Factors Contributing To Disparity Between Antenatal Bookings And Institutional Deliveries In Marondera District
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Abstract
The number of institutional deliveries continued to decline as compared to antenatal bookings in 2003. This study sought to identify the reasons contributing to this disparity in order to increase the number of institutional deliveries. A quantitative descriptive study was used in the study whereby data was gathered by conducting interviews with 80 women. All the women attended antenatal clinics but 40 delivered at home and 40 at the clinic. The most important recommendation was that nurses should treat their patients with more respect and become more skilled in assisting women during labour and delivery. The findings of the study were that institutional deliveries would increase with improved service at maternal clinics coupled with accommodation of non harmful cultural practices.

Introduction
“African women of reproductive age have the highest death risk from maternal causes as compared to any women in the world. The lifetime chance of maternal death is 1 in 21 in Africa as compared to 1 in 54 in Asia which ranks second. The (African) continent accounts for 30% of all maternal deaths in the world as against 18% of births” (Paul 1993:745).

Reproductive health services are among the most essential components of a comprehensive health approach targeted to reduce maternal and child mortality. The concept of reproductive health approach is targeted to reduce maternal and child mortality. The concept of reproductive health is centered on human needs and development (MoHCW 1997:5). Reproductive health was defined by World Health Organisation (WHO 1999:14) as a state of complete physical, mental and social being and not merely the absence of disease and infirmity on all matters relating to the reproductive system and to its functions and processes. Ulna, Robinson, Trolley and Mcwell (2002:1) maintain that the field of reproductive health is full of puzzling questions, complicated relationships and slowly evolving events or phenomena that produce gaps in understanding the full scope of issues impacting on reproductive health. This research was initiated by the realization that such an apparent gap in knowledge existed in explaining the observed disparity between the number of women who attended antenatal clinics in the Marondera District and those who delivered their babies in the clinics as opposed to those who delivered their babies at home in spite of having attended the clinic and receiving antenatal care (ANC). It has been recorded that although 71% of the rural and 625 of the urban women attending ANC clinics in Zimbabwe planned to deliver their babies at hospitals or clinics, only 44.3 did so (Mbizvo, Fawcus, Lindmarks & Nystrom 1993:374). According to Starrs (1997:7) “Every maternal death is an event that could have been avoided and should never have been allowed to happen”. While there exists adequate ANC and maternal delivery services in Marondera, a good number of women still prefer home delivery.

Research Problem
The research problem can be stated as: Why is there a disparity between antenatal booking and subsequent maternal deliveries at health centres?

Conceptual Framework
The Health Belief Model (HBM) was used as a theoretical framework for the study. As the overall purpose of this research was to identify reasons why women who attended ANC clinics continued
to deliver at home, the HBM appeared to provide a suitable framework for contextualizing the research and for interpreting the research data.” The HBM provides organized assessment data about client’s abilities and motivation to change their status” (Onega 2000:271-272).

The purpose of the study was to increase the number of deliveries in the PHC centres and to decrease the number of home deliveries in the Marondera District. If the reasons for women’s preferences for home deliveries could be identified, then the health care services could strive to institute services addressing women’s needs/preferences in order to decrease the number of home deliveries.

The general objectives of the study were to identify the factors that contribute to disparity between ANC bookings and low institutional deliveries among women attending ANC clinics in the Marondera District.

**Special Objectives**

The specific objectives were to:

- Establish if socio-demographic factors affect the women’s choice of place of delivery
- Determine if attitudes by members of staff at PHC centers influence women to deliver at home
- Determine whether the cost of health services influences the choice of place of delivery
- Determine whether distance from the PHC centers influences the choice of place of delivery
- Establish if cultural practices influence the women’s choice of place of delivery
- Establish if knowledge of safe assisted delivery influences the women’s choice of delivery
- Identify women who should have (for medical reasons) delivered in health institutions but delivered at home
- Highlight the problem to policy makers.

The study’s findings will be used to recommend improvements to the quality of ANC and postnatal delivery services in Marondera District. It is hoped to increase the number of women delivering in health care institutions and reducing the number of home deliveries. The overall aim of the research was to reduce maternal morbidity and mortality as well as neonatal mortality and morbidity through reducing the number of home deliveries at Marondera District.

**Research Design**

The explorative study used the descriptive survey research design. Simple random sampling methods were used to select 40 respondents from the identified lists of women booked at ANC who delivered their babies at home and another 40 from the list of those who delivered their babies at health care institutions. Face-to-face interviews were conducted using a structured interview to collect the data from these women. Great care was taken to ensure that the human subjects were protected from any harm as a result of participating in this study. Pre-testing of the instrument was done in order to establish the validity and liability of the data.

**Findings**

The number of women who participated in the study was 80 (n=80) of whom 50% (n=40) delivered their babies at health care institutions while 43% (n=35) delivered their babies at home and 7% (n=5) delivered their babies on the way to hospital. The average age of the respondents was 23 years.

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>No. of home deliveries</th>
<th>Percentage</th>
<th>No. of Institutional deliveries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-20</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21-30</td>
<td>25</td>
<td>31</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>31-40</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Age group 31-40 had a high number of home deliveries (10%, n=8). Bennett and Brown (2001:214) remark that although past childbearing experiences had an important part to play in predicting the likely outcome of the current pregnancy, the way a woman will respond to labour with each pregnancy is unpredictable. Respondents whose ages exceed 35 years,
especially coupled with parity greater than five, posed increased risks of peri-natal mortality and obstetric complications including post partum haemorrhage. Ideally these women should give birth at a site that allows for easy referral/transfer to a higher health institutions equipped to deal with potential complications (WHO 1999:5).

Such timely referrals could help reduce maternal and infant mortality and morbidity rates. However, if women fail to deliver at health institutions, they might be unable to make use of the timely referrals to health care institutions that might be needed by themselves and/or their babies.

### Table 2.2 Occupation of respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed</td>
<td>6 (7.5%)</td>
</tr>
<tr>
<td>Farm worker</td>
<td>2 (2.5%)</td>
</tr>
<tr>
<td>Peasant farmer</td>
<td>49 (61.2%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6 (7.5%)</td>
</tr>
<tr>
<td>Others</td>
<td>17 (21.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80 (100%)</td>
</tr>
</tbody>
</table>

Poverty and illiteracy are considered to be factors that limit utilization of delivery services (WHO 199:14) It is important therefore to determine the occupational status of the respondents as this gives the indication of the socio-economic status. All respondents were not in formal employment.

Table 2, indicates that the majority (61%) of respondents were peasants farmers, a low-income earning group. Yield from peasant farming is highly dependent on rainfall patterns and during droughts these respondents are exposed to poverty as they rely on food aid from the government of Zimbabwe.

### Table 3 Parity of respondents

<table>
<thead>
<tr>
<th>Para</th>
<th>Entire sample</th>
<th>Home deliveries</th>
<th>Institutional deliveries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>26 (32.5%)</td>
<td>10 (12.5%)</td>
<td>16 (20%)</td>
</tr>
<tr>
<td>2</td>
<td>26 (32.5%)</td>
<td>13 (16.25%)</td>
<td>13 (16.25%)</td>
</tr>
<tr>
<td>3</td>
<td>14 (17.5%)</td>
<td>6 (7.5%)</td>
<td>8 (10%)</td>
</tr>
<tr>
<td>4</td>
<td>6 (7.5%)</td>
<td>3 (3.75%)</td>
<td>3 (3.75%)</td>
</tr>
<tr>
<td>5</td>
<td>8 (10%)</td>
<td>8 (10%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Sixteen (16) respondents with parity one, delivered at the health facilities while 10 others failed to do so. Of the para 3 respondents, eight delivered at health facilities. It should be a cause of concern for all health care providers in Marondera District that all respondents with parity or greater risk delivered at home. As these women would be expected to have a higher incidence of obstetric complications, they should not have delivered at home where they could not access emergency care?

### Table 4 Place of delivery versus level of education

<table>
<thead>
<tr>
<th>Place of delivery</th>
<th>Primary (1-7 years)</th>
<th>Secondary (8-11 years)</th>
<th>Secondary (12-13 years)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>6</td>
<td>32</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>Institutional</td>
<td>7</td>
<td>31</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
<td>63</td>
<td>4</td>
<td>80</td>
</tr>
</tbody>
</table>

As shown in the Table 2, level of education had no apparent influence on the choice of place of delivery. The data shows that all the respondents were literate and that the majority attained secondary education. With this level of education, the respondents should be in a better position to make informed choices with regards to place of delivery if the information is availed to them. The information required for making informed decision about the place of delivery should be obtained from the ANC services. This implies that the respondents did not receive adequate supervision and that the opportunities for effective health care were limited during antenatal period

### Perceptions/Experiences of Women Concerning Maternity Services in the Marondera District

Twelve items on the interview schedule requested respondents to share their experiences/perceptions concerning the maternity services. The following were the responses from the women:

- (85%) had a positive welcoming attitude from nursing staff.
- (72.5%) reported that the nursing staff was friendly.
- (57.5%) reported that they were offered a seat.
- (72.5%) reported that the nursing staff talked to them in a way they were able to understand.
(61.2%) reported that the nursing staff listened to them while they were talking. (61.2%) found the nursing staff to be patient. None of the respondents reported that they received specific information on danger signs and complications during pregnancy.

The margin of those respondents dissatisfied with services and those satisfied was much smaller in the following items:

- Taking of nursing history (53.8%).
- Performance of physical examination (55%).
- General information and explanation of procedure and examination (52.5%).
- Specific information on pregnancy (47.5%).

Bennet and Brown (2001:17) cite that a close and warm relationship between the midwife and the women are of special importance in the childbearing process. Negative communication not only undermines a woman's confidence in the services provided but also wastes time that could be used for more important purposes. Listening attentively conveys respect, concern and acknowledges that what the woman says is important.

Affordability of Maternity Services
Comparison of the costs incurred for delivery services indicated that women who delivered their babies at home paid much more for the services of traditional birth attendants than their counterparts paid for institutional deliveries at health care institution. For example the total cost at Marondera Provincial Hospital was Z$19090.00 for a booked patient and Z$24622.00 for un-booked patient while traditional midwifes total fee was Z$26 000.00. This was levied in the form of a bar of soap, five-kilogram mealie meal, and one-kilogram meat.

Socio-Cultural Factors Which Influenced Home Versus Institutional
These were as follows:

- Masungiro (75%) (The traditional herbs were given for reduced pains during delivery)
- In-laws demand to prove that the baby was their son’s child (65%) (That is the woman would confess during labour who the actual father of the baby was)
- In-laws wanted to fulfil cultural rituals (62%) (The elders would bury the placenta and cord at the door step.)

Respondents who delivered at home showed a strong influence of socio-cultural factors with the majority agreeing to these practices hence delivering at home. Those who delivered at health institutions had a lesser influence of socio-cultural factors with the majority of respondents disagreeing with these practices.

The difference in cultural practices between respondents who delivered at home and those who delivered at the health institution was statistically significant.

Knowledge of Safe Assisted Deliveries
This part addressed six aspects namely:

1. the importance of specific aspects of safe assisted deliveries
2. occurrence which prompt women in labour to seek medical assistance
3. information received from PHC centers
4. signs and symptoms which make women notice that they are developing obstetric complications
5. enquired whether women had emergency delivery kits and the contents of the emergency delivery kits for those respondents who had such kits

The respondents indicated that the following aspects were important in terms of safe assisted deliveries:

- No interference during labour (75%)
- No interference during delivery of the baby and placenta (73%)
- Clean cutting of the cord (72%)
- A clean surface on which to deliver the baby (63%)
- Clean hands and body for assistance (75%)
- A clean environment (64%)

All these aspects, which are important during delivery, could be met at home provided there is a clean surface available, the assistant has clean hands and can cut the umbilical cord in a clean manner.
Aspects Which Will Prompt Women in Labour to Seek Medical Attention
Reportedly the only conditions for which at least 60% of the women would seek medical attention were vaginal bleeding and labour pains for more than 12 hours and excessive bleeding in labour. If these women fail to seek medical attention for other signs of possible obstetric complications, then they might encounter life-threatening situations should they opt for home deliveries. It is up to the nurses and midwives at the ANC clinics to teach pregnant women at what stages to seek medical attention for the different signs and symptoms. Dizziness, blurred vision, severe headaches and generalized oedema would certainly indicate the possibility of impending pre-eclampsia episodes threatening the well-being of lives of both the mother and the unborn child. Reportedly the majority deaths in Zimbabwe are due to complications arising from abortions and from severe pre-eclampsia/eclampsia (Mudokwenyu-Rawdon 2001:16). Although only 30% and 40% respondents would seek medical attention for severe headaches, dizziness, blurred vision and/or generalized oedema, statistics indicate that these conditions are potentially life threatening.

Information Received from ANC Clinics about Caring for the Newborn Baby
The respondents reported that they were educated on the following aspects of caring for their newborn babies; care of the umbilical cord, keeping the baby and the environment (home) clean, bathing the baby and feeding the baby as well as keeping the baby away from fire.

Recognition of Complications During Labour
The respondents were questioned as to whether or not they would consider the following as indicating the possibility of developing complications during labour; excessive vaginal bleeding, labour pains for more than twelve hours, severe headaches, breathlessness and tiredness. The result indicated that the respondents who delivered at home had less knowledge about excessive vaginal and labour pains lasting more than twelve hours than their counterparts who delivered at health care institutions. In both groups there was less knowledge about severe headaches, breathlessness and tiredness as danger signs.

Emergency Delivery Kits
As many as 60% of the two groups of women combined, reported that they possessed emergency delivery kits. Apparently those who opted for home deliveries had better equipped emergency delivery kits than those delivered at health care institutions.

Problems Experienced During and After Delivery
Seventy-six 76% of the women who delivered at home reportedly experienced no problems during and after delivery while 24% experienced some problems. The following problems were reported: retained placenta, excessive bleeding, vaginal bleeding for three months, a deep tear in the perineum, painful legs and after-birth pains, aspiration by the baby, abdominal pains, backache, dizziness, swollen breasts.

Each of the above problems could be serious and even life threatening. As the structured interview schedules were completed anonymously no specific women could be traced to further explore reported complication’s management. Even though all these women survived these complications because they participated in this survey, the extent of the possible lifelong morbidity resulting from these complications remains unknown. Being unable to breast feed one’s newborn baby could be a lifelong threatening situation for the baby because most women in the Marondera did not earn enough money to buy formula milk to feed their babies. A retained placenta, a deep tear in the perineum and severe bleeding are obstetric emergencies. It is not known how these conditions were treated at home.

Persons Consulted About the Problems Experienced After Delivery
As many as 79% consult just anybody. This might indicate a serious need for health education drives
to inform women about the dire need to get specialized medical help to treat complications which could be life-threatening to mothers and babies or which could impose life-long morbidities on the women and even on their babies. (5%) consulted traditional and 16% consulted nurses about the problems they experienced. The reported treatments for the complications were as follows: African herbs, medicine given to baby, suturing of the perineum and removal of the placenta by a doctor.

Women’s Suggestions for Improving Maternity Services

The respondents indicated that maternity service in Marondera District could be improved by the following:

- Nurses should be friendlier and have a welcoming attitude to all clients
- Nurses should monitor patients in labour
- Nurses should have good interpersonal relationships with their patients
- Nurses should schedule regular meetings with the community to identify and address shortcomings
- More experienced nurses should work in the labour ward.

The health care system could implement the following improvements and/or address the following shortcomings:

- Babies should be given BCG soon after delivery.
- Patients should not be asked to wash dirty linen (immediately after their delivery)
- Health care costs must be reduced
- Drugs should be available at every clinic
- Clinics should not run out of water
- Cotton wool must be supplied by the clinic
- Suture material must be supplied by the clinic
- Patients should not be expected to buy suture materials and cotton wool because these are not in the local shops
- Transport must be available for urgent referrals

Perhaps the following two direct quotations from the respondents would portray the reality of shortcomings and indicate the dire need for enhancing the health care facilities.

Marondera Hospital’s fees are so high that patients are dying at home.

I delivered alone on the floor and I wrapped my baby and placenta in my jersey. The nurse came later to cut the cord but I was not happy with the attitude of the nurse who chased me away from the labour ward because it was being swept.

The woman whose experiences are quoted in the preceding paragraph could not have been worse off if she delivered her baby alone at home. The health care system generally, and the nurses failed this woman in every way. Even though she delivered her baby at the clinic, she did not access health care.

In this study health seeking behaviour of women during pregnancy was based on the following principles: individual perception, modifying factors and variables affecting the likelihood of initiating actions (Omega 2000:271).

Individual Perception

Omega (2000:271) defines individual perceptions as a person’s beliefs about his/her own susceptibility to disease plus the seriousness with which he/she views the perceived threat of illness. Many women did not perceive the delivery process to be one warranting the intervention of midwives. Indeed in the response to an open-ended question a number of women indicated that they disapproved interventions during the delivery process.

Individual perception can change with increased knowledge. The nurses working at the PHC clinics in the Marondera District should be able to capitalize on the good educational standards attained by these women to teach them about the danger signs of pregnancy and about the desirability of institutional deliveries.

Modifying Factors

Modifying factors according to Omega (200:271) include demographic, socio-psychological and structural variables affecting health-related behaviours. In this study demographic factors, which might have modified women’s decisions to deliver their babies at health care institutions or home, related particularly to distances the
women had to travel to the nearest clinic. Building shelters for pregnant women at the clinics as recommended by a number of women in response to an open-ended question, could address this fact effectively. Educational and occupational status had no apparent influence on the women's decisions as to the preferred place of delivery. Age-related factors, which need to be addressed by, enhanced health education drives should include teenagers and insert primigravidas as well as grand multigravidas should deliver at health care institutions because they are more likely to encounter obstetric emergencies.

The majority of women were married, but no apparent relationship between marital status and preferred place of delivery could be identified. The majority of women were dissatisfied with maternity services offered in Marondera District. Women who delivered at home perceived no benefits of delivering in a health care institution. Unless the services offered improve and are perceived by the women to be improved, the effort and cost of deliveries in health care institutions might continue to outweigh the perceived benefits of home deliveries.

Variables Affecting The Likelihood Of Initiating Actions
The perceived benefits of institutional deliveries expected support from midwives and the regular monitoring of the progress of the labour process as well as monitoring of the baby's conditions during and after delivery. However, if the midwives failed to meet these expectations, as indicated by the women's negative evaluations of the midwives' actions and attitudes, then the advantages of institutional deliveries would be almost non-existing, exerting almost no influence on women's decisions to deliver their babies in institutions rather than home. The minimal benefits expected from institutional deliveries might not have offset the perceived costs to access institutional deliveries. Access problems included the cost of transport, the loss of support from family members during labour process and the need to get someone else to tend to the other children while the mother and the newborn baby might be at the health institution. The perceived non-caring attitudes of the midwives at the clinics also need to be considered as barriers to accessing institutional delivery services.

Thus in terms of the HBM, minimal benefits expected from institutional deliveries MINUS expected costs EQUALS the likelihood that home deliveries will continue to be favoured.

The study recommends that further studies should investigate the following issues:

- The factors that influence women with high parity to deliver at home
- The barriers to effective communication between nurses and clients
References

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