Determinants of Post Natal Care Uptake in Bikita District, Masvingo Province, 2011

By

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I, Kufakwanguzvarova Wilbert Pomerai, certify that this dissertation is the product of my original work and has been prepared in accordance with guidelines of the Master of Public Health Programme, University of Zimbabwe. I further attest that this work has not been submitted, in part or in full, for any other degree at any university.

Signature: ……..……Date……

I, having supervised the development of this dissertation, am satisfied that it is the original work of the author in whose name it is being presented and that the work has been completed satisfactorily for presentation in the examination.

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Abstract

Topic: Determinants of Post Natal Care Uptake in Bikita District 2011, Masvingo Province

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Introduction: Postnatal care (PNC) gives an opportunity to detect medical problems of the mother and neonate and reduce morbidity and mortality. In 2010 PNC uptake in Bikita was 43%. This study was conducted to determine factors associated with low PNC uptake in Bikita.

Materials and methods: A 1:1 unmatched case control study was conducted. A case was defined as a woman who attended at least one antennal care visit and did not attend first(10 day) PNC visit. A control was a woman who attended both antenatal care and first (10 day) PNC visit. Random sampling was used to select cases and controls from ANC and PNC registers at health centres. An interviewer administered questionnaire using constructs of the Health belief model was used. Focus group discussions were conducted with women who were not study participants who had come for ANC and PNC. A check list was used to asses availability of resources for use in PNC. Epi Info 3.5.1 was used to analyse data. Qualitative data was coded , grouped and analysed manually.

Results: One hundred and fifty cases and 150 controls were recruited. Independent factors associated with non-uptake of PNC were; practicing seclusion until umbilical cord fell off, [AOR 3.43,(95%CI: 1.73-6.81)], residing in village/resettlement [AOR 3.71(95%Cl: 1.30-9.90)],delivering at home [AOR 6.0(95%CI: 3.50-12.71)], staying more than 5km from health centre [AOR 1.73(95%CI: 1.03:2.89)],. Factors associated with PNC uptake were

secondary/tertiary level of education [AOR 0.25 (95%CI: 0.11-0.73)] and ability of mother to attend PNC within 48 hours after at home delivery [AOR 0.60(95%CI: 0.21:0.96)].

Discussion and Conclusion : Delivering at home may lead to transmission of HIV from mother to child if the mother is HIV positive due to non swallowing of Nevirapine during delivery. Death of mother and neonate may occur due to lack of medically skilled assistance. Construction of more waiting mothers shelters may increase the number of institutional deliveries and prevent maternal and neonatal deaths. As a result of the findings of this study Save the Children UK has been approached to assist in the construction of waiting mothers' shelters at Chikuku and Bikita rural hospital.

Key words: factors, uptake, postnatal care, Zimbabwe

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante natal care
DHE	District Health Executive
DMO	District Medical Officer
DNO	District Nursing Officer
EBF	Exclusive Breast Feeding
HIV	Human Immune Deficiency Virus
MMR	Maternal Mortality Ratio
NMR	Neonatal Mortality Rate
PMD	Provincial Medical Director
PNC	Post Natal Care

Glossary of terms

Post Natal Period: The period beginning immediately after birth of a child and extending for six weeks.

Post Natal Care: Health and medical care given to the mother and neonate during post natal period.

Surveillance: On-going systematic collection, analysis, interpretation, and dissemination of data regarding a health related event for use in public health action to reduce morbidity and mortality and improve health.

Chapter 1.0 introduction

1.1Background

The term post natal is a Latin word meaning after birth and is the period beginning immediately after birth of a child and extending for six weeks. The other term is postpartum period as it refers to the mother because post natal refers to the child and less frequently the term puerperium is used.[1] Women who deliver in hospitals are monitored for bleeding, bowel and bladder function as well as baby care., The infant's health status is also monitored. The major focus of post postpartum and post natal care is to ensure that both the mother and child are healthy and adjusting to their new life.[1]

In Africa 2400 babies are stillborn annually and another 3100 new- borns die within their first four weeks of life.[2] Half of African women do not receive skilled care during birth and even fewer receive post natal care. In order to achieve the Millennium Development Goal(MDG4) which is to reduce under five mortality rate by two thirds from the 1990 rate by 2015 much more needs to be done to prevent neonatal deaths. Major causes of death in the neonates are due to birth asphyxia, preterm, and infections and these account for 87% of new born deaths in Africa. Infant mortality is overally higher in Africa than other regions of the world.[2]

This requires greatly strengthened health systems with maternal, newborn and child health care at their core. Two thirds of newborn deaths could be prevented if all mothers and newborns had access to a small number of interventions that are well known, feasible and deliverable without complex technology. [2] In Africa women die of avoidable causes and that makes the problem an international concern.[3] Studies show that women in Zimbabwe face a higher risk of death during pregnancy, childbirth, and puerperium. Maternal Mortality Ratio

(MMR) in Zimbabwe is 880/100000 live births, with an uncertainty range of between 300-2000.[4] However the demographic Health Survey(DHS) 2005-2006 states that MMR in Zimbabwe is 695/100000.[5] In Kenya is 88% of pregnant women receive one Anta Natal Care (ANC) with a skilled health worker, 58% give birth at home, only 10% get any type of postpartum care, MMR is 414/100000 and the neonatal mortality rate (NR) is 33/100 and infant mortality ratio(IMR) is 77/1000 live births.[6] In Zimbabwe the Ministry of Health and Child Welfare encourages women to deliver in health centres with the assistance of trained and skilled personnel.[24] The woman who would have delivered is supposed to be admitted for 72 hours before being discharged. During these 72 hours the mother and baby and mother will be examined for post delivery complication like post partum haemorrhage (PPH), blood pressure, and infection of the reproductive system. During the first 4 hours of extra uterine life the neonate is examined for complications and abnormalities Apgar score will be assessed, check eye discharge, checked cord for bleeding and kangaroo care for pre term babies.

At the first 10 day visit growth and development of the baby is assessed the mother is asked of any medical problems the baby is experiencing for example breast feeding pattern, bowel and bladder function, cry and sleep pattern . General physical assessment of the baby includes measuring head circumference and checking a cord stump and assessing for jaundice. Medical problems are discussed with the mother and the problems are managed while health education is reinforced and immunisation schedules are discussed.[24] PNC services in Zimbabwe are free and no mother or baby is supposed to pay for PNC.[24]

1.2 Statement of the Problem

According to the provincial annual reproductive health report of 2009, Bikita district is the worst performing district as far as Post Natal Care services are concerned with a 10 day visit uptake of 43% against an ante natal care uptake of 87%. In 2010 a total of 5214 ante natal visits were recorded among by pregnant mothers, 2174(41.6%) deliveries were recorded and only 943 (43%) returned for the 1st 10 days visit and 891(40%) returned for the 6 weeks visit. This entails that about 60 percent of the new -borns are lost to PNC follow up. Probability of infants dying in their first 10 days of life is very high and there is need for the infants to be assessed by skilled health worker.

1.3 Study justification

This study seeks to investigate the factors that influence utilisation/uptake of PNC services and try to develop interventions to improve uptake and quality of PNC services in Bikita district.

1.4 Research question

What factors are associated with uptake of Post natal Care Services by women in Bikita District?

1.5 Hypothesis:

Null hypothesis; there is no association between demographic, socio cultural, socio economic and health related factors, knowledge and attitudes and uptake of PNC in Bikita district.

Alternative hypothesis: There is association between demographic, socio cultural, socio economic and health related factors, knowledge and attitudes and uptake of PNC in Bikita district.

1.6 Broad Objective

To determine the factors associated with low uptake Postnatal Care uptake by mothers in Bikita district, Masvingo Province, 2011.

1.7 Specific Objectives

- To determine the socio-demographic factors associated with low uptake of PNC in Bikita district 2011
- To determine the socio cultural factors associated with low utilisation of PNC in Bikita 2011
- To determine institutional /health related factors associated with low uptake of PNC services in Bikita 2011
- Determine knowledge ,attitudes and practices associated with low uptake of PNC in Bikita 2011
- To assess resources required for PNC in health institutions in Bikita district 2011.

Chapter 2.0 Literature Review

In 1999 the global Maternal Mortality Rate MMR was about 8000/100 000 live births (LB). In developed countries, the rate was below 10/100 000 LB, while in developing countries it neared 200/1000 LB. This was due to greater access to educational and information awareness programmes in developed countries.[7,38] With such high MMR in Africa and other developing countries there is need for a lot of work to be done in order to reduce the MMR and attain MDG number four which is to reduce the infant mortality rates for children under five and the fifth MDG is to reduce MMR by 75% by the year 2015. Post natal care serves as the intervention to reduce maternal and neonatal mortality ratios. In Africa 18 million women do not deliver in health centres and this brings challenges in planning and implementing ANC in the region[4,39,40].

Post natal care uptake may be improved by involving women and their families in planning of PNC services .[8] In many developing countries women lack knowledge of antenatal and postnatal care ., A study by Christiana et al , in Indonesia reported that low institutional delivery was due to the fact that most women thought institutional deliveries were for women with bad obstetric history [9]

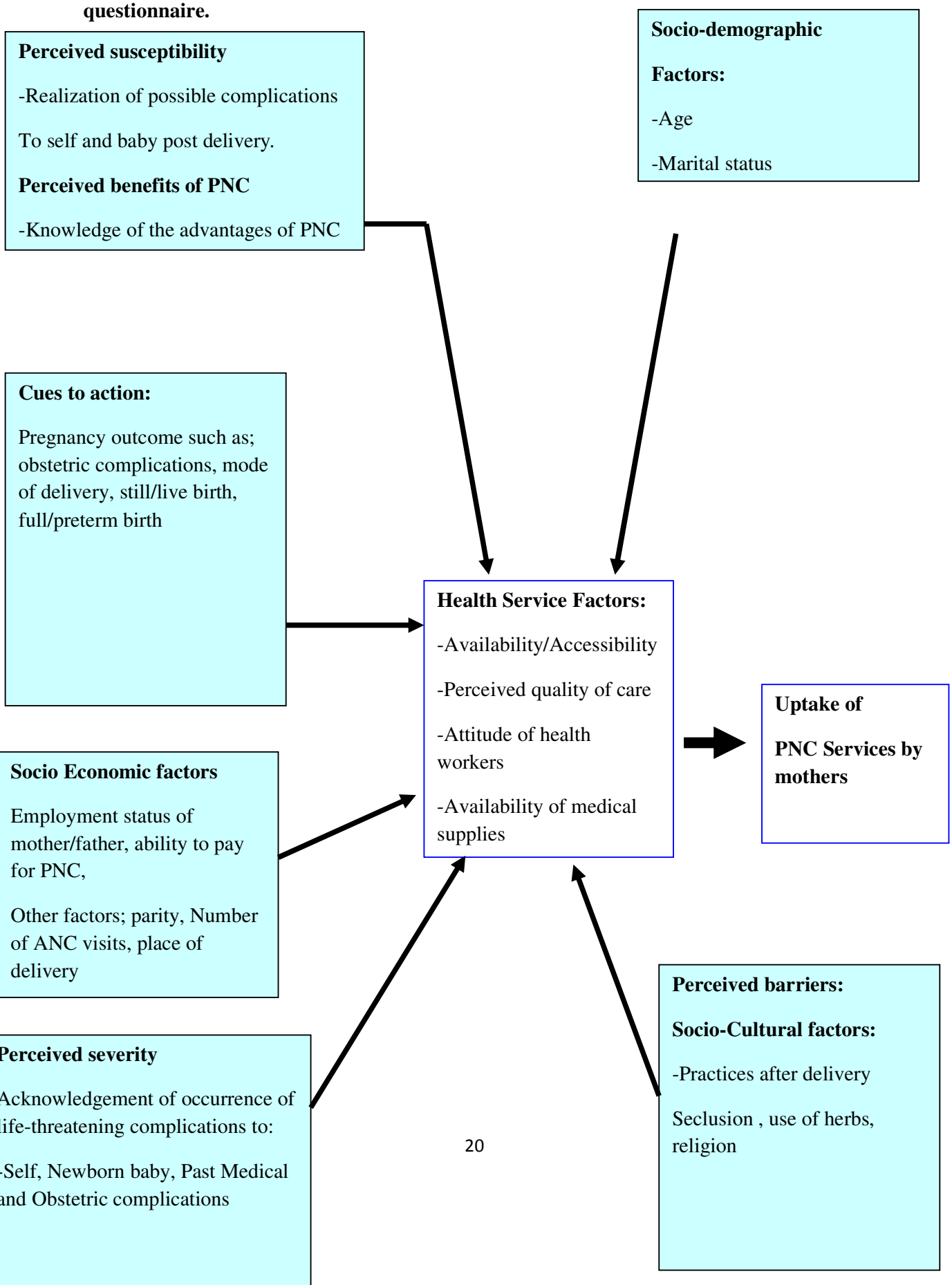
A McPherson et al in Nepal reported that, the challenge of delivering multiple, complex messages to promote maternal and newborn health in the Terai region of Nepal was addressed through training Female Community Health Volunteers (FCHVs) to counsel pregnant women and their families. Similar findings were reported by Sulochan et al in Nepal , South Asia who reported that institutional delivery was as low as 34% and the main barrier was lack of awareness to the utilisation of postnatal care and 47% of women reported lack of awareness or no perceived need for post natal care.[12,16,18,20]

In light of the high HIV prevalence PNC is good because mothers and their infants will access ARVs in early labour and their children get ARVs soon after birth.[13] A study on determinants of PNC uptake of in Bangladesh showed that being told of pregnancy complications increased the likelihood of women's use of PNC.[14,16,19] Another study by Titaley et al 2009 revealed that maternal factors associated with lack of PNC uptake were low education level and lack of knowledge on pregnancy complications. They went on to report that public health interventions like health education and promotion should target women who are poor , less educated and from rural areas and who use untrained traditional birth attendants .[19,21]

A study by Nwakoby et al 1994 in rural Nigeria revealed that education was protective for the use of obstetric services in Ngeria.[24] Similar findings were reported by Sharrif et al 2002 in their study on determinants on maternal health care in India.[25] In a systematic review of 28 papers on factors affecting utilisation of maternal care in developing countries maternal education was found to be one of the major factors with positive influence on uptake of PNC care.[26]The global forum for health research 2005 reports that maternal education and nature of employment empowers women to make decisions on uptake of PNC.[27,36]

Parity is another factor that affects uptake of PNC among women in developing countries in which it was found out that women with low parity are more likely to seek PNC than those with high parity.[26,37] The uptake of PNC must be emphasised during ANC visits and counselling as this improve the mother's knowledge of the importance of PNC and thereby motivate them to utilise PNC services.[17,] The reproductive health unit in the province reports that the absence of a health promotion officer and failure to conduct outreach sessions by community department is a major challenge to uptake of PNC services.[22,23]

Figure 1: Conceptual frame work (constructs of HMB in bold) used to formulate questionnaire.



Chapter 3.0 Materials and Methods.

3.1 study design

1:1 unmatched case control study.

3.2.0 A Case: A woman who resided in Bikita district and had at least one ANC visit during her pregnancy who delivered in the district between 01 March and 30 April 2011and did not attend the first ten day visit after delivery.

3.2.1 A control: A woman who resided in Bikita district and who delivered in Bikita district between 01 March and 30 April 2011and attended at least one ANC visit during pregnancy of her current baby and attended first 10 day PNC visit after delivery.

3.3 Study setting

Bikita district Masvingo province Zimbabwe

3.4 Study population

Mothers who delivered between 1 March and 30 April 2011. Mothers who delivered at home and had at least one ANC visit were included.

3.5 Sampling

3.5.1 Inclusion criteria

Mothers who had one ANC visit and delivered in Bikita between 01/03/2011 and 30/04/2011 and willing to participate in the study were included.

3.5.2 Exclusion criteria

Mothers who did not have at least one ANC visit and did not deliver in Bikita district between 1 March and 30 April 2011were excluded from the study.

3.5.3 Sampling method

The cases were selected using simple random method as follows; the researcher went through the health facility and village ANC and PNC registers and all women who delivered a live baby but did not go for 10 day PNC visit were line listed with details such as village they stay, nearest school nearest dip tank, expected date of delivery (EDD), Cases were assigned to a specific identifying numbers. Using the tables of random digits, cases were then selected randomly from the line list. Controls were selected using simple random sampling in which health facility and Village based ANC registers and all women who delivered a live baby and attended the 1st 10 day PNC visit were line listed with.

3.5.4 Sample size calculation.

Using Epi info Stat calc function at 95% CI, 80% power, expected frequency of exposure in the not ill group of 10% using the variable of women with three or more children were less likely to have had postnatal care OR = 0.16 (95% CI = 0.04–0.51) a finding by Dhakal et al 2007 a sample size of 298 (149 cases and 149controls) was required. [12]

3.6 Data collection

An interviewer administered questionnaire derived from the constructs of the HBM was used to gather information from cases and controls. Focus group discussions were conducted with pregnant women who come for ANC and also PNC and other women who once conceived until saturation was reached. This was done so as to discus barriers to PNC uptake. The focus group discussions were conducted as follows:

A check list was used to assess resource availability such as anti biotic, cord clamps, trained mid wives, delivery beds , baby scales, suction machines, and delivery packs in health facilities.

Table 1: Measurement of variables

variable	Indicator	Source of information	Data collection tool
1. Uptake of PNC	Proportion of mothers who attended 10 day and 6 weeks PNC visit	Cases and controls	Questionnaire
2.Socio demographic factors	Age of mother, level of education, marital status, religion	Cases and controls	Questionnaire
3.Socio economic factors	Employment status of mother and father, monthly house hold income	Cases and controls	Questionnaire
4.Socio cultural factors	Family influence, tradition	Cases and controls	Questionnaire
5.Health services related factors	Distance from health centre, working hours of health centres, attitude of health workers, availability of trained staff,	Cases and controls	Questionnaire
6.Other factors	Knowledge of the benefits of PNC	Cases and controls	Questionnaire

3.7 Data analysis

Epi info 3.5.1 was used to calculate frequencies, means, medians, odds ratios, and perform step wise logistic regression to control for confounding and asses effect modification. Data from the checklist on availability of resources for PNC was analysed manually. Responses on the constructs of the HBM was coded as follows; strongly agree and agree were coded into agree while strongly disagree and disagree was coded to disagree. Qualitative data (responses) from FGD were coded and grouped into themes and analysed manually.

3.8 Information dissemination

Findings from the study were disseminated through reports and feedback meetings with the PHE Masvingo province, and DHE Bikita.

3.9. Permission to carry out study

Permission to carry out study was granted from Provincial Medical Director (PMD) Masvingo, District Medical Officer (DMO) Bikita, Health Studies Office (HSO), Medical Research Council of Zimbabwe (MRCZ), local leaders in Bikita district

3.10.0 Ethical Considerations

3.10.1 Informed consent

All study participants were given consent forms to sign after the purpose of the study and procedures were explained to them and that signing meant that they agree to take part in the study knowingly and freely. It was also explained to them that they still had the right to withdraw from the study without any consequences even after signing the consent form. A copy of the consent form is included in annex 1. The consent form included information on

research process, purpose and objectives, benefits and no benefits of the study and also the study duration.

3.10.2 Right to confidentiality

Respondents were assured that information they availed to the researcher was not going to be divulged to anybody especially mine management in a way that enabled tracing of the information to the source person. This was done to protect participants' confidentiality. Throughout the study the raw data was kept locked up to ensure confidentiality and was never shown to unauthorised persons.

3.10.3 Anonymity

Anonymity is when a respondent cannot be identified as the source of information

Anonymity was maintained by excluding any names or any form of identification from the questionnaires so that no questionnaire could be linked to a specific respondent.

3.10.4 Principle of justice

All participants were treated fairly, not subjected to any harm.

3.10.5 Persuasion

Participation in the study was voluntary with no persuasion or coercion.

3.10.6 Beneficence

The results of this study were given to the DHE and PHE and may lead o improvement of PNC services as well as maternal and child health as well as reduce morbidity and mortality of mothers and neonates.

Chapter 4.0: Results

4.1 Sample size

A total of 300 mothers were interviewed (150 cases and 150 controls). The demographic characteristics of both cases and controls are shown below;

4.2 Demographic characteristics of cases and controls in Bikita district Masvingo Province 2011.

Table 2: Socio-demographic factors of cases and controls Bikita district Masvingo province 2011.

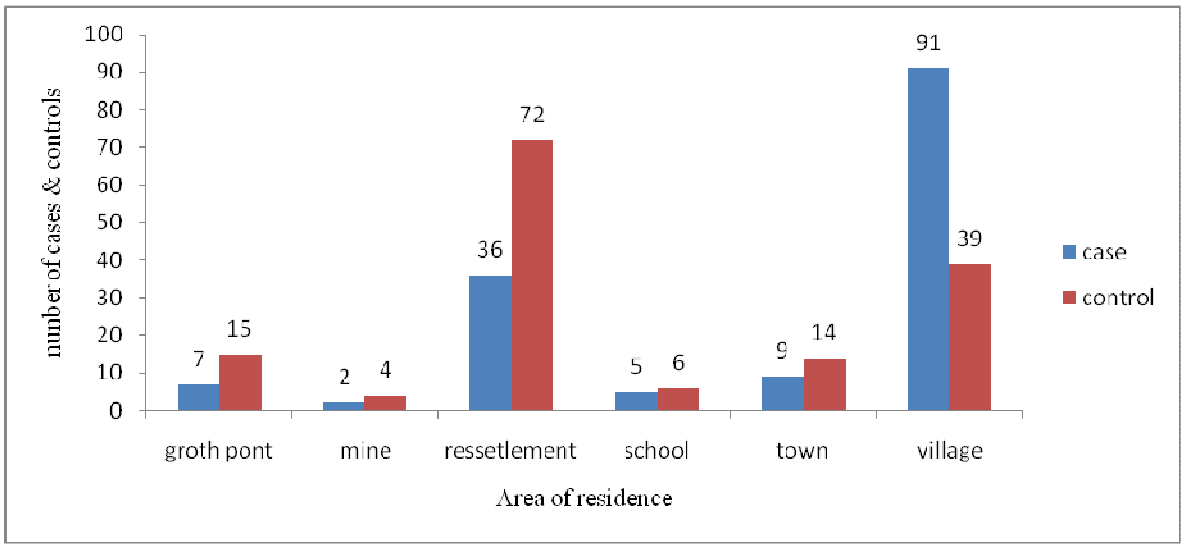
Variable		Cases n=150	Controls n=150	P value
Median age in years		26($Q_1$22;$Q_3$30)	28($Q_1$24;$Q_3$32)	0.61
Place of residence	Growth point	7(4.7)	15(9.9)	0.08
	Mine/school	7(4.3)	10(8.6)	
	Resettlement	36(24)	71(47)	
	Town/city	10(6)	14(9.3)	
	Village	90(60.4)	40(26.3)	
Religion	Apostolic	46(30.9)	27(17)	0.04
	Catholic	49(32.9)	74(49)	
	Pentecostal	55(35.59)	51(32.8)	
Mother's education	None	38(24.8)	30(20.)	0.08
	Primary	12(8.1)	21(14.0)	
	Secondary	91(61.1)	84(55.0)	
	Tertiary	9(6.0)	15(10.0)	
Mother's employment status	Formally	27(18.0)	33(22.0)	0.05
	Unemployed	123(75.8)	117(76.0)	
Father's employment status	Formally	57(38.0)	71(47.0)	0.04
	Unemployed	93(61.0)	79(51.8)	

Table 2 shows summary of the demographic characteristics of cases and controls in Bikita district 2011. Most demographic characteristics of cases and controls were comparable except for religion and father's employment in which more controls had employed husbands. . Most of the cases and controls had secondary education. Majority of cases and controls were married and unemployed though controls had more husbands who were formally employed than cases.

4.3 Distribution of cases and controls by area of residence in Bikita district ,Masvingo Province 2011.

Figure 2 shows the distribution of cases and controls ny area of residence in Bikita district 2011. Majority of cases stayed in villages while majority of controls stayed in resettlements.

Figure2: Distribution of cases and controls by area of residence in Bikita district 2011.



4.4 Illustration of the socio demographic factors associated with uptake of PNC in Bikita district Masvingo Province 2011.

Table 3: Socio- demographic factors associated with non- uptake of PNC services in Bikita district 2011.

Variable		Case n=150	Control n=150	OR	95% CI
Mothers unemployed	Y	123	113	**1.34**	0.41:2.23
	N	26	34		
Husband unemployed	Y	99	79	**1.8**	1.10:3.00
	N	51	71		
Husband highest level of education secondary/ tertiary	Y	29	49	**0.52**	0.31:0.89
	N	117	101		
Mother highest level of education secondary/ tertiary	Y	49	51	**0.96**	0.58:1.60
	N				
Age <30 years	Y	101	113	**0,64**	0.39:1.10
	N	50	36		
Staying in rural area	Y	126	112	**2.0**	1.05:3.53
	N	23	39		
Child rank <3	Y	66	86	**0.60**	0.37:0.97
	N	84	65		
Use of traditional medicine	Y	70	60	**1.34**	0.83:2.18
		80	90		
	N				
Stay with in-laws	Y	50	31	**1.94**	1.12:3.8
	N	100	119		
Practice seclusion after delivery until umbilical cord fell off	Y	100	62	**3.0**	1.90:4.94
	N	48	89		

Table 3 shows the association between socio demographic factors and uptake of PNC in Bikita district Masvingo Province 2011. Mothers who attained secondary/ tertiary level education had a OR 0.96 95% CI(0.58:1.60) 96% increased likely hood of attending PNC as compared to mothers who did not although it was not statistically significant. Residing in rural communities was a risk factor with mothers residing in village or resettlement

communities being OR 2.2 95% CI (1.05:3.5) 2 times more likely not to attend the first 10 day PNC visit as compared to mothers who stayed in urban communities.

4.5 Institutional factors associated with uptake of PNC in Bikita district Masvingo province 2011.

Table 4: Institutional factors associated with uptake of PNC in Bikita district Masvingo province 2011.

Variable		Case n=150	Control n=150	OR	95%CI
Residing > 5 Km from health centre	Y	78	53	**2.03**	1.24:3.50
	N	72	97		
Not satisfied with services provided	Y	64	43	**1.90**	1.16:3.00
	N	86	107		
Perceiving health centre as far	Y	101	47	**4.34**	2.60:7.26
	N	49	103		
Perceived that health centre had inadequate resources for PNC	Y	94	74	**1.8**	1.06:2.64
	N	56	76		
Delivered at home	Y	81	136	**2.7**	1.39:5.30
	N	69	14		
Had only 1 ANC visit	Y	59	27	**3.1**	1.83:5.61
	N	91	113		

Table 4 shows the association between institutional factors and uptake of PNC in Bikita district Masvingo province2011. Mothers who delivered at home were OR, 2.7 95% CI (1.39:5.30) times more likely to miss the first 10 PNC visit than mothers who delivered at health centres. Mothers who reported that their local health centre was far were OR 4.0 95%

CI (2.6:7.2) times more likely to miss the first 10 days PNC visit than mothers who reported that their health centre was not far.

4.6 Comparison of PNC knowledge between cases and controls in Bikita district Masvingo province 2011

Table 5: Knowledge on PNC between cases and controls, Bikita district 2011.

Variable		Case n=150 (%)	Control n=150 (%)	P value
Baby delivered at home must be examined by a health worker in 48 hours	Agree	150(100)	150(100)	**0.95**
	Disagree			
Baby and mother should be examined by a health worker at 10 days	Agreed	147(98)	147(98)	**0.95**
	Disagree	3(2)	3(2)	
It is important for baby and mother to examined by health worker a 6 weeks	Agree	130(86)	150(100)	**0.051**
	Disagree	20(14)		
Recovery of mother is checked at PNC	Agree	141(94)	148(98)	**0.74**
	Disagree	9(6)	2(2)	
Baby abnormalities and development is checked	Agree	141(94)	115(100)	**0.051**
	Disagree	9(6		

Table 5 shows the comparison of PNC knowledge between cases and controls. Knowledge on PNC was high between cases and controls.

4.6.1 Attitudes of cases and controls associated with uptake of PNC in Bikita district Masvingo Province 2011.

Participants who reported that attending PNC was a waste of time were 2.5 95% CI (0.43:19.30) times more likely not to attend PNC as compared to mothers who did not although it was not statistically significant. There was no difference between those who reported that delivering at home is better than delivering at health centre.

4.7.0 Health belief model constructs a predictors of the women's intent to utilise PNC.

4.7.1 Perceived susceptibility

Mothers who perceived that it was likely for a life threatening complication to occur to them had a 37% OR 0.37 95% CI (0.32:0.94) increased likely hood of attending PNC as compared to those who did not. Mothers who reported that their baby could suffer complications had a 56% OR 95%CI (0.32:0.97) increased likely hood of attending PNC as compared to mothers who did not.

4.7.2 Association between perceived maternal and neonatal severity and uptake of PNC in Bikita district Masvingo province 2011

Table 6: 4 item likert scale on perceived severity of maternal and neonatal complications.

Perceived severity of complication	Scale measure	Cases n=150	Controls n=150	OR	95%CI
Retained placenta	Agree	64	132	**0.10**	0.05:0.19
	Disagree	86	18		
Infection of the womb	Agree	37	28	**1.43**	0.79:2.58
	Disagree	113	122		
Severe high blood pressure (HBP)	Strongly agree/Agree	20	36	**0.50**	0.27:0.91
	Strongly disagree/Disagree	130	114		
Severe bleeding per vagina	Strongly agree/Agree	106	132	**0.33**	0.17:0.63
	Strongly disagree/Disagree	44	18		
Baby might have severe chest infection	Strongly agree/Agree	64	95	**0.43**	0.26:0.70
	Strongly disagree/Disagree	86	55		
Jaundice	Agree	57	79	**0.55**	0.34:0.87
	Disagree	93	71		
Birth asphyxia	Agree	37	33	**1.16**	0.66:2.05
	Disagree	113	117		

Table 6 shows the association between maternal and neonatal severity and uptake of PNC. Mothers who reported that they were likely to experience HBP 0.50%, OR 0.50 95% CI (0.27:0.91) increased likely wood of PNC uptake.

Mothers who thought their babies might experience complications like severe chest infection and jaundice were associated with a 43% OR 0.43 95% CI (0.26:0.70) and 55% OR 0.55 95% CI (0.34:0.87) increased likely hood of attending PNC than mothers who did not.

4.7.3 Association between maternal benefits of attending PNC Bikita district Masvingo province 2011

Table 7: 4 item likert scale for maternal benefits for attending PNC by mothers in Bikita 2011.

Perceived maternal benefit	Scale measure	Cases n=150	Controls n=150	OR	95% CI
My health will be assessed	Agree	146	147	**0.19***	0.02:1.72
	Disagree	4	3		
Family planning provided	Agree	145	144	**0.67**	0.19:2.42
	Disagree	5	6		
Information on infant feeding breast feeding practice	Strongly agree/Agree	148	144	**1.2**	0.32:4.68
	Strongly disagree/disagree	2	6		
hygiene lessons	Strongly/agree	140	145	**0.48***	0.14:1.58
	Strongly disagree/Disagree	10	5		

Table 7 shows a 4 item likert on maternal benefits associated with uptake of PNC. Mothers who perceived benefits such as getting their health checked 19%, taught hygiene 48% and taught on family planning 67% had 19%, 48%, and 67% increased likely hood of PNC uptake as compared to their counterparts while mothers who perceived benefits of PNC to being

taught on breast feeding were 1.2 times more likely not to attend PNC. However, it was not statistically significant.

4.7.4 Association between perceived neonatal benefits and uptake of PNC in Bikita district Masvingo Province 2011.

Table 8: 4 item likert perceived benefits of neonatal for attending PNC in Bikita 2011.

Perceived benefit	Scale measure	Cases n=150	Control n=150	OR	95% CI
Baby health checked	Agree	147	146	**1.34***	0.25:7.70
	Disagree	3	4		
Check baby for abnormalities	Strongly agree/Agree	147	148	**0.66***	0.08:4.95
	Strongly disagree/Disagree	3	2		
Check if baby is feeding well	Strongly agree/Agree	147	145	**1.09***	0.34:9.10
	Strongly disagree/Disagree	3	5		

Fisher exact*

Table 8 shows the association between neonatal benefits and uptake of PNC. Mothers who reported perceived neonatal benefits for attending PNC such as baby is examined for abnormalities at PNC ha a 66% increased likely hood of attending PNC as compared to those who did not. Mothers who perceived benefits check if baby is feeding properly is done at PNC were 1.09 times more likely not to attend PNC than their counterparts and mothers who reported having baby's health checked at PNC were 1.34 times more likely not to attend

PNC as compared to those who did not. However none of the results were statistically significant.

4.7.5 Association between cues to action and uptake of PNC in Bikita district Masvingo Province 2011.

Table 9: Cues to action and uptake of PNC in Bikita 2011.

Item	Scale measure	Cases	Controls	OR	95% CI
Previous pregnancy complication	Yes	76	75	**1.03**	0.64:1.66
	No	74	75		
Taking an HIV test in pregnancy	Yes	107	121	**0.60**	0.34:1.06
	No	43	29		
Obstetric complications with current pregnancy	Yes	8	20	**0.37**	0.14:0.91
	No	142	130		

Table 9 shows the association between cues to action and uptake of PNC. Cues to action such as obstetric complications during the birth of the current baby were associated with a 60% OR 0.60 95% CI (0.14:0.91) .Mothers who reported being able to go for PNC at the nearest health centre were associated with a 49% increased likely hood of attending first 10 day PNC than those who did not OR 0.49 95% CI (0.79:0.86).

4.8.0 Independent factors associated with PNC uptake.

Table 4: Factors associated with non-uptake of PNC in Bikita district 2011.

Variable	Adjusted OR	95% CI
Practicing seclusion	**3.43**	1.73:6.81
Residing in Village/resettlement	**3.71**	1.3:9.90
Delivering at home	**6.00**	3.50:12.71
Distance from nearest health centre more than 5km	**1.73**	1.03:2.89
Mother's education secondary/tertiary	**0.25**	0.11:0.73

4.8.1 Constructs of the HBM that were associated with uptake of PNC.

Self efficacy was the only construct of the HBM that was independently associated with uptake of PNC in Bikita and it increased the likely hood of uptake of PNC. Mothers who were able to go for PNC within 48 hours after delivery at home had a 60% increased likely hood of attending PNC as compared to their counterparts OR 0.60 95% CI (0.21:0.96).

4.8.2 Focus group discussions.

Eleven FGD sessions were conducted with women who had come for ANC and PNC in Bikita district. Common issues that came out from the focus group discussion on knowledge of PNC was that a woman who delivered at home is supposed to go for PNC within 48 hours after delivery . All the woman reported that the best place to deliver a baby is in hospital or clinic. The women reported that the reason for mentioning a hospital/clinic as being the best place to deliver was that complications are managed by trained and skilled health workers. Reported problems that may be encountered by a delivering woman were retained placenta, high blood pressure, infection of the womb and bleeding per vagina Complications that were

reported as likely to be faced by a neonate were injury during birth, birth asphyxia jaundice. The women knew the days to come for PNC which are first ten days and six weeks after birth and delivery.

Reasons that led to non uptake of PNC by mothers were ; too weak (due to child birth) to travel to the health centre for PNC health facility too far from home, baby not allowed to be out doors with umbilical cord lack of new baby clothes.

The commonest cultural practices after birth was seclusion until umbilical cord fell off. The reason for the seclusion was to protect the baby from people with evil powers that make children with umbilical cords ill.

Mothers reported that PNC was good for them because it gives them an opportunity to have them and their babies assessed by trained skilled health workers. Ways that were suggested to improve PNC in Bikita district were; building more health facilities, conducting outreach services.

4.8.3 Availability of resources for use in PNC in Bikita district Masvingo Province 2011.

All 24 health centres that we visited had at least three thermometers, instruments to measure blood pressure, bathing scales baby scales, cord clamps, disinfectants, cotton wool, cotrimoxazole for both neonates and adults, amoxicillin tablets and syrup. The vacancy rate for general nurses was 1.2%, midwives 80% while that for doctors was 3/7 . On the other hand suction machines were only available at two of the 24 health centres. There was 25% availability of suture material, 65.2% availability of tetracycline eye ointment(TEO).

Chapter 5.0: Discussion, conclusion and recommendations.

5.1 Discussion

Home deliveries were independently associated with non uptake PNC in Bikita district . This may be attributed to the use of traditional birth attendants in their village. After the delivery of a well baby with assistance of a TBA some women may not feel the need to visit a health centre for PNC. A study done in Indonesia reported that the use of traditional birth attendants and home delivery were preferable for some community members despite the availability of trained personnel at health institutions[9]. Delivering under the care of TBAs may predispose the mother and neonate to infections. Traditional Birth Attendants may not have sterilised equipment and instruments to monitor vital signs like temperature and blood pressure jeopardising the lives of both the mother and neonate .

The problem of home deliveries may be exacerbated by some women believing that delivering in a health centre or with assistance from medically trained personnel is for women with poor obstetric history.[9] The public health implications of such practices by mothers is that they may die while giving birth. These maternal or neonatal deaths may not be captured by the surveillance system for use in improving maternal and child health services. Transmission of HIV to the new born from the mother may also occur if the mother is HIV positive and does not swallow Nevirapine while in labour. Therefore mothers have to be encouraged to deliver at health centres and also to involve them when planning health programs[9] and educational and awareness campaigns.[7]

Practicing seclusion until the umbilicus cord fell off was independently associated with a reduced likely hood of PNC uptake. When mothers practice seclusion until the umbilical cord falls off, this may take long resulting in these mothers missing the first and crucial PNC visit. Practicing seclusion reduces the utilisation of medical care in the first few critical days of life of the neonate requiring immediate medical attention. Discouraging the practice of seclusion may have a positive impact on utilisation of PNC and hence improvement of maternal and neonatal health. The period during which seclusion is done is the most critical period for the neonates as two thirds of the neonates die in the early days of life.[2, 3, 4, and 5]

Area of residence was another factor that was independently associated with non uptake of PNC. Mothers who resided in villages and resettlement area were more likely not to utilise PNC services as compared to those who stayed in schools, mines, growth points and towns. Usually women who stay in rural villages and resettlements may not be employed and may not be able to afford bus fare to the health centres . In Zimbabwe and Bikita included the newly resettled areas do not have health facilities as yet and this may be a barrier for the women to travel long distances to health centres and therefore the services become inaccessible and hard to reach for the women and their children[16,29].

There was a significant association between staying more than 5km from health centre and uptake of PNC. Mothers who resided more than 5km from the nearest health centre were associated with a reduced likely hood of PNC uptake as compared to mothers who stayed 5or less km from their nearest health centre. This could be attributed to mother felling weak to walk to the nearest health centre will be very difficult. This was also reflected by the FGD conducted in the district. Dhakal[12] 2007 et also reported that mothers who stayed far from health centres did not utilise PNC in their study on PNC utilisation by women in rural Nepal .

Mothers who attained at least secondary to tertiary level education were more likely to uptake PNC. Having attained a higher level of education may give some mothers a better perception of their health needs compared to their counterparts with little or no education. Less educated women may not be able to read information education and communication materials(IEC) that may be given to them at health centres during ANC and PNC visits. Less educated women may also understand health education differently from those who are more educated. More educated women may be formally employed and may afford bus fare to go to health centres for PNC while those who are not educated may not.

This finding is similar to findings by Titaley et al 2009 [19] who reported that maternal factors like lack of education were associated with non utilisation of PNC compounded by little understanding of pregnancy complications by mothers.[19, 21, and 30]. Nwakoby et al 2004[24] in their study in rural Nigeria reported that mothers who had attained at least secondary level education were protected against poor uptake of PNC services. Sharif et al 2002[25] in their study on determinants of maternal health care in India also reports similar findings.

Use of traditional medicine was associated with a reduced likely hood of uptake of PNC . Mothers who use traditional medicines during delivery may also use traditional medicines for their non institutionalised PNC. The implications of such practices is that both the mother and child may be suffering from conditions that the herbalists might not be aware of. The conditions may worsen and this may lead to maternal and neonatal deaths which may not be reported to the health centre. This may lead to loss of vital information on morbidity and mortality of mothers and neonates by the health centre surveillance system.

Women who stayed with in-laws were significantly associated with a reduced likely hood of PNC uptake than those who did not stay with in- laws. This may be because mothers will also be talking care of the elderly in-laws and may be heavily burdened by the workload at

home and therefore fails to have a chance to go for PNC. This finding is line with reports by Dakhal et al 2007 [12] who reported that women who stayed in large families were more likely not to utilise PNC. The other possible explanation to this association could be that the in-laws may not be supportive of modern medicines and discourage the women to utilise PNC.

Mothers who were unemployed were more likely not to utilise PNC services compared to mothers who were employed. Dakhal et al2007[12] in their study on utilisation of PNC by mothers in Nepal reported similar findings . This may be because mothers who are employed are most likely to be educated and therefore have power to decide on uptake of PNC[27] as compared to those who are not.

Being married to a husband who is employed was significantly associated with uptake of PNC. Mothers who were married to husbands who were unemployed were associated with a reduced likely hood of uptake PNC as compared to those who were married to men who were employed. This could be because the husbands who are employed are most likely to be educated and may value their family health more than the unemployed and also they are gainfully employed which makes them able to give their wives bus fares to go for PNC.

Having three or more children was significantly associated with non uptake of PNC. This is probably because women with three or more children would have acquired some experience with child bearing and the post natal period. As a result they may not feel the need to visit health centres for PNC. This is similar to findings by Dhakal et al 2009[12] in their study on factors influencing utilisation of PNC services in rural Nepal where they found out that women who had three or more children were associated with reduced likely hood of uptake of PNC.

Maternal age was another factor that was significantly associated with uptake of PNC. Mothers who were below the age of 30 years had an increased likely hood to utilise PNC services than those who were not. This is similar to findings by Sibanda et al 2001[30] in their study in Bubi who found out that women less than 35 years were more likely to utilise PNC than women who were older than 35 years. This could be attributed to younger women being more conscious of their reproductive health needs after receiving health education from health workers at ANC. Younger women may also feel that they are more susceptible to delivery and post delivery complications compelling them to take up PNC services compared to older women .

Self efficacy was the only construct of the HBM that was found to be independently associated with uptake of PNC. Mothers who had the ability to go for PNC within 48 hours after delivering at home had a higher likely hood of attending PNC as compared to those who did not. The public health implication of this motivation is that, the mothers will benefit by having their health as well as the health of the baby checked[24] .This may reduce morbidity and mortality among babies and their mothers. In addition the health needs of the women and their children such as family planning and immunisation will be met.

Mothers who had obstetric complications during pregnancy of their most recent child had an increased likely hood of PNC uptake. Having experienced previous obstetric complications could make these mothers more aware of their health needs hence improve their health seeking behaviour.

On bivariate analysis we noted that mothers who took an HIV test during their pregnancy were more likely to attend PNC as compared to mothers who did not. This could be due to the fact that some mothers will be on ARV on the PMTCT program. It could also be due to the fact that the mothers who have the capacity to have an HIV test done have good health

seeking behaviour and are more likely to come for PNC and conform whether they and their babies are in good health. Those who did not take the HIV test may not know their status and may spread the infection to their partners and most to their babies. Therefore taking an HIV test can motivate the women to take up PNC regardless of the results.

There was a significant association between perceived susceptibility and uptake of PNC services. Mothers who thought that it was possible for them to experience complications during delivery were more likely to utilise PNC services as compared to their counterparts.

Mothers who reported that it was possible for them to suffer from complications like retained placenta and severe bleeding per vagina were more likely to utilise PNC services. The fear of such complications may motivate these mothers to deliver in hospital where they could be managed by trained health workers if such complications occurred. This would also provide an opportunity for their babies to receive their first immunisation.

Mothers who reported that their children could suffer from complication like severe chest infection and jaundice were more likely to utilise PNC services. This could be due to the fact that the signs and symptoms of chest infection and jaundice are quickly noticed and may motivate the mothers to seek assurance and treatment by a trained person. Seeking early medical help of chest infection may prevent neonatal deaths as most of the children die due to chest infection like pneumonia[24, 28].

Mothers who reported maternal benefits of PNC such as having their health assessed at PNC, being taught best family planning practices and hygiene were more likely utilise PNC services. This could be due to the fact that assessing maternal health and best hygienic practices on babies is a task that needs trained health workers.

Mothers who reported having their baby checked for abnormalities at PNC were associated with an increased likely hood of utilising PNC compared to their counterparts. Checking abnormalities on the neonate needs special training and the mothers may feel that it may not be adequately done by the traditional birth attendants. The public health implications of this outcome are that babies will benefit from accurate medical care and get assistance like physiotherapy so as to prevent disability.

Mothers who reported checking if baby is feeding well as a benefit of PNC were more likely not to utilise PNC services probably because it is simple to check whether the baby is feeding well or not and they are not motivated to go for PNC. This is detrimental to the development of the neonate as malnutrition and under development can occur and the mother and the relatives do not recognise it.

Mothers who reported that health services offered at the health centre was not satisfying were more likely not to utilise PNC services as compared to mothers who did not. This lack of satisfaction with PNC services could works as a barrier discouraging mothers from attending PNC. The implications of such reported quality of service by trained health workers is that the mothers will tend to prefer to use alternative /traditional medicine which might be ineffective.

Mothers who report that health centre does not have adequate resources for PNC were more likely not to utilise PNC services as compared to their counterparts. This may lead to lack of confidence in the health delivery system resulting in women turning to traditional medicine which may not be effective. The long term public health impact of such practices will be an increase in MMR and NMR that is currently at 880/100 000 and 11/1000 respectively[4,5,32].

Knowledge between cases and controls was high. This was probably because both cases and controls were recruited from women who had attended at least one ANC visit where they could have received health education on PNC from the health workers. Mothers may educate each other in the community on PNC and they end up having the same knowledge. This high knowledge was also reflected in the FGD conducted.

Despite this high knowledge on PNC , a significant number of women did not utilise PNC services in Bikita district. This may reflect an interplay of a number of factors such as mother's attitude, distance form health centre, self efficacy, capacity to pay for transport fares to go to the clinic and access to PNC which may negatively influence the mother's uptake of PNC services. The knowledge that is already available among the women can be a strong base on which to improve PNC services especially if access is improved by building more clinics and waiting mothers' shelters.

Thermometers were available in all the institutions in the district. This is commendable as this is a crucial instrument that is used to measure temperature of the babies[33, 34] to asses for hypothermia, especially in premature babies or babies that will be having high temperatures. Temperature of the new born is critical. If thermometers are not available the health workers may end up guessing the temperatures and this is not accurate and may hypothermia or paraxial cases will be missed. The missed cases may get worse of even end up dying in the community after being discharged. Unavailability of suction machines in most rural health centres is a cause of concern as some babies may need suction to assist them breath well[33] .Lack of suction machines may lead to death or even brain damage due to lack of oxygen to the brain and when their brains are damaged this may lead to poor development and growth.

All health centres had functional machines to measure blood pressure. This is crucial for survival of both the mother and the baby as the blood pressure of the mother may drop

drastically or rise leading to enclmpsia[35] or death. The blood pressure of a pregnant and delivering woman needs to be constantly monitored so as to save the lives of the mother and the baby.

Bathing scales and baby scales were available at all health centres in the district. This is crucial because the weight of the pregnant mothers as well as the new born need to be measured . Babies that weigh less than 2.5kg are admitted until they reach this weight or more. Without scales, some underweight babies especially preterm babies will be discharged and go home yet they were supposed to be admitted and they may die at home. Not taking weight of the babies may also lead to little information gathered on birth weights of new born babies in the district and also the risk factors to underweight may be difficult to analyse.

Delivery beds were only available in the two mission hospitals and the two rural hospitals in the district. All the other clinics did not have delivery beds. The beds which were used were ordinary beds that are used in the other wards.

Unavailability of suture material in all clinics makes it difficult for the health workers to suture the mothers if they develop tears/ episiotomy wounds during birth. If the mothers are discharged or referred to hospital for suture they may not have the bus fare to go to the hospital and they may start using traditional medicines that may not be effective and promote infection.

Cord clamps were available at all health centres in the district. This will enable all the new babies to have their cords clamped with appropriate sterile clamps and prevent infection like tetanus. Mathylated spirit was available at all institutions. Methylated spirit is disinfectant that is widely used to swab area that need to be injected for the neonates and mothers as well

as used on wound by the new mothers especially after tears or caesarean section and on the umbilical cord of the baby.

Cotton wool was available at all institutions, therefore all mothers who deliver in at health centres are most likely to use it since it hygienic. Lack of cotton wool at might force mothers to use other sundries that may be dirty and this may introduce infection.

Monthly required cotrimoxazole was available at every health centre both suspension for children and tablets for adults. This could be due to the fact that cotrimoxazole is used for HIV/AIDS prophylaxis and it donated in large quantities to all the clinics. Cotrimoxazole is most used in PNC to treat the minor infections like coughs and ear infections that neonates usually suffer from. If such drugs are not to be available the mothers will tent to use traditional medicines that may not be effective and also leads to complications of diseases including death.

All rural health centres and clinics were manned by trained health workers mainly primary care nurse (PCN) and Registered General nurses were at mission and rural hospitals. The availability of trained nurses may be attributed to the PCN training program that came in to being so as to cover that gap of brain drain that was faced by the country. The benefit of having trained health workers at all health centres is that the mothers and their babies will receive medical attention from qualified staff. This may also improve maternal and neonatal health and reduce mortality and morbidity thereby increasing the country's chance of attaining MDG4 and 5.

Doctors were only found at the mission hospitals in the district . The shortage of doctors will make complicated obstetric and neonatal cases being only managed at mission hospitals only. Majority of mothers in Bikita are not employed as shown by the demographics described

earlier. Nurses may end up trying to perform some of the procedures that doctors should do due to shortage of doctors. This shortage of doctors could be attributed to poor remuneration and working conditions in the country and can be alleviated by improving the working conditions of the doctors so that better medical services are offered to the rural mothers and their babies.

5.2 Conclusion

Factors that were associated with reduced likely hood of ten days PNC uptake in Bikita district 2011 were; practicing seclusion until umbilicus cord fell off, residing in village or resettlement, delivering at home, staying more than 5km from the nearest health centre. The only construct of the health belief model that was significantly associated with uptake of first ten days PNC visit was self efficacy. The confidence of the mother to go for PNC at the nearest health centre 48 hours after delivery at home was associated with an increased likely hood of the mother to utilise PNC services. Knowledge among cases and controls was high, and the most cultural practice by both cases and controls after birth was seclusion until the umbilicus cord fell off.

As a result of our findings Save the Children UK has been approached to construct waiting mothers' shelters at Chikuku and Bikita rural hospitals.

5.3 Study limitations

The study only recruited mothers who had brought their babies for first 10 day PNC visit and did not consider the second visit at six weeks as well as mothers who did not attend ANC

5.4 Recommendations.

It is recommended that:

- The DHE conducts outreach services for PNC so that the product(PNC) is brought closer to the mothers other than the mothers who stay far from health centres to travel as they may not have bus fare and too weak to travel.

- The District Medical Officer (DMO) ensure that village health workers are trained in basic PNC so that they can offer services at village level before they refer more complicated cases to clinics.

- DHE in liaison with partners such Save the children and community leadership construct waiting mother's shelters and post natal wards for the mothers so that the mothers come and wait to deliver and when they deliver they can be monitored before being discharged home.

- The Health Promotion Officer in liaison with the District Nursing Officer prepare pamphlets on PNC that are in shona and distribute them to the pregnant mothers who come for ANC so that the women may know more information on PNC and this may motivate them to utilise the services as well as benefits and negative effects of home delivery.

- The Provincial Medical Director in liaison with the permanent secretary is encouraged to build more clinics so as to make the PNC services readily available closer to mothers especially in the resettlement areas or to liaise with the district administrator to identify some farm houses in the resettlement areas that can be converted to clinics.

5.5 References

1. Free Encyclopaedia, postnatal care. http://en.wikipedia.org/wiki/Postnatal 07/11/2010

2. Elizabeth Mason, Newborns in Sub – Saharan Africa: how to save these fragile lives, UN Chronicle, Dec, 2007. http://findarticles.com/p/articles/mi_m1309/is_4_44/ai_n25396973/#commentsAccessed 07/11/2010

3. Rosmans C, Graham WJ. Maternal Mortality: Who, When, Where, and Why. Lancet 2006, Sep 30; 368(9542):1189-200

4. WHO/UNICEF/UNFPA and the World Bank. Maternal mortality in 2005. Estimates developed by WHO, UNICEF, UNFPA and the World Bank. Geneva: World Health organisation; 2007

5. Central Statistics Office (Zimbabwe) and Macro International Inc. Zimbabwe Demographic and Health survey 2005-2006. Carlverton, Maryland, CSO and Macro International Inc; 2007

6. Annie Mwangi, Charlotte; Taking Critical Services to the Home: Scaling up home-Based Maternal and Postnatal Care, Including Family planning, through Community Midwifery in Kenya, Frontiers in Reproductive Health, Population Council, and July 2008.

7. Leakey Sonkonyo. The Girl Infant and her Mother, Kenya- Poverty Still Driving High Death in Africa, http://www.unicef.org/media 42441.html accessed 07/11/2010

8.Womwn- Focused Care.

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/Browsable/DH_4967006 accessed 07/11/2010

9. Christian R Titaley, Cynthia L Hunter, Michael J Dibley, and Peter Heywood. Why do some women still prefer traditional birth attendants and home? a qualitative study on delivery care services in West Java province, Indonesia. BMC Pregnancy Childbirth. 2010 Jul 30; 10 (1):38 20670456 Accessed 08/11/2010.

10. Sushmita Das, Ujwala Bapat, Neena Shah More, Latika Chordhekar, Wasundhara Joshi, David Osrin. Prospective study of determinants and costs of home births in Mumbai slums. http://www.bing.com/search?q=studies+to+improve+post+natal+care+in+africa&src=IE-SearchBox&FORM=IE8SRC Accessed 07/11/2010

11. Robert A McPherson, Jyotsna Tamang, Stephen Hodgins, Laxmi R Pathak, Ram C Silwal, Abdullah H Baqui, Peter J Winch. Process evaluation of a community-based intervention promoting multiple maternal and neonatal care practices in rural Nepal. BMC Pregnancy Childbirth. 2010 Jun 6; 10 (1):30 accessed on 08/11/2010.

12. Soluchana Dhakal, Glyn N Chapman, Padam P Simkhad, Edwin R Van Teijingen, Jane Stephens, and Amalraj E raja. Utilisation of postnatal care among rural women in Nepal. http://www.biomedcentral.com/1471-2393/7/19 accessed on 07/11/2010

13. Challotte Warren, Rachel Shongwe, Allen Waligo, and Goldy Mazia Repositioning PNC in a high HIV Environment; Swaziland,Ministry of health and social welfare Government of kingdom of Swaziland,2007, https://www.popcouncil.org/pdfs/horizons/Swaziland_PostnatalCare.pdf accessed on 13/11/2010

14. M. M. Rahman : The determinants of use of postnatal care services for Mothers: does differential exists between urban and rural areas in Bangladesh?. The Internet Journal of Epidemiology. 2010 Volume 8 Number 1.

http://www.ispub.com/journal/the_internet_journal_of_epidemiology/volume_8_number_1_24/article/the-determinants-of-use-of-postnatal-care-services-for-mothers-does-differential-exists-between-urban-and-rural-areas-in-bangladesh.html accessed on 13/11/2010

15. Tamaar Kabalaan- Khasholian and oona MR Campbell: A simple Way to Increase Services: Triggers of women's uptake of Postpartum Services. BJOG.2005 September : 12(a) : 1315:1321

16. Annet Nankwanga. Factors influencing Utilisation of Postnatal services in Mulago and Mengo Hospitals, Kampala , Unganda

17. R York, L Tulman, and K Brown. Postnatal care in low income urban African American Women ; relationship to level of parental care sought. J perinatol 2000;20:34-40

18. western Cape Department of Health, Academy for Educational Development/ Capable Partners Program South Africa September 2008. Site Assessment on Current Situation on Integration of Maternal nutrition and infant and young children feeding into PMTCT community health services in Guguletu, Western Cape.

19.Christiana R Titaley, Cynthia L Hunter, Peter Heywood and Michael J Dibley. Why don't some women attend Antenatal and Postnatal care services?:A qualitative study of community members perspective in Garut, Sukabumi, and Ciamis districts of West Java Province Indonesia.

20. M Rahman. The determinants of use of postnatal care services for Mothers: does differential exists between urban and rural areas in Bangladesh? http://www.ispub.com/journal/the_internet_journal_of_epidemiology/volume_8_number_1_24/article/the-determinants-of-use-of-postnatal-care-services-for-mothers-does-differential-exists-between-urban-and-rural-areas-in-bangladesh.html accessed on 13/01/2011

21. PAKISTAN: Low literacy rates hamper health, welfare. http://www.irinnews.org/Report.aspx?ReportId=78097

22. Ministry of health and Child Welfare, Provincial medical Director Masvingo. Annual Reproductive health report 2009

23 . Nancy K Janz. Victorai, L Chapion. Victor J Stretcher. "The Health belief Model" In health Behaviour and Health Education Theory Research and Practice 3rd Edition ed. Karen Glanz, Barbara K Rimer, Frances Marcus Lewis(2002) John Wiley and Sons , inc, 989 Market street San Francisco, CA94103-1741 www.jossetbass.com

24 . Ministry of Health and Child Welfare Zimbabwe, Reproductive Health Services Delivery Guidlines Harare , Zimbabwe 2001

23. Mrs W Washaya Provincial reproductive health Officer Provincial Medical Director Masvingo

24 . Nwakoby BN: Use of obstetric services in rural Nigeria. J Roy Soc Health 1994, 114: 132-136

25 . Sharrif A, Singh G: Determinants of Maternal Health Care in India: Evidence from a recent House hold survey. In working papers series 85. NCAER publications, New Delhi, India; 2002

26 .Bibha Simkhanda, Edwin R. Van Teijlingen, Maureen Porter, and Padam Simkhanda. Factors affecting the utilisation of Antenatal care in developing countries: Systematic review of the literature. Journal of Advanced Nursing Volume 61 Issue 3, pages 244-260

27 .Yesudin PP: Impact of women's empowerment, autonomy and attitude on maternal health care utilisation in India; Global Forum for Health research, forum 8 2005

28 . The Executive Summary of the LANCET Neonatal Survival Series. 2005. Pages 1-8

29. Eijk van MA, Bles MH, Odhiambo F, Ayisi GJ, Blokland EI, et al: Use of antenatal and delivery care among women in rural western Kenya: a community based survey

Reprod. Health 2006, 3:2. PubMed Abstract

30. Shereen Penny: Utilization of maternity services in two Rwandan refugee camps in Tanzania. 1996 (Abstract) www.ich.ucl.ac.uk/services.../MScDissertationsMCH.html_ (Sited on 13/06/2011)

31. Sibanda J Q, Saungweme I, Mutyambizi MP, Rutgers RA: Postnatal care in Bubi deserves more attention. Cent Afr. J Med 2001 Apr; 47 (4): 103-8.

32. Munjanja P Stephen, Ministry of Health child welfare Zimbabwe, Zimbabwe Maternal and Peri natal mortality study 2007

33. Hamilton Patricia. ABC of Labour care: Care of the new born in the labour room. BMJ 1999: 318;1403-1406 accessed 02/07/2011

34. Beck Diana, Ganges Frances, Goldman Susan and Long Phyllis: Care of the New Born Manual, Save the Children , WWW.savethechildren.org accessed 22/06/2011

35. Edward Parry, Richard Godfrey, David Mabey and Geofrey Gill. Principles of Medicine in Africa 3rd Edition; 2004.

36. World Health Organization: Postpartum Care of the Mother and Newborn, a practical guide WHO/RHT/MSM 98.3 Geneva

37. Munjanja Stephen P, Majoko Franz, Lindmark Gunilla: Trends in safe motherhood programs in sub-Saharan Africa Department of Obstetrics and Gynecology, College of Health sciences, University of Zimbabwe, Harare Zimbabwe (Article not yet published).

38. Dermott K, Bick D, Norman R, Ritchie G, Turnbull N, Adams C, Barry C, et al Clinical Guidelines and Evidence Review for Post Natal Care: Routine Postnatal Care of recently delivered women and their babies. National Collaboration Centre for Primary Care and Royal College of General Practitioners (2006) London.

39. Sinen Erin, Syed Uzma, Wall Steve, Worley Heide: Postnatal Care A Critical Opportunity to Save Mothers and Newborns. Policy Perspectives on Newborn Health January 2007.

40. Graft-Johnson, Kerber Kate, Tinker Anne, Otchere Susan, Narayanna Indra, et al: "The maternal, newborn and child health continuum of care" in Opportunities for Africa's Newborns, ed. Joy Lawn and Kate Kerber (Cape town, South Africa: Partnership for Maternal, Newborn and child Health, Save the Children, UNFPA, UNICEF, WHO, and partners 2006

Appendix 1

Informed Consent form with shona translation

Title of the study: Determinants of Post Natal Care Uptake by Mothers in Bikita District 2011.

Investigator: K. W Pomerai

Masvingo PMD's Office

Masvingo

Purpose of the study

I am kindly asking you to participate in a research to study to determine the factors associated with uptake of Post Natal Care in Bikita District 2011. The purpose of the study is to find out whether there are any differences between the women who come for post natal care and those who do not. We shall be asking you personal questions like your marital status, age, level of education, practices around child birth ,children who died in infancy and religion to mention a few. We will be recruiting women who came and did not come for 1st PNC visit and categorizing them into two groups

Shona translation

Ndinokumbirawo munditendere kumbokuvhunzai mivhunzo yetsvakurudzo yandiri kuita yekuda kuziva zvikonzero zvinoita kuti vanamai vasauya navana kuchipatara kutivaoongororwe varisvava muBikita district gore ra2011.Donzvo retsakurudzo iyi nderekuti tizive kuti pane musiyano here pamadzimai anouya navana nevasingauye nevana

vachiri svava. Ndichange ndichikuvhunzai mivhunzo yakadzika pamusoro peupenyu hwenyu sefundo yamakaita, zero renyu, makawanikwa here, zvamunoita muchangobatsirwa, munevana vakafa dzirisvava here nemimwewo mivhunzo. Tichavhunza vanamai vakauya nevana nevemwe vasina uuya nevena toivaisa muma poka maviri .

Benefits of the study

The information we obtain from these interviews will be used to formulate and improve interventions for improving PNC and the quality of life of mothers and their new babies.

Shona translation

Zivo yatichawana mukukuvhunzai tichaishandisa kuti tigadzire zvirongwa zvekuwedzera mashandiro akanaka eutano hwamai nesvava

Confidentiality

If you indicate your willingness to participate in this study by signing this document, all information you give us will remain confidential and will not be disclosed to anyone. No names will be written on the questionnaire. The questionnaires will be kept under strict security and will only be accessible to the investigator and co-investigators. Information obtained from you will only be used for the purposes of this study and no other purpose. You are free to withdraw from the study if you feel like doing so at any time during the interviews.

Shona translation

Mungandiratidawo here kuti mazvidiara kupinda mutsvakurudzo iyi nekuisa ruawo rweny panzvimbo iripasi apa, zvose zvatichakurukura zvichange zvakavanzika hapana mumwe munhu asina nechekita ne tsvakurudzo iyi achazviziva. Hapana mazita atichanyora

pamapaper. Mappepa ane zvatakurukura achagara akakirwa hapana munu ano maona asina chekuita ne tsvakurudzo iyi.

Zivo yatirikuda kuwanandeyedzidzochete kwete . Makasununguka kumira kupindura mivhunzo yangu paneipi nguva zvayo ikodzero yenyu.

Further information

If you feel you have been ethically violated, you can lodge your complaints to:

Dr. R. F Mudyiradima (PMD Masvingo Province 039-262465)

Dr G. Shambira (Assistant MPH Program coordinator 04-2912897)

Shona translation

Kana musina kubatwa zvakanaka nemavhunziro andakuitai, monokwanisa kubata vakanyorwe pasi apa panharedzinotevera

Dr. R. F Mudyiradima (PMD Masvingo Province 039-262465)

Dr G. Shambira (Assistant MPH Program coordinator 04-2912897)

Authorization

You are making a decision whether or not to participate in this study. Your signature indicates that you have understood the explanation given above, have had all your questions answered and have decided to participate.

Signature of research participant Date

…… …….

Signature of interviewer Date

…… ……..

Mvumo

Mavakuita chiratidzo chekubvuma kupinda mutsakurudzo iyi kana kurega. Rupawo rwenyu rwuno ratidza kuti manzwisisa tsananguro yandakupai uye mivhunzo yenyu yose yapinrwa zvizere

Rupawo rwemuvhunzwi Zuva/mwedzi/negore

…….. ……

Rupawo rwemuvhunzi Zuva/mwedzi/negore

……. ……..

Appendix: 2 Questionnaire for the participants (With Shona translation)

Questionnaire (with Shona translations) Questionnaire No._____

My name is K W Pomerai I am an MPH officer attached to the PMD's office in Masvingo Province. I am carrying out a study on the Determinants of uptake of postnatal care services by women in Bikita District 2011. Please feel free to respond as truthfully as you can .Any information you give will be treated in strict confidence and will only be used for the purposes of this study.

1) Date of interview: _____ 2) Health centre: _____

a) Demographic Information: *In this first section I will start by asking you general questions about yourself and your immediate family.*

4) How old are you? _____years (at last birthday) (*mune makore mangani ekuzvarwa?*)

5) Where do you stay? (Type of residential settlement) (*munogara kupi: mudhorobha,kumusha kumapurazi kana kuti pamugodhi*?)

a. Urban

b. Rural/communal

c. Farming community

d. Mining community

f. Other (specify) _____

6) What is your marital status? (*makawanikwa here kana kuti murikugara neshamwari yenyu yechirume,makasiyana, kana kuti makafirwa?*)

a. Single

b. Married

c. Living together (cohabiting)

d. Divorced/ separated

e. Widowed

f. Others (specify)_____

(If single, divorced or widowed then go to Q8)

7) If married or co habiting, are you currently staying with any of your in-laws in the same household? (*Kana makaroorwa kana kuti muchigara neshamwarirume munogara pane hama yake yamunogara nayo pamba ipapo here*?)

a. Yes b. No

8) What is your highest level of education? (*Makadzidza kusvika rugwaro rupi?*)

a. None

b. Primary

c. Form 1 and 2

d. Form 3 and 4

e. Form 5 and 6

f. Tertiary

(If single, divorced or widowed then go to Q10)

9) If married or cohabiting, what is your husband/partner's highest level of education? (*Ko murume kana shamwari yenyu yamunogara nayo yechirume yakasvika rugwaro rupi nedzidzo?*)

a. None

b. Primary

c. Form 1 and 2

d. Form 3 and 4

e. Form 5 and 6

f. Tertiary

g. Don't know

10) What is the rank of this child? (*Mwana uyu ndewechingani pavana venyu vese*)

a. First

b. Second

c. Third

d. Fourth

e. Fifth and over

b) Socio-economic information*: Now I will ask you a few questions to do with the socioeconomic environment which you live in.*

11) What is your employment status? (*Munoshanda here zvekuwana muhoro kana kuti munozviitira mambasa emaoko anokuwanisai mari kana kuti hamushandi zvachose?*)

a. Formally employed

b. Informally employed

c. Not employed

(If single, divorced or widowed then go to Q13)

12) If married or cohabiting, what is your husband/partner's employment status? (*Ko murume wenyu anoshanda here kana kuti anoita mabasa emaoko anomuwanisa mari?*)

a. Formally employed

b. Informally employed

c. Not employed

d. Don't know

13) Did you pay for ANC services during this past pregnancy?

(*Makabhadariswa mari here pamakanyoresa pamuviri padarika?*)

a) Yes b)No

14) Were there any additional monies that you paid before you delivered? (*Pane dzimwe mari here dzamakabhadhara musati masununguka?)*

a. Yes b. No

15) If yes, did you afford these additional fees? (*Makakwanisa here kubhadhara mari iyi kana kuti zvakakuremerayi?*)

a. Yes b. No

(If case go to question Q 18)

(If control)

16) Did you pay any money for the PNC visit?

(Makabhadara mari here pamakauya kuzoonekwa mushure mekusungunuka mwana uyu?)

a. Yes b. No

17) If yes, did you afford to pay the money?

(Makakwanisa here kubhadhara mari iyi kana kuti zvakakuremerayi?)

a) Yes b. No.

c) Socio-cultural information*: In the next section I'm going to ask you a few questions about the religious and cultural environment that you live in.*

18) What is your religion? (*Munotevera chitendero chipi?*)

a. None

b. Catholic

c. Pentecostal

d. Traditionalist

e. Protestant (Anglican, Methodist, Baptist, Salvation Army)

(If single, divorced or widowed then go to Q20)

19) If married or cohabiting, what is your husband/partner's religion? (*Ko murume kana shamwarirume yenyu inotevera chitendero chipi?*)

a. None

b. Catholic

c. Pentecostal

d. Traditionalist

e. Protestant (Anglican, Methodist, Baptist, Salvation Army)

g. Don't know

20) Does your religion prohibit the use of modern medicine? (*Chitendero chamunotevera chinotendera here kushandisa mishonga yechirungu*)

a. Yes b. No

21) Are you aware of any traditional medicine that makes the pregnancy and the birth process easier? (*Pane mishonga yechivanhu yamunoziva here inorerutsa ndambudziko rekusunungaka?*)

a. Yes b. No

(If no, then go-to Q23)

22) If yes, did you use this kind of herbal medicine during this last pregnancy?

(*Makashandisa here mishonganga iyi pamanga makazvitakura?*)

a. Yes b. No

23) Where did you deliver this last baby? (*Makasunungukira kupi mwana uyu?*)

a. Hospital

b. Clinic

c. Home

d. TBA

e On the way to the health facility.

24) If not at hospital, what made you to deliver where you delivered? (*kana musina kusunungukira kuchipatara chii chakaita kuti musaenda kuchipatara?Makarwadziwa kwenguva diki, Makashayiwa chekufambisa, makanga musina mari yekunobhadara, Hamugutsikani nemaitiro ana mukoti, kana kuti pane zwimwe zwikonjero zvkaita seizvi……..*)

a. Sudden onset of labour

b. Could not find transport.

c. No money to pay for the hospital fees.

d. Bad attitude of the health workers

e. Other reasons (please specify) _____

25) What cultural practices do you observe soon after delivery?

(Pane tsika dzechivanhu dzamunoteedzera here mushure mekusungunuka dzakaita sekuti mai kana kuti mwana haatenderwi kuonekwa neveruzhinji, kusevenjesa mishonga yechivanhu kana kuti hapana zvamunotevedzera?)

a. None

b. Seclusion

c. Use of traditional herbs on.

d. Seclusion and use of traditional herbs.

d. others please specify.-_____

26) If practices seclusion, how long is the period? (*Kana muyine tsika yekuti panenguva iyo mai kana kuti mwana haaonekwi neveruzhinji, zvinotora nguva yakareba zvakadiyi ? Dzamara rukuvhute rwadona, svondo imwechete, svondo mbiri, kudarika svondo mbiri.)*

a. Until the umbilical cord has fallen off

b. 1 week

c. 2 weeks

d. 3 weeks

e. 1 month.

d) Health service factors*: In the following section I will ask you a few questions to do with the health services that are offered by the health facilities around, please feel free to give your honest view.*

27) How would you describe the working relationship between the local health centre staff and the community/patients*?(Munga tsanangudze seyi ukama huri pakati pevashandi vepakiriniki yenyu nevanhu vemunharaunda?)*

a. Good b. Average c. Poor

28) From what you experienced during the visits, what is your impression about the quality of ANC/ PNC services offered at the facility? (*Munoti kudii nemabatirwo amaiitwa navana mukoti pamaiuya kuzowonekwa?*)

a. Good b. Average c. Poor

29) In your opinion does the local health facility have adequate resources needed by the health facility staff to carry out their duties? (*Semaonero enyu chipatara chenyu chinowana zvinhu zvakakwana here zvekushandisa kubatsira varwere?*)

a. Yes b. No

30) Did the hospital or clinic charge you any fees for the ANC/PNC services?

(*Makabhadhariswa mari here pamayiuya kuzooneka makazvitakura huye kuzosungunuka?)*

31) If fees were charged, could you afford these fees for the ANC/PNC services? (*Kana maibhadhariswa mari, maikwanisa here kuwana mari yaidiwa nechipatara?*)

a. Yes b. No

31) How far is the nearest health centre from where you stay? (*Pane chinhambo chakadii kubva kwamunogara kusvika pakiriniki iripedyo?*)

a. Less than 5 kms

b. between 5 and 10 kms

c. more than 10 kms

d. Don't know

32) Would you consider this distance to be near or far? (*Semaonero enyu chinhambo chiri pedyo here kana kuti chirikure?)*

a. Near b. Far c. Not sure

e) knowledge/Practices of PNC Services*: In the next section I will ask you some questions concerning what you understand about the PNC Services.*

33) It is important that a woman should be seen for examination by a health worker within the first 48 hours after delivering. (*Zvakakosha izvo kuti amai vaonekwa ava mukoti munguva inoita 48 hours mushure mekubatsirwa*.)

a) Agree b) disagree c) does not know

34) It is important that a new born baby should be seen for examination by a health worker within the first 48 hours after delivering. (*Zvakakosha izvo kuti mwana aonekwa ava mukoti munguva inoita 48 hours mushure mekuzvarwa*.)

a) Agree b) disagree c) does not know

35) If not seen within the first 48hours after delivery, both the mother and the new born baby should be seen at a health facility within the first ten days after delivery.*(Kana mai nemana vasina kuonekwa munguva inoita iyo 48 hours dzekusungunuka kwamai, zvakakosha kuti vese vaonekwa ava mukoti mumazuva gumi anoteera mushure mekubatsirwa kwamai*.)

a) Agree b) Disagree c) Does not know

36) It is important that both the mother and the baby should be seen for the second time at a health facility for postnatal care after six weeks of delivery.(*Zvkakosha kuti amai nemwana vaonokwe rwechipiri nana mukoti mushure mesvondo nhanhatu dzekusungunuka kwaamai*.)

a) Agree b) Disagree c) Does not know

37) The following are some of the services offered to the mother during a PNC visit. (*Izvi ndezvimwe zvezvinoitirwa amai kana vaenda kukiriniki mushure mekubatsirwa.)*

a) Physical examination of the mother checking the BP, rule out infection, bleeding, checking on lactation etc. (*Kuongororwa kwaamai kuti BP haina kukwira here, havasi kubuda ropa*

rakawanda here, hava utachiwana muchibereko here, mukaka urikubuda here nezvimwe zvakadaro.)

i) Agree ii) Disagree iii) Does not know

b) Supporting the mother on the method of her choice on feeding the baby preferably breast feeding *(Kutsigira amai panzira yavanenge vazvisarudzira yeku fida mwana wavo zvikuruseyi yekuyamwisa mwana*.)

i)Agree ii) Disagree iii) Does not know

c) Revisiting family planning and assisting the mother to select a method of her choice. (*Kukurukura zvakare neya yekuronga mhuri huye nekubatsira amai kuti vasarudze nzira yemwoyo wavo*.)

i) Agree ii) Diagree iii) Does not know

d) Having a pap smear done to rule out possible cancer of the cervix. *(Kuitwa "pap smear" kuti amai vaonekwe kuti avana here nhuta yemuromo wechibereko.)*

i) Agree ii) Disagree iii) Does not know

e) Revisiting issues of PMTCT (*Kukurukura zvakare nenhau dzekudzivirira kutapukira kweutachiwana hwe HIV kubva kuna ami huchienda kumwana*.)

i) Agree ii) Disagree iii) Does not know

38) The following are some the services offered to the baby during a PNC visit.(*Izvi ndezvimwe zvezvinoitirwa mwana kana amai vaenda naye kukiriniki mushure mekubatsirwa.)*

a) Checking the baby for congenital abnormalities. *(Kuongorora kuti mwana haana here hosha dzekuzvarwa nandzo)*

i) Agree ii) Disagree iii) Does not know.

b) Checking if the child does not have any infection e g of the eyes, chest, umbilical cord etc. *(Kuongorora kuti mwana haana utachiwana hwemaziso, muchipfuva, rukuvhute nedzimwe nhengo dzemuiri here.)*

i) Agree ii) Disagree iii) Does not know

c) Checking the baby if it does not have jaundice (*Kuongorora kuti mwana haana here chirwere che "yellow")*

i) Agree ii) Disagree iii) Does not know

d) To establish if the baby is breast feeding well. *(Kuona kuti mwana arikuyamwa zvakanaka here.)*

i) Agree ii) Disagree iii) Does not know

39) In my opinion, once delivered PNC is of no value.(*Mukufunga kwamgu, kana mai vayera vasungunuka, PNC haisisina basa.)*

a) Yes b) No. c) does not know

40) Please give reasons for your response to question 41.*(Ipa zvikonjero zvemhinduro yako kumubvunzo wenhamba 41.)* _____

f) Cues to Action of uptake of PNC

Now I am going to ask you some questions to do with some health problems that you may have had in the past during pregnancy, in labour or during delivery.*(Iyezvino ndichakubvunzayi mibvunzo inoenderana nematambudziko amunogona kunge makasangana nawo pakuzvitakura kana kusungunuka huye neehutanu hwenyu husineyi nekuzvitzakura)*

41) Did you have any complications with any of your previous pregnancies? a) Yes b) No (OMIT the question of primigravida)

(Pane zvakambonetsa here ne pamuviri pamakambo bata musati mava nepamuviri pemwana uyu?)

42) If yes which of the following complications did you have?

a) Abortion b) Preterm delivery c) Caesarian section d) Vacuum delivery e) PPH f) APH g) Severe hypertension h) diabetes mellitus i) Others please specify……

(Kana paine zvakambonetsa, ndezvipi zvezvinotevera zvamakarwara nazvo?

a) Kubva pamuviri b) Kusungunuka mwana nguva yake isati yakwana c) Kusungunuka ne oparesheni d) Kusungunuka mwana achidhonzwa ne mushini. e) Kubuda ropa rakawandisa mushuru mekusungunuka mwana f) Kubuda ropa pamuviri pasati patanga kurwadza kana kuti nguva isati yakwana g) Kukwikwira kwe BP h) kurwara ne chirwere cheshuga i) zvimwewo zvirwere (tsanangudzai zvirwe zvacho.)……

43) Have you ever been tested for HIV? a) Yes b) No

(Makamboongororwa ropa here maererano ne hutachiwana hweHIV ?)

44) If yes, are you willing to let me know your status? a)Yes b) no

(Kana makamboongororwa, makasungunuka here kunditaurira kuti ropa renyu rakamira seyi?)

45) If you are wiling, what is your status? a) Positive b) negative.

(Kana muchida, mungandizivisawo here kuti ropa renyu rakamiraseyi)

46) Did you have any obstetric complications with the just delivered pregnancy?

a) Yes b) No

(*Pane zvakambonetsa here nepamuviri pamakabva mukusungenuka iyezvino?)*

47) If yes, which of the following complications did you have? (*Kana paine zvakanetsa, ndezvipi zvezvinotevera zvamakarwa nazvo?)*

a) Preterm delivery b) Caesarian section c) Vacuum delivery d) PPH e) APH f) Severe hypertension g) diabetes mellitus h) Others please specify. *a)) Kusungunuka mwana nguva yake isati yakwana b) Kusungunuka ne oparesheni c) Kusungunuka mwana achidhonzwa ne mushini. d) Kubuda ropa rakawandisa mushuru mekusungunuka mwana e) Kubuda ropa pamuviri pasati patanga kurwadza kana kuti nguva isati yakwana f) Kukwikwira kwe BP g) kurwara ne chirwere cheshuga h) zvimwewo zvirwere tsanangudzai zvirwe zvacho.*

48) How did you deliver this baby? a) Normal vaginal delivery b) vacuum delivery c) Caesarian section *(Mwana uyu makamusunguka seyi? a) Makamusunguka zvakanaka b) Akaitwa zvekudhonzwa nemushini c) Makaitwa oparesheni.*

49) What is the sex of your baby? a) Male b) female

(Mwana wenyu mwanayi? a) mukomana b) musikana)

50) Was your baby term at delivery? a)Yes b) No

(Nguva yemwa wenyu yakanga yakwana here pamakamusungunuka)

51) Did your baby have any congenital abnormality at birth? a) Yes b) No

(*Mwana wenyu akazvarwa akaremera here)*

(If case go to question no.56)

(For control)

52) What made you go for PNC after this delivery? *(Chiyi chakaita kuti muende kukiriniki kana kuti kuchipatara mushure mekubatsirwa uku?)*

a) The baby fell sick b) You fell sick c) You are on PMTCT program d) You were asked to go back to the health facility e) You understand the importance of PNC f) Other reasons please specify

……..

a*) Mwana akarwara b) Makarwara c) Muripachirongwa che chekudzivirira kutapukira kweutachiwana hwe HIV kubva kunamai kuyenda kumwwana. d) Makanzi mudzokere kukirinika kana kuti kuchipatara nava mukoti. e) Munonzwisisa kukosha kwe kuonekwa kwenyu ne mwana mushure mekubatsirwa. f) Zvimwewo zvikonzero, tsanangudzayi*

…….

53) If you were asked to go back, what was the reason?

(*Kana makanzi mudzokere chikonzero chaiva cheyi?)*……

……

Perceived susceptibility.

54) Do you think you are likely to suffer from any of the complications

mentioned in question 33? a) Yes b) No

(Mukufunga kwenyu , munogonawo here kusangana nematambudziko

akataurwa nezvawo pamubvunzo we nhamba 33 ?)

55) Do you think your baby can suffer from any of the compilations mentioned

in question 34? a) Yes b) No.

(Mukufunga kwenyu , mwana wenyu anogonawo here kusangana

nematambudziko ataurwa nezvawo pamubvunzo we nhamba 33?)

56) Its possible that any of the life threatening complications that occur to women after delivery can also occur to me. (*Zvino kwanisika kuti matambudziko anengozi kuupennyu hwamwai anowira vanhu kadzi mushure mekubatsirwa anogonawo kundiwira.)*

a) Strongly agree b) Agree c) Disagree e) Strongly disagree.

57) Its possible that any of the life threatening complications that occur to newborn babies can also occur to my baby. (*Zvino kwanisika kuti matambudziko anengozi kuupenyu hwevana vachangozvarwa anogonawo kuwira mwana wangu*.)

a) Strongly agree b) Agree c) Disagree e) Strongly disagree

Self Efficacy

58) After delivering at home, do you think you are be able to go as soon as possible to the nearest health facility for PNC service? a) Yes b) No

(Mushure mekusunungukira kumba, munokwanisa here kuyenda kukiriniki nekukasika kuti munoonekwa nava mukoti?)

59) If yes, within how many hours or days of delivery do you think you will be able to go to the health facility? a) 6 hours b) 12 hours c) 24 hours d) 2 days e) 3 days f) other time duration (please specify).....

(*Kana ari hongu, munogona kuyenda kukirinika mushure menguvayakadiyi mabva mukusungaunuka?)*

Perceived Severity

Now I am going to ask you some questions concerning how seriously you see the possible life-threatening health problems that you or your newborn baby may face after delivering

(Iyezvino ndichakubvunzayi mibvunzo inoendarana nekuona kwamunoita matambudziko anengozi kuupenyu hwenyu kanahwe mwana anogona kukuwirai imi kana Mwana mushure mekusungunuka)

60. These are some of the life-threatening health problems that can occur to me after delivering.*(Aya ndeamwe ematambudziko anengozi kuupenyu hwangu anogona kundiwira mushure mekubatsirwa)*

A) Severe PV bleeding a) Agree b) Disagree

B) Severe high blood pressure a) Agree b) Disagree

C) Infection of the womb a) Agree b) Disagree

D) Retained placenta a) Agree b) Disagree

61. These are some of the life-threatening health problems that can occur to my baby after delivering. *(Aya ndeamwe ematambudziko anengozi kuupenyu hwemwana anogona kumuwira mushure mekubatsirwa)*

A) Birth asphyxia a) Agree b) Disagree

B) Injury during birth a) Agree b) Disagree

C) Chest infection a) Agree b) Disagree

D) Jaundice a) Agree b) Disagree

Attitude towards PNC

62) In my opinion, PNC is a waste of time and it should not be promoted**.**

(mukufungaa kwangu, PNC kuparadza nguva huye hayifaniri kukwiridzirwa)

a) Strongly agree b) agree c) disagree d) strongly disagree

63) In my opinion, PNC is very important to the well being of both the mother

and her newborn child so it should be strongly promoted

(Mukufunga kwangu, PNC yakakosha zvikuru kuhutanu hwamayi ne mwana

wavo avanenge vazvara naizvozvo infanirwa kukwiridzirwa zwikuru)

a) Strongly agree b) agree c) disagree d) strongly disagree

Thank you very much for participating in this study.

(Maita henyu nenguva yenyu.)

Appendix 3

Focus group discussion Guide for Mothers attending ANC and PNC with shona translation.

When is a woman who has delivered at home supposed to come for PNC?

Mavai vabatsirwa pamba vanofanira kuenda kunoongororwa munguva yakadini?

In your opinion what complications can a new born experience?

Mumafungiro enyu svava inga sangana nematambudziko eutana api?

In your opinion which place is best for a woman to deliver?

Muma fungiro enyu ndepi nzvimbo yakanak kuno batsirwa? Probe discussion

Why do you think the place you mentioned is the best? probe discusion

Nei mafunga kuti ndiyo nzvimbo yakanaka?

What problem can be faced by a delivering woman?

Ndedzipi njodzi dzingawira mai varikubatsirwa?

When should a woman come for first PNC visit?

Mai nesvava yavo vanofanira kuuya kuzoongororwa kekutanga pachipatara munguvaipi?

When should a woman come for second PNC visit?

Mai nesvava yavo vanofanira kuuya kuzoongororwa kechipiri pachipatara munguvaipi?

Why do you think are the reasons for women not to come for first PNC visit?

Munofunga kuti zvikonzerozvipi zvinoita kuti vanamai vasauya nesvava kunoongororwa? Probe further discussion?

Do you think it is important for you attend PNC?

Munofunga kuti zvakakosha here kuuya nesvava kuzoongororwa?

Why do you think so? Probe further discussion

Nemahaka yeyi mechifunga kudaro?

In your opinion how do you think PNC can be improved?

Mumafungiro enyu chirongwa chezvekuungororwa kwevana chinga vandudzwa sei?

Appendix 4

Assessment of the availability of resources required for PNC in Bikita 2011

Name of health centre:..... Date of assessment:.....

Responsible authority:.....

Resource	**Required**	**Available**	**% Availability**
Thermometers			
Blood pressure machine			
Bathing scale			
Baby scale			
Suction machine			
Delivery bed			
Seuter material(boxes)			
Cord clamps			
Methylated spirit(750ml) bottles			

Cotton wool(500gramms pack)			
Cotrimoxazole (tin of 100)			
Amoxicillin(tin of 1000)			
Tetracycline eye ointment(TEO)			
Midwives			
RGN/PCN/SRN			
Doctors			
Waiting mothers shelter			