregnant adolescents' individual perceptions and knowledge of ANC on their utilisation of ANC services as reported by the respondents (midwives)

The findings also revealed that midwives agreed that quality ANC services and adequate knowledge about ANC strongly influenced pregnant adolescents' utilisation of ANC services. These findings are congruent with the findings in phases one, two and three of this study. Similar findings also emerged in the literature review in chapter two of this study (Aretakis 2004:818; Ikamari 2004:27; MOHCW 2001:25). This could mean that these pregnant adolescents' perceptions about the quality, adequacy, accessibility, acceptability and affordability of the ANC services could have influenced their utilisation of ANC services, as reported by the midwives.

7.12.5 Benefits of ANC for pregnant adolescents as reported by midwives

The findings in phase 4 of this study are similar to those in phases 2 and 3. Midwives who participated in the study agreed that if pregnant adolescents were aware of the benefits of ANC then they would be motivated to utilise the ANC services.

7.12.6 Barriers to pregnant adolescents' ANC utilisation as reported by midwives

The midwives concurred that certain barriers could prevent pregnant adolescents from utilising ANC services and these barriers were also found in other studies discussed in chapter 2 (section 2.5.2). Similar findings were reported by Llongo (2004:84); Matua (2004:36) and Ziyani et al (2004:16). Perceived barriers in this study were high ANC fees, health workers' attitudes, poor social support systems, poverty, fear of HIV tests and results, fear of informing adolescents' parents about their pregnancies, low status of the girl child and inadequate knowledge about the benefits of ANC. Peer, parental and TBA influence were other variables which were perceived as barriers that could influence utilisation of ANC services.

7.12.7 Strategies to enhance utilisation of ANC services

The recommendations from the midwives were similar to those of the pregnant adolescents, namely education to adolescents using public community settings such as schools, churches, media and hospitals. They also recommended affordable or free services which are youth friendly. Zimbabwe has been hit by high staff attrition rates due to perceived poor conditions of service, resulting in acute shortages of experienced and appropriately qualified health workers. The midwives in this study recommended improved remuneration in order to retain midwives and guarantee quality care. The MOHCW (2007:22) acknowledges these inadequacies and has developed a Maternal and Neonatal Roadmap for 2007-2015 in order to address these challenges.

7.13 SUMMARY OF THE DISCUSSION IN PHASE 4

This section discussed findings from data gathered from the midwives who were working in the maternity centres of Bulawayo. The findings supported the components of the HBM that have been postulated to influence utilisation of ANC services. The discussion was guided by the research questions that were derived from the components of the HBM. The next and final chapter of this thesis will present the conclusions, implications, limitations and recommendations of this study.

CHAPTER 8

SUMMARY, CONCLUSION, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

Antenatal care provides an opportunity to empower pregnant adolescents to recognise and respond to the signs and symptoms of obstetric complications. Adolescent pregnancy is a high-risk situation because of these mothers' physical and psychological immaturity for reproduction (Reynolds et al 2004:1). Various social factors such as culture, low literacy level, inadequate reproductive health knowledge and inadequate ANC attendance affect pregnant adolescents' health-seeking behaviours, which usually increases the chances of pregnancy-related complications and poor pregnancy outcomes (Matua 2004:36; Singh & Khare 2001:34; Ziyani et al 2004:16). The vulnerability of these pregnant adolescents to morbidity and mortality is increased if they delay initiating ANC or if they do not attend ANC at all.

In Zimbabwe ANC has been identified as one of the pillars of safe motherhood (MOHCW 2007:19) and it is considered to enhance good health for the mother and the foetus through identification of problems during pregnancy, management of those problems if possible or referring the women to the next level of health care as soon as possible. Despite all these provisions for ANC in Zimbabwe, some pregnant adolescents continue to initiate ANC as late as the third trimester of pregnancy, while others deliver their babies without attending ANC at all. Maternal health statistics for 2006 revealed that a significant number of women, including adolescents, in Zimbabwe continued to deliver at home (MOHCW 2007:21).

8.2 SUMMARY OF THE STUDY

The study was conducted in Bulawayo, the second largest city in Zimbabwe, between 2005 and 2007. The study centres were the 18 PHC clinics and the two government hospitals in Bulawayo which provide ANC services, while four of the PHC clinics and the two government hospitals also conduct deliveries.

The purpose of the study was to determine why some pregnant adolescents book late for ANC and why others do not attend ANC, and to come up with recommendations for minimising factors that are perceived as barriers to utilisation of ANC services in Bulawayo.

The study was guided by the Health Belief Model or HBM, which was used to guide the research questions and to explain and support the findings of the study. The research questions of the study were:

- Which modifying factors could influence pregnant adolescents' utilisation of ANC services?
- Which individual perceptions of pregnant adolescents could influence their non-utilisation of ANC services?
- Do social values, beliefs and practices, including economic factors, influence pregnant adolescents' decision on whether to use ANC services?
- Which structural variables influence pregnant adolescents' decision on whether to use ANC services?
- What are pregnant adolescents' perceived benefits of using ANC services?
- What barriers might impact negatively on pregnant adolescents' utilisation of ANC services?
- What can be done to enhance pregnant adolescents' utilisation of ANC services in Bulawayo?

The study utilised a quantitative non-experimental descriptive design to guide the study in all four phases. Phase 1 involved the procedure of collecting data from 80 pregnant adolescents' ANC records; phase 2 dealt with the data collection process from 200 pregnant adolescents attending ANC; phase 3 dealt with data collection from 80 adolescent mothers who had delivered their babies without attending ANC. Phase four addressed the data collection from 52 midwives working in the maternity centres of Bulawayo. Ethical considerations were met through seeking permission from the Medical Research Board of Zimbabwe and the heads of the health institutions, as well as those who participated in the study. Data were analysed using the SPSS computer programme version 10.0.

The findings of the study from the four phases of data analysed revealed that the pregnant adolescents were not adequately utilising ANC and sometimes they were not even using the services at all, because of various factors. The main factors that emerged as influencing pregnant adolescents' failure to maximise use of ANC services were:

- ❖ Documentation of ANC was inadequate and particularly poor documentation was marked on the aspects of health promotion, prophylaxis and other treatments as well as social history. Some pathology reports had no patient file numbers and could thus not be filed correctly. During the data collection phase large numbers of documents had not been filed, rendering the information useless for the ANC patients concerned during their follow-up visits. This suggested that the quality of ANC was compromised in some aspects.
- ❖ Modifying factors including socio-cultural, religious and economic factors were found to strongly influence pregnant adolescents' decisions on whether to utilise ANC services in Bulawayo.
- ❖ Individual perceptions of quality, adequacy, and efficacy of ANC significantly influenced utilisation of ANC services in Bulawayo.
- ❖ Adequacy of knowledge of ANC and its services was also reported to influence pregnant adolescents' utilisation of ANC services in Bulawayo.
- ❖ Perceived benefits of ANC were seen as motivating factors for the utilisation of ANC services.

- ❖ Perceived barriers such as inaccessible, expensive services that were not user friendly and characterised by unfriendly health workers, stigma and lack of confidentiality were confirmed to be strong barriers that could prevent pregnant adolescents from utilising ANC services.
- ❖ Most of the midwives working in the maternity centres were junior and some of them did not have midwifery qualifications. The findings also revealed acute staff shortages in the health centres. This situation was likely to compromise the quality, adequacy and efficacy of ANC services rendered.
- ❖ The majority of the midwives were using the goal-oriented approach that emphasises focused ANC. Some of the midwives, however, were not utilising this approach and others indicated that they had not received any training on the goal-oriented approach and as a result they felt that they were not competent to apply the approach.
- ❖ Suggested strategies for enhancing utilisation of ANC services were education, information and communication on safe motherhood to the adolescents and their parents and spouses, advocacy for family and social support systems, user-friendly and free ANC services as well as outreach services. The midwives also recommended improved conditions of service for midwives.

8.3 CONCLUSIONS

This section gives the conclusions drawn from the four phases of the study as follows:

Phase 1's findings draw conclusions from the audit of pregnant adolescents' ANC records.

Phase 2's study conclusions were drawn from the results of face to face interviews conducted with pregnant adolescents who were attending ANC at the time of conducting the study and *phase 3's conclusions* are based on results from those adolescents who delivered their babies without attending ANC.

The 4th phase draws conclusions from the results of questionnaire responses from the midwives who were working in the maternity centres at the time of the study.

The general conclusion is that utilisation of ANC services was inadequate due to deficiencies in the quality, adequacy and efficacy of ANC services. The other identified factors included demographic, socio-cultural and economic factors, individual perceptions of ANC services and lack of knowledge about ANC's benefits.

It was also concluded that certain barriers as perceived by the pregnant adolescents could prevent these pregnant adolescents from utilising ANC services.

8.3.1 Conclusions: phase 1

The results from the audit of ANC records revealed inadequacies in the documentation of ANC interventions, suggesting that those care interventions that were not recorded were not implemented. Documentation on the health promotion, prophylaxis and social history aspects was below 50%, suggesting that the majority of pregnant adolescents did not receive health promotion, prophylactic treatment and other treatments. The findings also suggested inadequate health assessment knowledge and skills in proper history taking, physical examination, diagnosis and interventions, including accurate and complete documentation of health assessment findings. The findings further demonstrated limited assessment skills when dealing with vulnerable groups such as pregnant adolescents, who usually face complex bio-psychosocial challenges. The goal-oriented guidelines that aim at providing focused ANC were not followed at times.

In view of these findings the study concluded that pregnant adolescents received inadequate care during ANC. For this reason these adolescents might have perceived ANC as inadequate and of poor quality, since they did not benefit much from the services provided (see table 4.1).

8.3.2 Conclusions: phase 2

The conclusions in this section were drawn from the findings of data collected from pregnant adolescents who were attending ANC. Phase two of the study revealed that a variety of modifying factors influenced utilisation of ANC services.

- Age, marital status, parity, educational level and knowledge about ANC and its benefits strongly influenced the pregnant adolescents' decisions on either to utilise or not utilise ANC services. The younger and unmarried adolescents who were pregnant for the first time were unlikely to utilise the ANC services due to socio-economic factors.
- Socio-cultural and economic factors such as poverty, culture, religion and the low status of women in the decision-making process also played a pivotal role in influencing pregnant adolescents' decisions on whether to utilise ANC services. The poor and those who belong to certain religious or cultural sects that do not believe in skilled attendance during ANC were not likely to utilise ANC services.
- Although the pregnant adolescents demonstrated some appreciation of ANC and its benefits when tested, they themselves indicated that more adequate knowledge about ANC might motivate them to utilise ANC services (table 5.4).
- Individual perceptions of ANC services such as the quality, adequacy and efficacy of ANC services also influenced their decisions on whether to utilise ANC services or not.
- Perceived benefits of ANC, such as the probable prevention of pregnancy complications by initiating ANC during the first trimester of pregnancy, could motivate them to utilise these ANC services.
- Perceived barriers likely to prevent pregnant adolescents from utilising ANC services in terms of accessibility, affordability and acceptability included issues of confidentiality, stigma and fear of testing and knowing one's HIV status.
- The use of contraception was very low and most of the pregnant adolescents were not aware of how to access contraception, while others still had misconceptions about contraceptive methods.

- Pregnant adolescents also reported fear of disclosing pregnancy to their parents for fear of being sent away from home – an indication of poor family support systems. The findings also revealed that some people are still afraid of knowing their HIV status, despite the availability of VCT services and ARV treatments to both the mother and the baby.

The study therefore concludes that these factors influenced pregnant adolescents' utilisation of ANC services. Policy makers and programme implementers need to develop new strategies and/or strengthen the existing strategies that can be used to overcome these barriers.

8.3.3 Conclusions: phase 3

The findings of the study from adolescent mothers who delivered their babies without attending ANC were similar to those in phase 2. In addition, findings in this phase also revealed policy-related issues such as the fact that mothers are required to have national identity cards of their spouses or their own in order to register for ANC. Some pregnant adolescents and adolescent mothers might not be married and might be below the age of majority needed to obtain a national identity card. These policies might well be perceived as restrictive to pregnant adolescents. Some adolescent mothers in this group reported that they delivered their babies at health centres in order to obtain birth record letters which are used to get their children's birth certificates. These mothers might be viewed as persons who did not value skilled attendance but merely wanted to meet the requirements of obtaining the birth certificates without the hassles of the birth and deaths offices. The researcher checked this issue with the relevant authorities and was informed that these restrictions had been lifted. However this showed that information dissemination about policy adjustments to the pregnant adolescents was poor.

Therefore it was concluded that these pregnant adolescents did not attend ANC but delivered at the health centres because of the following barriers:

- Influence of modifying factors such as age, marital status, parity, educational level and knowledge. The younger, unmarried mothers of low educational level were less likely to utilise ANC services than their older counterparts.
- Influence of socio-cultural factors, including religion, which disadvantage women and in particular female children. The poor and those affected by strong cultural and religious influences were unlikely to initiate ANC.
- Individual pregnant adolescents' perceptions about ANC in terms of quality, adequacy, efficacy, accessibility and acceptability. The pregnant adolescents were not likely to use ANC services if they had negative perceptions about these services.
- Lack of knowledge of the perceived benefits of ANC that could motivate pregnant adolescents to appreciate the importance of ANC. These pregnant adolescents were not likely to initiate ANC if they were not aware of the benefits of ANC and if they did not appreciate or believe that there were any benefits in attending ANC.
- Perceived barriers of ANC including some restrictive policies that prevent these mothers from utilising ANC services. These mothers were not likely to utilise ANC services if they perceived certain policies and practices as restrictive. Policies relating to user fees and requirements for one to register for ANC were cited as barriers. Other barriers related to the health workers' attitudes, negative influences from parents, spouses, peers and some TBAs, as well as limitations in the decision making processes and issues related to knowing one's HIV status.

8.3.4 Conclusions: phase 4

The findings drawn from the midwives' responses revealed that the midwives also concurred with the findings in phases one to three. The findings showed that some of the midwives were not using the goal-oriented approach; they were not familiar with and not competent in using the approach, while others had not received any training in the use of the goal-oriented approach. The findings also revealed that some nurses who had no

midwifery qualifications were working in the maternity wards. Although these general nurses did get some midwifery knowledge during basic nursing training, their skills did not prepare them to competently deal with complex midwifery issues and challenges.

The study concluded that the midwives support the finding that pregnant adolescents' utilisation of ANC services is influenced by the factors cited in phases 1, 2 and 3. In addition some of the midwives were not confident in using the goal-oriented approach. It was further concluded that these shortcomings among the midwives compromise the quality of ANC provided to these pregnant adolescents and might influence utilisation of ANC services in Bulawayo. It was also concluded that due to acute shortages of appropriately qualified midwives the quality of ANC provision to women and their children could be compromised.

8.4 IMPLICATIONS FOR MIDWIFERY PRACTICE, EDUCATION, RESEARCH AND POLICY ISSUES BASED ON THE FOUR PHASES OF THIS STUDY

The study findings in all the four phases revealed that certain demographic, socio-economic and knowledge related factors had a strong influence on pregnant adolescents' decision on whether or not to use ANC services in Bulawayo. In addition, the pregnant adolescents themselves and the midwives confirmed that greater awareness of ANC benefits would motivate the pregnant adolescents to utilise ANC services. The same respondents also confirmed that barriers identified in this study were some of the key factors that strongly prevented pregnant adolescents from utilising ANC services. These barriers were inaccessible, unacceptable and unaffordable ANC services as well as the unfriendly attitudes of some health workers. The findings of the study in the four phases raise serious implications for midwifery practice, education and research. The study also raised some implications related to policy issues.

8.4.1 Implications for midwifery practice

The study findings have indicated some gaps in the provision of maternal-child health services to pregnant adolescents in Bulawayo. Documentation of the care rendered and health assessment findings, including health promotion, was grossly inadequate. The services provided did not seem to be addressing the individual needs of the pregnant adolescents. The services have been described as inaccessible, unacceptable and unaffordable, indicating a need to address these issues that might be viewed as barriers. The findings also revealed inadequacies in communication education and counselling. Mothers need health information in order to make informed health-seeking decisions. This necessitates standardisation of care activities as well as uniformity and regularisation of national practice guidelines. The study also observed serious shortages of midwives in the clinical settings.

8.4.2 Implications for midwifery education

The findings of this study indicate gaps in the provision of continued education for midwives to keep abreast of trends and emerging challenges. This indicates a need to revisit the curricula and incorporate content specifically on the care of adolescents. This further necessitates continuing education programmes, particularly frequent in-service training workshops, in order to strengthen health assessment and documentation skills as well as to enhance knowledge and health assessment skills.

8.4.3 Implications for research

While there are several piecemeal studies that have been done on pregnant adolescents' utilisation of maternity services nationally and globally, there is a need to develop a comprehensive framework for adolescents that takes cognisance of their health care needs amidst their complex bio-psychosocial challenges.

8.4.4 Implications related to policy issues

These study findings indicated policy related challenges that are likely to pose barriers to the utilisation of ANC services. These include perceived high user fees, age of consent in pregnancy and issues relating to independent ANC booking when one is a 'minor'. These indicate a need to review some of the restrictive policies.

There are also challenges relating to human resources in that the staffing levels in the clinical settings are low and in some situations midwives who are not adequately qualified are working in the maternity centres. Some midwives indicated that they were not knowledgeable about the goal-oriented approach (see Annexure H). This suggests gaps in continuing education provision to keep the midwives abreast of new changes in midwifery practice.

There were also inconsistencies suggesting that some health centres were not practising client-focused care and/or there were no monitoring mechanisms to ensure that all the midwives were utilising the standard guidelines during ANC. There was also no evidence that midwives educated pregnant adolescents about contraceptives and/or emergency contraceptives. (As abortions/terminations of pregnancies are not legalised in Zimbabwe, it is vital that adolescents should be knowledgeable about contraceptives to prevent future unplanned pregnancies).

Audits of ANC records should be done regularly, reports submitted to the City of Bulawayo's health department, and shortcomings must be addressed. ANC laboratory reports without the client's ANC number amount to a waste of time and money and should be addressed by the health authorities. It is also vital that the ANC records must indicate the records of laboratory reports and the subsequent actions taken as well as the results. An example is in the case of a low haemoglobin (Hb) result, iron supplements should be given and the Hb should be re-tested after a specific period of time (such 8 weeks later). If there is no improvement in the Hb further investigations and/or referral to a higher level health care institution should be initiated. All health education given to

every ANC patient should also be recorded, audited and health education needs should be identified and addressed.

Information about the importance of using ANC services should be supplied at all secondary schools and at all health care institutions (see Annexure N).

8.5 LIMITATIONS

The researcher throughout the study tried to apply rigorous control of factors that could interfere with the validity and generalisation of the results. However, generalisation of these results is subject to the following limitations:

- Non-probability methods that were used did not afford the study subjects equal opportunities to be selected into the sample, meaning that the sample was not representative of the study population. The nature of the study, the limited size and accessibility of the study population and the inclusion and exclusion criteria made it difficult to utilise probability sampling methods. However, all the study health centres were included in the sample, meaning that every attempt was made to represent the views of the pregnant adolescents in Bulawayo.
- The views of the unbooked pregnant adolescents who delivered at home were not represented in this study because they could not be accessed and therefore did not participate in the study.
- There are also possibilities of researcher bias among the pregnant adolescents during the face to face interviews.
- The use of research assistants could have created variances, although these were trained and coached until the researcher was satisfied about their questioning and recording skills. After every interview the responses were checked for completeness and consistency by the researcher.
- The study applied one theoretical framework (the Health Belief Model or HBM), which accommodated the key variables likely to influence pregnant adolescents' utilisation of ANC services. However, the researcher cannot rule out the

possibility that the use of a multi-theory approach might have added richness to the study findings.

8.6 RECOMMENDATIONS

The study findings unveiled a number of gaps in the provision of ANC services and midwifery educational programmes; gaps in information dissemination systems to pregnant adolescents and structural and organisational barriers relating to accessibility of ANC services.

8.6.1 Recommendations based on the results obtained in phase 1

The following recommendations were drawn from the findings in phase one of the study:

- ✚ Provision of regular and need-based in-service education programmes for the midwives in order to enhance: their knowledge and skills on the goal-oriented approach which is client focused; health assessment skills in history taking including physical examination; and skills on accurate and complete documentation of the findings from the care given.
- ✚ Strengthening of health promotion and counselling activities for HIV/AIDS, PPTCT, malaria, laboratory investigations and family planning, and skills of how to recognise danger signs including the action to be taken.
- ✚ Enhancement of health-promotion activities that empower the pregnant adolescents and increase their knowledge on reproductive health, particularly ANC and family planning, so that these mothers could delay falling pregnant.
- ✚ The pregnant women's ANC booklets should be revised and standardised across all the levels of the health care delivery system in order to accommodate proper documentation of comprehensive and critical information related to health promotion, thereby providing clarity of what health information was covered, and which aspects and gaps are to be covered.

8.6.2 Recommendations based on the results obtained during phases 2, 3 and 4

The findings from phase two, three and four of the study indicated a need to address the following:

- ✚ To review and strengthen strategies that can reach out to those pregnant adolescents who might be affected by bio-psychosocial and economic factors, including lack of knowledge, that influence their access to ANC services. Outreach ANC programmes should be enhanced to reach those pregnant adolescents who are still at school, and those in the community settings by reaching them in churches, youth recreational centres, individual homes and institutional homes such as orphanages.
- ✚ Although user fees appear reasonable, to consider offering free ANC services, since the majority of pregnant adolescents are usually single, unemployed and might be carrying unplanned pregnancies and spouses might refuse responsibility for the pregnancies.
- ✚ To review and strengthen adolescent reproductive health programmes, including family planning and PPTCT of HIV, and ensure that they are adolescent friendly and are need focused.
- ✚ To address those barriers and restrictive policies that could impact negatively on the accessibility of ANC services.
- ✚ To strengthen continuing education programmes and ensure placement of appropriately trained midwives in the maternity settings.
- ✚ To review the midwifery educational curricula so that they incorporate content that is specific to adolescents' needs.
- ✚ To apply further research to develop a theoretical framework specifically for adolescents that can be applied to identify and address their barriers to utilisation of ANC services. Currently, comprehensive adolescent ANC requires the application of multi-factor theories that might be difficult and cumbersome to apply by a number of health workers.
- ✚ The researcher recommends a feedback workshop to the midwives and the policy makers in order to come up with a participatory decision on the way forward in

terms of addressing the findings of the study and coming up with feasible action plans.

8.6.2 Recommendations provided by the study participants

The study participants also suggested some recommendations that could enhance utilisation of ANC services; these were:

- ✚ Education information and communication on safe motherhood to the adolescents and their parents and spouses.
- ✚ Advocacy for family and social support systems, user friendly and free ANC services and outreach services.
- ✚ Improved conditions of service for the midwives in terms of adequate staff coverage in the maternity settings as well as improved remuneration.

8.7 COMPARATIVE CONCLUSIONS AND RECOMMENDATIONS BASED ON THE FOUR PHASES OF THE STUDY

The major conclusion, based on phase 1 of this study, is that the documented ANC care rendered to adolescents in Bulawayo did not meet the objectives of the ANC goal-oriented protocol (see Annexure H). More than 50.0% of the adolescents' records failed to indicate whether they had received health education and/or prophylactic treatments. Although most adolescents in phase 1 of the study were satisfied with the ANC services received, some of those in phase 2 indicated that health workers' attitudes and the poor quality of ANC services prevented them from using these services. The midwives' responses (in phase 4 of this study) concurred with these findings by indicating that not all midwives knew how to use the goal-oriented ANC protocol, and consequently failed to do so. Furthermore, the findings from phase 4 indicated that some nurses who worked in the midwifery sections were not qualified midwives and consequently lacked the midwifery knowledge and skills to meet the objectives of the goal-oriented ANC protocol. The reported acute shortages of qualified midwives could compromise the

quality of midwifery and ANC services rendered in the Bulawayo area, and should be addressed.

Comparing the findings of phase 1 (documented ANC services rendered to adolescents), phase 2 (pregnant adolescents attending ANC clinics), phase 3 (adolescent mothers who delivered their babies in hospital without utilising ANC services) and phase 4 (midwives/nurses rendering ANC and midwifery services), similarities are found. In both groups of adolescents (phases 2 and 3), the younger, unmarried adolescents were less likely to use ANC services during their future pregnancies due to socio-economic factors. This finding was supported by the midwives. Both groups of adolescents were less likely to use ANC services if they perceived these services to be of poor quality. As indicated by the results of phases 1 and 4 of this study, the documented ANC services rendered to adolescents in the Bulawayo area did not meet the objectives of the goal-oriented protocol. This finding was supported by the midwives who indicated that some of them did and could not implement these goal-oriented guidelines. Consequently improving the quality of ANC services (and the documentation thereof), as well as the education and training of the midwives, could enhance both groups of adolescents' utilisation of these services.

Both groups of adolescents lacked knowledge about the potential benefits of using ANC services, and the midwives (in phase 4) supported this finding. The information brochure (see Annexure J), designed on the basis of this study's findings, should be distributed at secondary schools and at all health services to enhance all adolescents' knowledge about the importance of the effective utilisation of ANC services. Not only adolescents but also their parents, spouses and partners need to be informed about the benefits of utilising ANC services as these persons influenced both groups of adolescents' about their (non)utilisation of ANC services.

Both groups of adolescents lacked knowledge about the utilisation and accessibility of contraceptives. The evaluation of the ANC records (in phase 1 of the study) also indicated that midwives did not supply sufficient contraceptive information to

adolescents. Unplanned future pregnancies can only be prevented if adolescents know about contraceptives and if they can access these services.

The high cost of using ANC services acted as a barrier to such utilisation by both groups of adolescents, as did the fear of VCT and the possibility of testing HIV positive. The midwives agreed with these findings, but also reported that TBAs could pose barriers (though not mentioned by either group of adolescents). The costs of ANC services must be addressed as a matter of urgency by the MOHCW otherwise the majority of the adolescents who are young, poor and jobless will remain unable to use these services to the detriment of their own and their children's health. The advantages of VCT and PMTCT should be emphasised to all secondary school children, their parents and communities. All ANC clients must be assured that their pregnancy and all test results (including HIV status) will be treated with the strictest confidentiality. TBAs should also be educated about the benefits of ANC utilisation, including the benefits of the PMTCT services.

8.8 CONCLUDING REMARKS

Adolescent pregnancy is a high-risk condition but the outcomes for both mother and baby could be enhanced if effective ANC is rendered from the first trimester of the pregnancy. This requires adequate ANC care, correctly reported in the pregnant women's ANC files, and appropriate actions taken if any abnormality is detected. It also requires that adolescent women should know about the advantages of utilising ANC services, how and where to access these services and be able to afford the costs thereof. These ideals will only become achievable in Zimbabwe if ANC services are provided free of charge, as the majority of women are unemployed. Health care personnel should accommodate pregnant adolescents' specific needs at ANC services, and always treat pregnant adolescents with respect. Teaching all women, but specifically adolescents, about contraceptives and providing contraceptive services free of charge could help to reduce the number of unplanned pregnancies in Zimbabwe.

Most maternal deaths and many neonatal deaths are preventable, if adequate ANC and effective obstetric services are provided. However, if pregnant adolescents do not utilise ANC services, many obstetric problems could become life-threatening crises for both the mother and baby by the time they are diagnosed. Utilising ANC services is particularly important in the case of pregnant adolescents who are more prone to developing obstetric complications than adult women. The death of an adolescent mother is a tragic occurrence and “... one of the most terrible ways to die ... an event that could have been avoided, and should never have been allowed to happen” (Starrs 1997:7).

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ANNEXURE E: Letter to the Medical Research Council of Zimbabwe



ZIMBABWE OPEN UNIVERSITY

Telephone 09 884050/7 Cell 091 276 006 E-mail cnchaibva@yahoo.co.uk

Zimbabwe Open University
Bulawayo Region
P O Box 3550
Bulawayo

23 June 2006

Medical Research Council of Zimbabwe
PO Box C Y 573
Causeway

Attention: Chairperson of MRCZ

RE: REQUEST FOR CLEARANCE TO UNDERTAKE A THESIS (Dr of Philosophy and Literature in Health Studies): UNIVERSITY OF SOUTH AFRICA

I write to request permission to conduct my thesis in Zimbabwe. I have enrolled with UNISA to undertake PhD studies. My proposed topic that may be modified from time to time will look at *Factors influencing adolescent mothers' utilisation of ANC services in Bulawayo.*

Attached are the following:

1. Research proposal including my curriculum vitae
2. Acceptance letter from UNISA

Thank You

Cynthia Nombulelo Chaibva (Mrs)
MSN (UZ), BAEd (UZ), DipAEd (UZ), DNA, SCM, RGN.

ANNEXURE K



ZIMBABWE OPEN UNIVERSITY

Tel 263 9 884051/ 263 91 276006 Fax 263 9 70871 E-mail cnhaibva@yahoo.co.uk

The Director of City Health Services
P O Box 1946
Bulawayo

17 November 2006.

RE: PERMISSION TO COLLECT DATA

I am a Doctorate student (D Lit et Phil in Health Studies) with the University of South Africa (UNISA).

The proposed thesis will look at factors influencing the adolescent mothers' utilisation of ANC services in Bulawayo with a view of coming up with adolescent friendly ANC services as a way of providing evidence based practice.

I communicated with you in 2005 about accessing background information and I am now requesting to undertake the following activities in your institution (s):

- Review ANC records for adolescent mothers during December 2006
- Conduct interviews to the adolescent mothers attending ANC between January 2007 and February 2007
- Conduct interviews to adolescent mothers in the postnatal wards who did not attend ANC between January 2007 and February 2007.
- Distribute self-administered questionnaires to the midwives who are working in the ANC clinics during March 2007.

Please find attached copies of the clearance letter from the Medical Research Council of Zimbabwe (MRCZ) and the data collection instruments namely the ANC records checklist, the interview schedules and the self-administered questionnaire.

I will be working with research assistants and their names will be availed to you prior to collecting data.

I am available for further discussion if need be on the above stated contact details.

Thank You

Cynthia N. Chaibva (Mrs)
Lecturer & Programme Coordinator Health Sciences- ZOU
Doctorate Student, MSN, BAEd, SCM, RGN.

ANNEXURE I



ZIMBABWE OPEN UNIVERSITY

Tel 263 9 884051/ 263 91 276006 Fax 263 9 70871 E-mail cnhaibva@yahoo.co.uk

The Medical Superintendent
United Bulawayo Hospitals
PO Box 958
Bulawayo

17 November 2006.

RE: PERMISSION TO COLLECT DATA

I am a Doctorate student (D Lit et Phil in Health Studies) with the University of South Africa (UNISA).

The proposed thesis will look at factors influencing the adolescent mothers' utilisation of ANC services in Bulawayo with a view of coming up with adolescent friendly ANC services as a way of providing evidence based practice.

I communicated with you in 2005 about accessing background information and I am now requesting to undertake the following activities in your institution (s):

- Review ANC records for adolescent mothers during December 2006
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- Distribute self-administered questionnaires to the midwives who are working in the ANC clinics during March 2007.

Please find attached copies of the clearance letter from the Medical Research Council of Zimbabwe (MRCZ) and the data collection instruments namely the ANC records checklist, the interview schedules and the self-administered questionnaire.

I will be working with research assistants and their names will be availed to you prior to collecting data.

I am available for further discussion if need be on the above stated contact details.

Thank You

Cynthia N. Chaibva (Mrs)

Lecturer & Programme Coordinator Health Sciences- ZOU
Doctorate Student, MSN, BAEd, SCM, RGN.

ANNEXURE P:

INTERVIEW SCHEDULE FOR PREGNANT ADOLESCENTS ATTENDING ANC IN BULAWAYO

SECTION A

(i) Socio-demographic data

1 Age

2 Referring health facility/provider

PHC clinic

Central Hospital

Nursing Home/ Private Surgery

TBA

Other (specify).....

3 Marital Status

Married

Cohabiting

Single

Divorced

4 Whom do you live with?

Spouse

Parent(s)

Friend (s)

Other (specify).....

5 Religion

Christianity

Islamic

Other.....

6 Highest academic school grade passed)

7 Reason for leaving school

Started working/ earning money	<input type="checkbox"/>
Unsatisfactory academic progress	<input type="checkbox"/>
No money to pay school fees	<input type="checkbox"/>
Pregnancy	<input type="checkbox"/>
Other Specify.....	<input type="checkbox"/>

8 Employment status (self)

Employed	<input type="checkbox"/>
Not Employed	<input type="checkbox"/>

9 Type of employment (specify).....

10 Employment status (spouse)

Employed	<input type="checkbox"/>
Not Employed	<input type="checkbox"/>

11 Type of employment (specify).....

12 Source of income

Self	<input type="checkbox"/>
Spouse	<input type="checkbox"/>
Parents/guardian	<input type="checkbox"/>
Other (specify).....	<input type="checkbox"/>

(ii) Obstetric information

13 Parity

14. Gravida

15 Age of youngest child

16 What was the gestation (age) of your pregnancy when you made your first ANC visit?

17 Have you had problems with your previous pregnancy?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
N/A	<input type="checkbox"/>

If 'yes' state the problem.....

- 18 What family planning method did you use before you fell pregnant?
- | | |
|---------------|--------------------------|
| Pills | <input type="checkbox"/> |
| IUCD | <input type="checkbox"/> |
| Injections | <input type="checkbox"/> |
| Condoms | <input type="checkbox"/> |
| Breastfeeding | <input type="checkbox"/> |
| Abstinence | <input type="checkbox"/> |
| Nothing | <input type="checkbox"/> |

Give reasons for stopping its use.....
.....

SECTION B

Individual perceptions influencing ANC utilisation

- 19 List at least 3 factors that influenced you to book for ANC.
-
.....
.....

Tick your opinion about ANC services you are attending in Bulawayo.

- 20 How would you rate the quality of the care you received?
- | | |
|--------------|--------------------------|
| Very good | <input type="checkbox"/> |
| Good | <input type="checkbox"/> |
| Satisfactory | <input type="checkbox"/> |
| Poor | <input type="checkbox"/> |
- 21 Do you get individualised care whenever you visit this clinic? Yes
No
- 22 Did you receive individualised health education during your visits for ANC?
Yes
No
- 23 Is privacy maintained during the examination and discussion with the midwife?
Yes
No

24 Were you assured that the information you discussed with the midwife would be confidential?

- Yes
- No

25 Do you feel you have received adequate information about your pregnancy and the health problems likely to arise?

- Yes
- No
- N/A

26 Did you get clear instructions of what to do if you suspect any health problems?

- Yes
- No
- Not Sure

27 If you were to seek ANC in your next pregnancy would you come back to this health centre?

- Yes
- No

Give reasons for your answer.....
.....
.....

SECTION C

Socio-cultural and economic factors

28 Who of the following people motivated you to book for ANC?

- Spouse
- Parents/guardian
- Peers
- Media
- Other (specify).....

29 Which of these factors do you think could prevent you from attending ANC services?

- Unplanned pregnancy
- Limited Knowledge about ANC
- Cultural/ religious factors
- Financial constraints
- Distance from the health center
- Fear of disclosing pregnancy
- Other (specify).....

Explain your answer.....

SECTION D

Knowledge about ANC.

To what extent will the following factors related to ANC knowledge influence your decisions to utilise ANC services in Bulawayo?

	Knowledge about ANC	Yes definitely	Yes	No	No definitely not
30	ANC provides increased knowledge about reproductive health				
31	Early ANC booking ensures the well being of me and the baby.				
32	ANC provides the opportunity to detect and to manage complications related to pregnancy and child birth				
33	ANC provides a learning opportunity for me and my family about pregnancy, labour and child care.				
34	ANC empowers me to be able to identify danger signs and act promptly				
35	ANC provides the opportunity to learn about the prevention of STI, HIV as well as PPTCT	€			

SECTION E*Perceived Benefits of AN*

To what extent would these perceived benefits influence your decisions to attend ANC services in Bulawayo?

		Yes definitely	Yes	No	No definitely not
36	Adequate knowledge about ANC and the services in Bulawayo.				
37	Accessible ANC services				
38	Acceptable ANC services				
39	Free ANC services				
40	Quality ANC services				
41	ANC services that meet the adolescent mothers' needs.				
42	Individualised health education				

SECTION F**Perceived Barriers to utilisation of ANC Services**

To what extent would the following factors prevent you from utilising ANC services in Bulawayo?

		Yes definitely	Yes	No	No definitely not
43	High ANC fees				
44	Unfriendly health workers attitudes				
45	Delays in attending to clients				
46	Unfriendly attitudes of older clients (mothers)				
47	Poor family support and social support				
48	Fear of testing for HIV status				
49	Fear of HIV positive results				
50	Inadequate knowledge about benefits of ANC				
51	Poor economic power (poverty)				
52	Low decision making authority				
53	Peer influence				
54	Parents influence				
55	TBA influence				

SECTION G

56 What strategies could be put in place to enhance your utilisation of ANC services in Bulawayo?

.....

**UHLELO LWENGXOXO LAMANTOMBAZANA AZITHWELEYO NJALO ABABEHLOLWA
BEZITHWELE (ANC)**

Ulwazi ngomuntu

- | | | | |
|---|---|------------------------------------|--------------------------|
| 1 | Iminyaka yokuzalwa | | <input type="checkbox"/> |
| 2 | Indawo owelathswa khona | Ekilnika | <input type="checkbox"/> |
| | | Esibhedlela esikhulu | <input type="checkbox"/> |
| | | Ababelethisi bemvelo | <input type="checkbox"/> |
| | | Okunye (Chasisa)..... | <input type="checkbox"/> |
| 3 | Umtshado | Wendile | <input type="checkbox"/> |
| | | Awendanga | <input type="checkbox"/> |
| | | Ukhona ohlalisana laye | <input type="checkbox"/> |
| | | Wehlukana lomkakho | <input type="checkbox"/> |
| 4 | Uhlala lobani? | Umkakho | <input type="checkbox"/> |
| | | Abazali | <input type="checkbox"/> |
| | | Abangane | <input type="checkbox"/> |
| | | Okunye(Chasisa) | <input type="checkbox"/> |
| 5 | Ukholo | UngumKristu | <input type="checkbox"/> |
| | | UngumIslamu | <input type="checkbox"/> |
| | | Okunye(Chasisa)..... | <input type="checkbox"/> |
| | Isiqongo semfundo yakho kumbe impumela yezifundo owazenzayo ezangaphezulu | | <input type="checkbox"/> |
| 7 | Zizatho bani ezakwenza watshiya isikolo? | | |
| | | Wawusuqale umsebenzi | <input type="checkbox"/> |
| | | Wawungaphumeleli kuhle ezifundweni | <input type="checkbox"/> |
| | | Waswela imali yokubhadala esikolo | <input type="checkbox"/> |
| | | Wazithwala | <input type="checkbox"/> |
| | | Okunye (Chasisa) | <input type="checkbox"/> |
| 8 | Umsebenzi owenzayo | Uqhatshiwe | <input type="checkbox"/> |
| | | Uyazisebenza | <input type="checkbox"/> |

9 Msebenzi bani owusebenzayo (chasisa).....

10 Umkakho usebenza msebenzi bani? Uqhatshiwe

Kaqhatshwanga

11 Msebenzi bani awenzayo (Caca)

12 Indlela zokuthola imali Uyaziphandela

Uphiwa ngumkakho

Uphiwa ngabazali/ngabakugcinileyo

Ukunye(Chasisa)

(ii) Okuphathelane lokuzithwala lokukhululeka

13 Wazithwala kangaki abantwana ababasebangeni lokuphila ?

14 Wazithwala kangaki?

15 Iminyaka yomntanakho wokucina

16 Wawusukhulelwe kangakanani ngesikhathi usethekelela indawo yokuhlolwa okokuqala

17 Wake waba lohlupho ekuzithwaleni kwakho okwedlulileyo?

Yebo

Hatshi

Akuqondananga lami

Uma ingcazelo yakho ingu 'yebo', luqambe lolohlupho
.....
.....

18 Wawusebenzisa indlela bani zokuvikela ukuzithwala?

Amaphilisi

Iluphu (IUCD)

Amajekiseni

Amakhondomu

Ukumunyisa

Ukungayi emancansini

Angisebenzisanga lutho

Phana izizatho zokwekela ukusebenzisa leyondlela yokuvikela ukuzithwala

.....

.....

ISIGABA SESIBILI

Imibono yabantu ngokusetshenziswa kwenhlelo zokuhlolwa

19 Qamba okungaba kuthathu okwakwenza wabhalisela ukuhlolwa ekuzithwaleni kwakho

1

2.....

3.....

Thwebula umbono wakho ngenhlelo zokuhlolwa oyingxenye yazo ko Bulawayo

20 Zilohlonzi bani?

Oluhle kakhulu

Oluhle

Olusuthisayo

Oluphansi

21 Uyathola ukunakekelwa kwakho wedwa lapha wethekelele ekilini?

Yebo

Hatshi

22 Ufundisiwe uwedwa na ngesikhathi usiya hlolwa?

Yebo

Hatshi

23 Kulemfihlo yini ngesikhathi sokuhlolwa lokuxoxa lomongikazi?

Yebo

Hatshi

24 Wathenjiswa yini ukuthi lokho oxoxe ngakho lomongikazi kuzakuba yimfihlo yenu?

Yebo

Hatshi

25 Uyasuthiseka ukuthi wathola ulwazi olwaneleyo ngokuzithwala lenhlupho zempilakahle ezingakuvelela

Yebo

Hatshi

ISIGABA SESINE

Ulwazi oluqondane labazithweleyo (ANC knowledge)

Izizatho ezilandelayo eziphatelane lolwazi lokunakekelwa kozithweleyo engakabelethi zilethonya elinganani ezinqumeni zokusetshenziswa kohlelo lwe ANC ko Bulawayo ekuzithwaleni kwakho okulandelayo?

	Ulwazi oluqondane labazithweleyo (ANC knowledge)	Yebo ngeqiniso	Yebo	Hatshi	Hatshi ngeqiniso Hatshi
30	Ukuhlolwa kuletha ulwazi olubanzi ngenhlelo zokubeletha				
31	Ukuhlolwa kuza lesiqiniso senhlalakahle kamama losane.				
32	Ukuhlolwa kwenqabela njalo kubonisa ingxaki eziphatelane lokuzithwala lokubeletha.				
33	Ukuhlolwa kupha mina lemuli yami ithuba lokufunda ngokuzithwala, umhelo lokondla umntwana				
34	Ukuhlolwa kuyangihlomisa ukuze ngenelise ukunanzelela ingozi iseza, njalo ngiyenqabele masinyane				
35	Ukuhlolwa kuletha ithuba lokufunda ngokuzivikela, imikhuhlane yemacansini umkhuhlane yengculaza kanye lokuthelelwana kwengculaza phakathi kukamama losana				

ISIGABA SESIHLANU

Okunakanelwa kungaba lusizo lokuhlolwa kwabazithweleyo

Izizatho ezilandelayo zingaba lethonya elingakanani ekukhetheni kwakho ukusebenzisa inhlelo zokunakekelwa kwabazithweleyo emaklinika ako Bulawayo ekuzithwaleni kwakho okulandelayo.

	Okulusizo ngokuhlolwa nxa umama ezithwele	Yebo ngeqiniso	Yebo	Hatshi	Hatshi ngeqiniso Hatshi
36	Ulwazi olugcweleyo ngohlelo lokuhlolwa emaklinika ako Bulawayo				
37	Ukufinyeleleka lula kwenhlelo zokuhlolwa				
38	Ukuhlolwa okwamukelekileyo				
39	Ukuhlolwa kungelambadalo				
40	Ukuhlolwa okulohlonzi				
41	Ukuhlolwa okunakekela izinswelo zamantombazana angomama				
42	Izifundo sempilakahle ezilungiselwe umuntu ngamunye				

ISIGABA SESITHUPHA

Okucatshangelwa ukuba kungenqabela ukusetshenziswa kwenhlelo ze ANC ko Bulawayo ekuzithwaleni kwakho okulandelayo

	Okunganqabela ukuhlolwa nxa umama ezithwele	Yebo ngeqiniso	Yebo	Hatshi	Hatshi ngeqiniso Hatshi
43	Ukuhlolwa okulembadalo ephezulu				
44	Abezempilakahle abangelamusa				
45	Lapho kuthatha isikhathi ukuba abadinga usizo baluthole				
46	Ukuswelakala kothando kwabadala abadinga uncedo				
47	Ukuswelakala kosekelo lwabemuli labangane				
48	Ukwesaba ukuhlolwa isimo somkhuhlane wengculaza (HIV)				
49	Ukwesaba ukuzwa impumela yokuhlolwa umkhuhlane we HIV				
50	Ukungabi lolwazi olweneleyo ngenzuzo ezilethwa yikuhlolwa				
51	Ukuswela imali (ubuyanga)				
52	Ukungabi lamandla okwenza izinqumo				
53	Ithonya labangane				
54	Abazali				
55	Ababelethisi bemvelo				

ISIGABA SESIKHOMBISA

56 Macebo bani angakhiwa ukuthuthukisa ukusetshenziswa kwenhlelozokuhlolwa kwabazithweleyo?

.....

Ngiyabonga

ANNEXURE Q: Structured interview questions for unbooked adolescents

**INTERVIEW SCHEDULE FOR POST PARTUM ADOLESCENT
MOTHERS WHO DID NOT ATTEND ANC.**

(i) Socio-demographic data

1	Age		<input type="text"/>
2	Referring center/person	PHC clinic	<input type="text"/>
		Central Hospital	<input type="text"/>
		Private surgery/Nursing home	<input type="text"/>
		TBA	<input type="text"/>
		Other (specify).....	<input type="text"/>
3	Marital Status	Married	<input type="text"/>
		Single	<input type="text"/>
		Cohabiting	<input type="text"/>
		Divorced	<input type="text"/>
4	Whom do you live with?	Spouse	<input type="text"/>
		Parent(s)	<input type="text"/>
		Friend (s)	<input type="text"/>
		Other (specify).....	<input type="text"/>
5	Religion	Christianity	<input type="text"/>
		Islamic	<input type="text"/>
		Other (specify).....	<input type="text"/>
6	Highest academic school grade passed		<input type="text"/>

7 What were your reasons for leaving school?

- Started working/ earning money
- Unsatisfactory academic progress
- No money to pay school fees
- Pregnancy
- Other (specify).....

8 Employment status (self)

- Employed
- Not employed

9 Type of employment (specify).....

10 Employment status of spouse

- Employed
- Not employed

11 Type of employment (specify)

12 Source of income

- Self
- Spouse
- Parents/guardian
- Other (specify).....

(ii) Obstetric information

13 Parity

14 Number of live children

15 What family planning method did you use before your last pregnancy?

- Pills
- IUCD
- Injections
- Condoms
- Breastfeeding
- Nothing

Give reasons for stopping its use.....
.....

16 Have you had problems with the previous pregnancy (s) before this one? Yes
No
N/A

If 'yes' state the problem.....

17 Did you book for ANC with previous pregnancy(s) Yes
No
NA

If 'no' give reason.....
.....

18 What were your reasons for not attending ANC with this pregnancy?

.....

19 If you had the money would you have attended ANC? Yes definitely
Yes probably
Probably not
Definitely not

20 What were your reasons for delivering at the hospital with this pregnancy? Obstetric complication
Other (specify)

21 Could this complication have been prevented if you had attended ANC? Yes definitely
Yes probably
Probably not
Definitely not
N/A

22 Who has been looking after your health and that of the baby? when you were pregnant? Traditional Birth Attendant (TBA)
Mother/grandmother
Other (specify).....

SECTION D***Knowledge about ANC.***

To what extent will the following factors related to ANC knowledge influence your decisions to utilise ANC services in Bulawayo in your next pregnancy?

	Knowledge about ANC	Yes definitely	Yes	No	No definitely not
26	ANC provides increased knowledge about reproductive health				
27	Early ANC booking ensures the well being of the mother and the baby.				
28	ANC provides the opportunity to detect and to manage complications related to pregnancy and childbirth.				
29	ANC provides a learning opportunity for me and my family about pregnancy, labour and child care.				
30	ANC empowers me to be able to identify danger signs and act promptly				
31	ANC provides the opportunity to learn about the prevention of STI, HIV as well as MTCT of HIV.	€			

SECTION E***Perceived Benefits of ANC***

To what extent will the following perceived benefits influence your decision to utilise ANC services in Bulawayo in your next pregnancy?

	Perceived Benefits of ANC	Yes definitely	Yes	No	No definitely not
32	Adequate knowledge of ANC services in Bulawayo.				
33	Accessible ANC services				
34	Acceptable ANC services				
35	Free ANC services				
36	Quality ANC services				
37	ANC services that meet adolescent mothers' needs				

SECTION F*Perceived Barriers to utilisation of ANC Services*

To what extent will the following factors prevent you from utilising ANC services in Bulawayo in your next pregnancy?

	Perceived Barriers	Yes definitely	Yes	No	No definitely not
38	High ANC fees				
39	Unfriendly attitudes of health workers				
40	Delays in attending to clients				
41	Unfriendly attitudes of older clients (mothers)				
42	Poor family/ social support				
43	Fear of testing for HIV status				
44	Fear of HIV positive results				
45	Inadequate knowledge about benefits of ANC				
46	Poor economic (poverty)				
47	Limited decision making authority				
48	Peer influence				
49	Parents				
50	TBA				

SECTION G

51 What strategies could be put in place to enhance your utilisation of ANC services?.....

.....

Thank you

UHLELO LOKUKHULUMISANA LAMANTOMBAZANA ABELETHELA EZIBHEDLELA ENGAHLOLWANGA NGESIKHATHI EZITHWELE

Isigaba Sakuqala

(i) Ulwazi ngomuntu

- 1 Iminyaka yokuzalwa
- 2 Indawo lapha owelatshwa khona
- Ekilnika
 - Esibhedlela esikhulu
 - Ababelethisi bemvelo
 - Okunye (Chasisa).....
- 3 Umtshado
- Wendile
 - Awendanga
 - Ukhona ohlalisana laye
 - Wehlukana lomkakho
- 4 Uhlala lobani?
- Umkakho
 - Abazali
 - Abangane
 - Okunye(Chasisa)
- 5 Ukholo
- UngumKristu
 - UngumIslamu
 - Okunye(Chasisa).....

6 Isiqongo semfundo yakho kumbe Impumela
yezifundo owazenzayo ezangaphezulu

7 Zizatho bani ezakwenza watshiya isikolo?

Waqala umsebenzi

Wawungaphumeleli kuhle ezifundweni

Waswela imali yokubhadala esikolo

Wazithwala

Okunye (Chasisa)

8 Umsebenzi owenzayo

Uqhatshiwe

Uyazisebenza

9 Msebenzi bani owusebenzayo (chasisa).....

10 Umkakho usebenza msebenzi bani? Uqhatshiwe

Kaqhatshwanga

11 Msebezi bani awenzayo (Chasisa)

- 12 Indlela zokuthola imali Uyaziphandela
- Uphiwa ngumkakho
- Uphiwa ngabazali/ngabakugcinileyo
- Okunye(Chasisa)

(ii) Okuphathelane lokuzithwala lokukhululeka

- 13 Inani labantwana ababengaphila kuhlanganisa labaphilayo

- 14 Inani labantwana abaphilayo

- 15 Wasebenzisa indlela yiphi yokuhlela imuli yakho ngemva kokuzithwala
kwakho okwedlulileyo
- Amaphilisi
- Iluphu (IUCD)
- Amajekiseni
- Amakhondomu
- Ukumunyisa
- Awusebenzisanga lutho

Phana izizatho zokuyekela ukusebenzisa indlela engaphezulu

.....

16 Uke waba lohlupho ngokuzithwala kwakho okwedlulileyo
ngemva kwalokhu olakho khathesi

Yebo

Hatshi

Akudingakali

Uma ingcazelo yakho ingu 'yebo' betha ubunzima owahlangana labo

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

17 Uke wabhalisela ukuhlolwa ekilnika ungakabelethi?

Yebo

Hatshi

Akudingakali

Uma ingcazelo yakho ingu 'hatshi' phana izizatho

.....
.....

18 Yiziphi izizatho ezabangela ukuba ungayihlolwa yikilnika ungakabelethi?

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

19 Uma ngabe kade ulemali ubuzakuyahlolwa ekilinka
ungakabelethi na?

- Yebo kuqinisekile
- Mhlawumbe yebo
- Mhlawumbe hatshi
- Kuqinisekile
- Hatshi akuqinisekanga

20 Yiziphi izizatho ezakwenza wayabelethela esibhedlela kulokhu kuzithwala?

- Ingxaki yokubeletha
- Okunye (Chasisa)

21 Le ingxaki ngabe yenqatshelwa uma ngabe wayahlolwa ekilinka?

- Yebo kuqinisekile
- Mhlawumbe yebo
- Mhlawumbe hatshi
- Hatshi akuqinisekanga
- Akudingakali

22 Ngubani owayekhangelane lenhlalakahle yakho kanye leyomntwana ngesikhathi
uzithwele ?

- Okhangela ngezenzalo okwesintu
- Umama/Ugogo
- Okunye (Chasisa)

ISIGABA SESIBILI

Indlela umuntu azwisisa ngayo engenza ukuba ayehlolwa ekilinika umuntu engakabelethi

23 Betha izinto ezintathu ezingakukhuthaza ukuba uyehlolwa ekilinika ekuzithwaleni kwakho

- 1
- 2.....
- 3.....

ISIGABA SESITHATHU

Okuphathelene lokuphilisana, amasiko lemali

24 Ngubani kwabalandelayo owenza ukuba ube lombono wokungahlolwa emakilinika ako Bulawayo?

- Umkakho
- Umzali/Okugcinileyo
- Ontanga bakho
- Indlela zokukhulumisana
- Okunye (Chasisa).....

25 Yiphi imbangela obona sengathi yancedisa ukuba ungayihlolwa?

- Ukuzithwala ngengozi
- Ulwazi olulutshwane mayelana lemvuzo yohlelo
- Ukusilela kwemali
- Umango wokuya esibhedlela
- Amasiko/ukholo
- Okunye (Chasisa)

ISIGABA SESINE

Ulwazi oluqondane labazithweleyo (ANC knowledge)

Izizatho ezilandelayo eziphathelele lolwazi lokunakekelwa kozithweleyo engakabelethi zilethonya elinganani ezinqumeni zokuhlolwa ko Bulawayo ekuzithwaleni kwakho okulandelayo?

	Ulwazi oluqondane labazithweleyo (ANC knowledge)	Yebo ngeqiniso	Yebo	Hatshi	Hatshi ngeqiniso Hatshi
26	Ukuhlolwa kuletha ulwazi olubanzi ngenhlelo zokubeletha				
27	Ukuhlolwa kuza lesiqinisele senhlalakahle kamama losane.				
28	Ukuhlolwa kwenqabela njalo kubonisa ingxaki eziphathelele lokuzithwala lokubeletha.				
29	Ukuhlolwa kupha mina lemuli yami ithuba lokufunda ngokuzithwala, umhelo lokondla umntwana				
30	Ukuhlolwa kuyangihlomisa ukuze ngenelise ukunanzelela ingozi ezayo, njalo ngiyenqabele masinyane				
31	Ukuhlolwa kuletha ithuba lokufunda ngokuzivikela, imikhuhlane yemacansini umkhuhlane yengculaza kanye lokuthelelwana kwengculaza phakathi kukamama losana				

ISIGABA SESIHLANU

Okunakanelwa kungaba losizo lokuhlolwa kwabazithweleyo

Izizatho ezilandelayo zingaba lethonya elingakanani ekukhetheni kwakho ukusebenzisa inhlelo zokunakekelwa kwabazithweleyo emaklinika ako Bulawayo ekuzithwaleni kwakho okulandelayo.

	Okulusizo ngokuhlolwa nxa umama ezithwele	Yebo ngeqiniso	Yebo	Hatshi	Hatshi ngeqiniso Hatshi
32	Ulwazi olugcweleyo ngokuhlolwa emaklinika ako Bulawayo				
33	Ukufinyeleleka lula kwendawo zokuhlolwa				
34	Ukuhlolwa okwamukelekileyo				
35	Ukuhlolwa kungelambadalo				
36	Ukuhlolwa okulolohlonzi				
37	Inhlelo zeANC ezinakekela izinswelo zamantombazana angomama				

ISIGABA SESITHUPHA

Okucatshangelwa ukuba kungenqabela ukusetshenziswa kwenhlelo ze ANC ko Bulawayo ekuzithwaleni kwakho okulandelayo

	Okunganqabela ukuyahlolwa nxa umama ezithwele	Yes definitely	Yes	No	No definitely not
38	Imbadalo yokuhlola ephezulu				
39	Abezempilakahle abangelamusa				
40	Lapho kuthatha isikhathi ukuba abadinga usizo baluthole				
41	Ukuswelakala kothando kwabadala abadinga uncedo				
42	Ukuswelakala kosekelo lwabemuli labangane				
43	Ukwesaba ukuhlolwa isimo somkhuhlane wengculaza (HIV)				
44	Ukwesaba ukuzwa impumela yokuhlolwa umkhuhlane wengculaza (HIV)				
45	Ukungabi lolwazi olweneleyo ngenzuzo ezilethwa yi ANC				
46	Ukuswela imali(ubuyanga)				
47	Ukungabi lamandla okwenza izinqumo				

48	Ithonya labangane				
49	Abazali				
50	Ababelethisi bemvelo				

ISIGABA SESIKHOMBISA

51 Macebo bani angakhiwa ekuphakamiseni ukusetshenziswa kwenhlelo zokuhlolwa lokunakekelwa kwabazithweleyo?

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

Ngiyabonga

Annexure R: Self administered questionnaires for midwives

Dear Midwife

The purpose of this study is to determine factors that influence utilisation of ANC services by adolescent mothers in Bulawayo. It is hoped that the findings of the study will assist in providing need focused ANC and will also assist in enhancing strategies that will motivate these adolescent mothers to value the use of ANC services in Bulawayo.

Kindly complete the questionnaire below and return it as soon as possible. Please sign the consent form below if you are willing to participate in the study. Be advised that you are free to participate or not participate in the study with no reparations.

Thank you

Cynthia N Chaibva
RGN & Midwife
PhD Student with UNISA

.....

Tear off this slip complete it, fold and submit together with questionnaire

CONSENT FORM

I am willing/ not willing to participate in the study.

Signature

Date

*Annexure 11***QUESTIONNAIRE FOR MIDWIVES WORKING IN ANC****SECTION A: Socio-demographic data**

1. Age

Less than 25years 25 – 35 years 36 – 45 years Over 45years

2. Marital Status

Single Married Divorced Separated

3. Professional Qualifications

General Nurse only Midwife only General Nurse & Midwife

4. Duration of placement in the ANC clinic.

0 – 1 year 2-3 years 4-5 years 6 years and above

5. Place of employment

Primary care clinic Central Hospital **SECTION B**

6. Do you use the Goal oriented Approach all the time?

Yes No

7. Are you familiar with the GOA?

Yes No

8. Is the GOAL easily implemented? Yes
No
9. Do you feel competent to use the GOA? Yes
No
10. Have you received any training on the use of the GOA? Yes
No
11. Do adolescent mothers maximise utilisation of the ANC services Yes
No
12. Do you think adolescent mothers would benefit from ANC? Yes
No

SECTION C:**Information related to modifying and socio cultural factors**

These factors may influence utilisation of ANC services?

- 13 Age Yes
No
- 14 Parity
- 15 Marital status Yes
No
- 16 Socio-cultural and religious factors Yes
No
- 17 Financial constraints Yes
No
- 18 Health workers' attitudes Yes
No

- 19 Fear of disclosing the pregnancy Yes
No

Individual perceptions influencing ANC utilisation

- 20 Does the quality of care provision influence individual perception of ANC services? Yes
No
- 21 In your opinion do adolescent mothers perceive ANC as beneficiary? Yes
No
22. Do you think adolescent mothers have adequate knowledge about ANC? Yes
No

SECTION D

Structural variables likely to influence decisions to use ANC services

Tick appropriate answers

The following factors could influence positive utilisation of ANC services

	Yes Def	Yes	No	No def
23. Adequate knowledge on ANC and the services in Bulawayo.				
24. Accessible/ acceptable adolescent friendly ANC services				
25. Affordable ANC services				
26. Need-focused ANC services				
27. Prompt services				
28. Perceived benefits of ANC				

SECTION E

Perceived barriers to utilisation of ANC services

Tick your opinion about these statements.

The following factors could be perceived as barriers to ANC utilisation

	Yes Def	Yes	No	No def
29. ANC fees are not affordable to the majority adolescent mothers				
30. Unfriendly attitudes of health workers				
31. Poor family/ social support				
32. Fear of HIV testing				
33. Fear of HIV results				
34. Inadequate knowledge about benefits of ANC				
35. Poor economic and social power (poverty)				
36. Low status of women in society				
37. Peer influence				
38 Parents				
39 TBA				

SECTION F

Factors likely to enhance adolescent mothers' utilisation of ANC services.

40 What strategies should be put in place to enhance adolescent mothers' utilisation of ANC?

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