Research Article

Primigravidae's knowledge about obstetric complications in an urban health centre in Malawi

LC Kumbani, MSc. Nursing
Kamuzu College of Nursing, Blantyre, Malawi

P McInerney, PhD
School of Nursing, University of KwaZulu-Natal

Keywords:
knowledge, primigravidae, obstetric complications

Abstract: Curationis 29(3): 41-49

Pregnant women in Malawi receive information about pregnancy, labour and delivery during routine antenatal visits. This study aimed to explore knowledge of obstetric complications amongst primigravidae attending an urban health centre in Blantyre, Malawi. A descriptive study design was used. Recognition of obstetric complications in pregnancy, during labour and after delivery and actions that participants would take if they developed any complications in pregnancy and after delivery were explored. Actions that women would take for complications that occur during labour were not probed, as women have little control over actions taken when complications arise during labour.

Methods: Participants were selected by means of purposive sampling from a population of pregnant women who fitted defined criteria and who were attending antenatal clinic at a health centre. Forty-five primigravidae from the urban setting with a gestation period between 28 and 42 weeks were interviewed. Data were analysed manually.

Results: The findings showed that participants were more aware of obstetric complications that could occur in pregnancy than of complications that may occur during and after delivery. Sixty percent of the participants were knowledgeable about obstetric complications in pregnancy. The majority of the participants, 73% and 82.2% did not know of any problems that could occur during and after the birth of the baby respectively. Participants had limited knowledge of complications that may need immediate treatment during all three periods. Fifty-eight percent (95% ci: 43; 73) of the primigravidae had some knowledge and could make an informed decision to go to a health facility with pregnancy complications. However, only 24% (95% ci: 11; 38) of the primigravidae had some knowledge and could make an informed decision to go to a health facility with complications after delivery. These findings suggest a critical need for provision of information on obstetric complications especially those that may occur during and after birth with emphasis on those obstetric complications that require immediate treatment.

Correspondence address:
Professor P A McInerney
School of Nursing
University of KwaZulu-Natal
Howard College Campus
P O Dalbridge
4041

Tel : (031) 260-2499
Fax : (031) 260-1543
E-mail : mcinerneyp@ukzn.ac.za

Background

Since the 1980's various attempts have been made by various organisations to address women's health problems.. The United Nations dedicated 1985-1995 as the decade for women, World Health Day in 1998 was declared Safe Motherhood Day by the World Health Organisation. The latter was an attempt to highlight the morbidity and mortality associated with pregnancy and childbirth, especially in developing countries (Lalonde 1998: 889). The Malawi mortality ratio has almost doubled at 1120/100, 000 live births from 2000 to date according to available records in Malawi (National Statistical Office and ORC Macro 2001:181). However, WHO.UNICEF AND UNFPA (2000) estimated the maternal mortality ratio for Malawi at 1800/ 100, 000.

In 1995, in an attempt to reduce the maternal mortality, Malawi adopted the four pillars of the Safe Motherhood Programme and established the National Safe Motherhood Initiative. The initial goal was to halve the number of maternal deaths by the year 2001. As this goal could not be attained, the date was moved to 2004. Emphassis of the Safe motherhood Programme is on improving obstetric care Achievements so far include development of: obstetric life saving skills trainers manual and service providers manual; obstetric management protocols and information, education and communication (IEC) strategy and materials for safe motherhood; inservice training of health workers in obstetric life saving skills, infection prevention and maternal audit; and upgrading of health facilities to equip them with basic amenities and provision of ambulances (Reproductive Health Unit and World Health Organisation, 2003). This is in line with the four pillars of the safe Motherhood Programme which are family planning antenatal care, clean safe delivery and essential obstetric care (Maternal Health and Safe Motherhood Programme 1994:xi).

The Safe Motherhood Initiative in Malawi included community participation. One of the strategies used to generate community participation were information, education and communication (IEC) campaigns on pregnancy risks and appropriate actions to take (Malawi Safe Motherhood Programme, Malawi Safe Motherhood Project and Ministry of Health and Population 2000: 5). This strategy aimed to empower individuals and families so that appropriate decisions could be made and prompt actions taken when faced with a situation.

Creating community awareness of obstetric complications has been found to increase women's use of health services (Kwast 1995: S72; Opoku, Kyei-Faried, Twum, Djan, Browne and Bonney 1997: S205 - S206 &. Olaniran, Offiong, Ottong, Asuquo and Duke 1997: S88 - S89). Themmen (1995: 30) and Alisjahbana, Williams, Dharmayanti, Hermawan, Kwast and Koblinsky (1995: S84) state that women must be able to recognise the danger signs of obstetric complications for them to seek medical care. Likewise Gummi, Hassan, Shehu and Audu (1997: S196) and Olaniran et al. (1997: S183) found that poor knowledge of obstetric complications was a barrier to seeking health care. In Nigeria haemorrhage was considered normal for cleansing the mother after delivery (Olaniran et al. 1997: S183). Castro, Campero, Hernandez and Langer (2000: 683) also make the point that some complications are considered normal. Ratsma (2001 : 1) found delay in reporting to a health facility as the highest (34.3%) contributing factor to maternal deaths.

Age is an important factor in maternal deaths. In 1990, Phoya et.al (Malawi National Safe Motherhood Programme, undated: 16) found that of 118 deaths maternal deaths in Malawi 33% of the women were aged between 16 and 20 years. A review of maternal deaths in the southern region of Malawi showed that 20% of the maternal deaths were below 20 years of age (Ratsma, 2001: 1).

Globally, the five direct causes of maternal deaths are due to hamorrhage, sepsis, unsafe abortion, eclampsia and obstructed labour (Abouzar, Wardlaw, Stanton and Hill 1996: 77; World Health Organization 1999: 13).

In 2000, Malawi's statistics were consistent with the global picture. Abortions accounted for 18%, haemorrhage for 24%, obstructed labour/ ruptured uterus for 20%, sepsis for 24% and eclampsia for 4% (Malawi Safe Motherhood Programme, Malawi Safe Motherhood Project and Ministry of Health and Population 2000: 4). The same figures are still used up to date except that a confidential enquiry into institutional maternal deaths in the southern region found a slightly different pattern. Puerperal sepsis was the highest, 20%, obstructed labour/ ruptured uterus for 15%, haemorrhage for 11%, abortion complications for 6.4% and preeclampsia/ eclampsia for 5.1% (Ratsma, 2001:1)

Malawi's National Safe Motherhood Programme

This commenced in 1996. The four pillars of safe motherhood are being addressed through different complementary programmes in Malawi. The last pillar includes the use of life-saving skills and timely emergency obstetric care when the need arises. In 1998, Matinga found that people had adequate knowledge of family planning but little awareness of antenatal care and clean safe delivery and limited knowledge of obstetric complications. The latter was suported by the findings in 1998 and 1999, where needs asessment surveys found that there was a severe lack of IEC materials and information on complications of pregnancy and childbirth in the clinics. None of the health workers who participated in the study could name the five complications and only 18% of people in the community recognised bleeding as a problem whilst none mentioned infection (Ngaiyaye and Safe Motherhood Project undated: 7). These findings identified the need to empower both health workers and the community through the interventions of IEC.

Problem statement

Malawi has a high maternal mortality ratio (1120 / 100 000 live births) with haemorrhage, sepsis, abortions, obstructed labour and eclampsia being the main causes of the maternal deaths. The Malawi National Safe Motherhood Programme was implemented in 1996 in an effort to reduce the high maternal mortality ratio. In 1998 Matinga found that whilst people had an adequate knowledge of family planning, they had limited knowledge of obstetric complications. Furthermore, needs assessments conducted in 1998 and 1999 revealed a lack of information materials on the complications of pregnancy and childbirth in the clinics. A study undertaken by Simpson (1998: 15) in two districts in Malawi found that opportunities to increase women's awareness of danger signs were not being fully utilised. Simpson found that only 6% had received information about bleeding and less than 1% had received information about fever on discharge after delivery. Simpson (1998: 6) states that a reduction in maternal deaths is dependent on the "availability and timely

utilisation" of obstetric care. Kwast (1995: S72) and Opuku et al (1997: S205–S206) have shown that a community's awareness of obstetric complications usually increases their use of health services. Thus the question may be asked "What knowledge do primigravidae, attending an urban health centre, have about obstetric complications?"

Purpose of the study

It was against this background that this study attempted to explore whether primigravidae were being provided with adequate information about obstetric complications to enable them make informed decisions.

Research Design

A descriptive research design was used to determine what primigravidae knew about obstetric complications that may occur during pregnancy, labour and the purperium. This design was appropriate to enable the researchers to determine the conditions primigravidae identified as complications for which they would seek treatment (Polit and Hungler 1997 :19).

The Setting

The study was conducted in an urban health centre in Blantyre district. The district has 21 health centres, with eight in the urban and thirteen in the rural areas. One urban and one rural health centre were randomly selected from the eight and thirteen rural health centres respectively. In this paper the findings of the urban health centre will be reported. The findings from the rural component of the study have already been reported (Kumbani and McInerney, 2002).

The Population

The population consisted of all women who were pregnant for the first time at the time of the study and who were attending the antenatal clinic at an urban health centre in Blantyre.

Only primigravidae were used in the study to eliminate the influence of previous childbirth experiences and since the first pregnancy is a new experience for the woman, care givers should be providing information relating to pregnancy and childbirth. The antenatal clinic is one of the sources from which pregnant women can obtain information and since 93% of pregnant women in Malawi attend antenatal clinic at least once in their pregnancy and 63% attend more than four times (National Statistics Office, 1994), the antenatal clinic provided a suitable population from which to draw the sample. The urban health centre had 287 primigravidae - an average of 47 primigravidae per month.

Inclusion criteria

In order to be included in the study the following criteria were identified:

- That the woman was a primigravida in whom a viable outcome of the pregnancy was expected;
- Her period of gestation was between 28 and 42 weeks at the time of data collection.

The sample

Purposive sampling was used to select primigravidae who met the stated criteria. Maternal antenatal cards of all primigravidae women were reviewed to identify those who were eligible to participate in the study. The sample size was determined in consultation with a statistician. A sample size of 45 primigravidae was chosen based on the assumption that 60% had sufficient knowledge to know when to go to hospital and this estimate was accurate to within 10%, with a confidence level of 95%.

Research Instrument

One of the researchers (LK) developed the instrument (Kumbani and McInerney 2002: 47). The items soliciting obstetric complications were sourced from the existing literature. Information collected included primigravidae's demographic and obstetric data and information about obstetric complications in pregnancy, during and after birth. The interview schedule consisted of three sections. Section A contained six questions related to demographic data; Sections B and D had nine questions related to obstetric information and Section C had thirteen questions related to knowledge and actions about obstetric complications in pregnancy, during and after birth. The interview was chosen as a means of data collection because many women are illiterate and therefore unable to complete a questionnaire.

Validity and Reliability

Content validity was maintained through consultation with experts in the field. A pilot study was conducted to pre-test the reliability of the instrument. Five women who met the inclusion criteria were interviewed. No problems were experienced and therefore no changes were made to the instrument. In addition the researcher conducted the interviews and this promoted consistency in the way the questions were asked.

Data Collection

Data were collected over a six week period, using the research instrument which had been designed and pretested for the study. The maternals cards were reviewed by the researcher and primigravidae who met the inclusion criteria were identified. These women were then approached by the midwife in the clinic and told about the study. If they were willing to particpate in the study they were directed to the researcher. The women were approached when they had completed their antenatal visit and were leaving the clinic to avoid disturbing the flow of activities in the clinic. The women who agreed to participate were interviewed in private, in a room made available to the researcher for the interviews. The interviews were conducted by the main researcher (L K.). The researcher introduced herself to the women and explained the purpose of the study. The interview method was a suitable method of data collection because many of the women were illiterate and would not have been able to complete a self administered questionnaire. Unclear responses were probed by the interviewer. All the women approached to be interviewed, agreed and data collection continued until 45 primigravidae at the urban health centre had been interviewed.

Data Analysis

Data were analysed manually. Descriptive and inferential statistics were employed to describe the findings.

Ethical considerations

All eligible primigravidae were asked to participate and verbal consent was obtained from each participant prior to the interview. A letter providing information about the research was read to the participants and they were assured that they were free to withdraw from the study at any time. Permission to conduct the study was obtained from the National Health Sciences Research Committee as well as from the District Health Officer-

South, in Malawi. Ethical clearance from the Committee for Research on Human Subjects of the University of Witwatersrand was obtained.

Findings and discussion of findings

Demographic data

A total number of 45 women were interviewed. The age range of the participants was 16 – 31 years with a mean age of 20 and a standard deviation of 2.4. Most, 55%, of the primigravidae were aged between 20- 23 years. Less than half (35%) of the primigravida were between 16- 19 years. This is significant because maternal age determines obstetric outcome. Teenage primigravidae are at increased risk during pregnancy, with poor obstetric outcome (Verma and Das 1997: 3). Maternal mortality is increased in teenage primigravidae (Adolescence and pregnancy: Online).

Teenage primigravidae therefore need to be given specific information about obstetric complications that will make them aware of their risk status. This may enable them receive better obstetric and neonatal care when complications develop.

All the participants had had some education with the majority, 62.2%, attaining secondary education while only one participant had tertiary education. This was in contrast to the rural participants where most, 87.9%, had primary level education and only 12.1% had attended secondary school. This finding is consistent with the findings from the Malawi Demograghic Health Survey, 2000 that educational attainment is higher in urban than in rural areas (National Statistical Office and ORC Macro, 2001: 12). Better education is associated with enlightenment. Findings from the Knowledge, Attitudes and Practices in Health Survey found that knowledge about Aids increased with the educational level of women and men. In addition the same survey found that accurate knowledge of malaria- related problems were more widespread among women who were better educated. Slightly more than half, 55.1%, of the women with secondary education or higher education identified abortion or stillbirth, while only 20% of women with no education and 28.9% of women with primary education identified these problems (National Statistics Office, 1997: 72; 53). However, the level of educational attainment did not necessarily improve the knowledge of obstetric complications among the urban participants. This finding suggests that in the first place, there is need for women to be given information on the obstetric complications for them to know. The majority of the participants, 89%, were married. All the 11% participants who were single were also unemployed. Only one of the participants was employed. Information provided to this group needs to be relevant such as considering the participants socio-economic status in how they could prevent delays in reaching a health facility in case of complications.

Table 1 Pregnancy problems experienced by respondents (n = 24).

PROBLEM	URBAN	TOTALPERCENTAGE
Abdominal pain	9	37.5
Malaria / frequent attacks of malaria	4	16.7
Headache	2	8.3
Abdominal pains and backache	2	8.3
Pubic pains and backache	1	4.2
Abdominal and pubic pains	1	4.2
Backache	1	4.2
General body pains, headache and dizziness	1	4.2
Slight per vaginal bleeding (stained pant)	1	4.2
Dizziness	1	4.2
Loss of appetite	1	4.2
Vomiting	1	4.2
Ptyalism	1	4.2
General fatigue	1	4.2
Painful legs	1	4.2

* Respondents could name more than one complication

Antenatal clinic attendance and problems experienced

Most, 80%, of the participants started attending an antenatal clinic in the second trimester while 8.9% booked in the first and five 11% in the third trimesters respectively. This indicates that most women start attending antenatal clinic late, therefore there is need to establish alternative forums to communicate with women early in pregnancy about the signs and symptoms of obstetric complications, and what actions women should take. The largest group of participants, 69%, had been to the clinic three to four times and two participants made the most visits (9 and above). The number of visits the primigravidae made to the clinic did not necessarily improve their knowledge of obstetric complications. The two participants who made the most visits knew about obstetric complications during pregnancy but only one of them knew about complications during and after the birth of the baby. This suggests that women need to be given sufficient information for them to know about obstetric complications and when to go to a health facility. Just over half, 53%, of the participants reported that they had experienced problems during the pregnancy. Abdominal pain was the most mentioned problem (see Table 1). Most of the participants 67% mentioned minor disorders of pregnancy as problems they had experienced. Just above half, 58%, of the participants who had problems received treatment. The participants' explanation for not getting treatment was mostly that they were not aware that they needed any treatment. This is probably because minor disorders of pregnancy

Table 2 Problems that may occur during pregnancy (n = 45)

PROBLEM	n	PERCENTAGE
Malaria/Frequent attacks of malaria	11	24.4
Abortion	8	17.8
Swelling (oedema)	5	11
Backache	4	8.9
Abdominal pains	3	6.7
Breathlessness (severe anaemia)	3	6.7
Vaginal bleeding (APH)	2	4.4
High blood pressure	2	4.4
Heart palpitations	2	4.4
Fatigue	2	4.4
Loss of appetite	2	4.4
Severe headache	1	2.2
Dizziness	1	2.2
Vomiting	1	2.2
Diarrhoea	1	2.2
Toothache	1	2.2
Malnutrition	1	2.2
Mother can die	1	2.2

* Respondents could name more than one complication

are mainly managed by advice and counselling.

Knowledge of obstetric complications

Firstly, the participants were asked to name problems which might occur during pregnancy, labour and the puerperium. Thereafter, they were asked to state whether certain problems were associated with pregnancy, labour and the puerperium. This was to cater for those participants who could have had problems with the former questions because they had forgotten.

Knowledge related to antepartum period

Fourty percent stated that they did not know of any problems that could occur during pregnancy. This was higher compared with 15% from the rural settting. The responses from the urban and rural setting differed significantly (p= 0049) with respect to inadequate knowledge (40% vs 15%).

Two frequently mentioned problems were malaria/ frequent attacks of malaria and abortion. Identification of actual complications that could develop were very low (refer Table 2). Anaemia and vaginal bleeding was mentioned by only three and two of the participants respectively. No one mentioned eclampsia. This is despite bleeding, anaemia and eclampsia being among the danger signs identified by the Safe Motherhood Initiative.

Twenty two percent of the participants identified minor disorders of pregnancy as complications that could occur. This may be because these participants were not aware of the physiological changes of pregnancy and therefore did not understand what was happening. Inclusion of these minor disorders of pregnancy as complications highlights that participants did know the likely complications that could develop.

Participants identified problems that needed immediate treatment as depicted in Fig.1. Four percent of the participants did not know of any problems that needed immediate treatment. The majority, 69%, mentioned that severe anaemia needed immediate treatment followed by vaginal bleeding by 62%. Both these two conditions are life threatening compared to the least two mentioned problems backache and malaria that were identified by 16% and one of the participants respectively. Backache is a minor discomfort of pregnancy (Bennett and Brown 1999: 205). It does not require immediate treatment, but education and advice on how to prevent it. This highlights that though the participants failed to distinguish complications of pregnancy and minor disorders of pregnancy they were aware of the difference in their impact on pregnancy. However, severe headache, which is considered a warning sign of eclampsia in patients with high blood pressure, was identified by only 29% of the participants. Eclampsia, in spite of being a life threatening condition, was mentioned by only 20% participants as needing immediate treatment. This suggests that not much emphasis is made on this during health education. It may be because eclampsia is responsible for about 4% of maternal deaths in Malawi (Malawi Safe motherhood Programme, Malawi Safe Motherhood Project and Ministry of Health and Population 2000: 4). Abortion leads to 18% of maternal deaths in Malawi (Malawi Safe motherhood Programme, Malawi Safe Motherhood Project and Ministry of Health and Population 2000: 4) but it was identified by only 38% participants. This finding implies a need to emphasise serious obstetric complications that need immediate treatment when providing information. This is important for the primigravidae and the community as a whole, to motivate them to appropriately seek immediate care for complications that need prompt treatment. Sufficient knowledge about obstetric complications is necessary for the primigravidae to make informed decisions that may help to reduce maternal morbidity and mortality in this group.

Almost all, 98% of the participants stated they would go to a healthy facility if they experienced problems in pregnancy. Of these, 43% linked a time factor by stating that they would go quickly/immediately and 20% gave a reason for going. The various reasons for going to hospital were:

- to get assistance/ treatment (n =7).
- probably the beginning of labour (n = 1).
- to be informed on what is

Table 3 Problems which may occur during delivery of the baby (n = 45)

PROBLEM	N	PERCENTAGE
Bleeding / heavy bleeding	5	11
Caesarean section	3	6.7
Stillbirth	2	4.4
Fitting	1	2.2
Neonatal death	1	2.2
Draining liquor	1	2.2
Vomiting	1	2.2
Infect the baby, if HIV-positive	1	2.2
Fatigue	1	2.2
Mother can die	1	2.2

happening (n = 1).

Two participants gave both a reason for going and the time factor. The remaining participant stated that she would inform her mother in- law if she had any problems during pregnancy.

The 26 participants, who stated that they would go quickly and/or gave the reason for going, were deemed to have had access to information that would alert them to the importance of making this decision. Fifty- eight percent (95% confidence interval: 42-73) of the primigravidae had some knowledge and could make an informed decision to go to the hospital.

Knowledge related to the intrapartum period

Seventy three percent of the participants did not know any problems that could occur during the birth. This was higher than the rural participants (73% vs 55%) but there was no significant difference between the two groups (p= 0.115). Bleeding was the only problem that was mostly mentioned by five participants (see Table 3). Only one participant identified fitting and none mentioned obstructed labour. Even the participants that mentioned the intrapartum complications had limited knowledge as reflected by the type of responses.

The participants' identification of problems that needed immediate treatment was low and two participants did not know of any problems (refer Fig.2). Participants however gave appropriate responses as the majority, 69% mentioned obstructed labour as requiring immediate treatment and vomiting was only mentioned once. The low frequency was probably a reflection of the participants' lack of knowledge on obstetric complications that could occur during the birth of the baby (Refer Table 3). All the problems presented in Fig. 2 require immediate treatment. This means that the participants were not aware of how the presented problems adversely affect pregnancy outcome. If the cause is identified basing on these beliefs it will delay the decision to seek medical care for the complication.

Information on obstetric complications should be given in such a way that it will promote awareness of problems requiring prompt treatment. A study done by the Safe Motherhood Project (1999a: 44) found no clear differentiation between serious obstetric complications needing prompt treatment (danger signs in pregnancy) and those that did not. This justifies the need to emphasise the urgency in seeking medical care when complications that need prompt treatment occur.

Knowledge related to postpartum period

The majority, 84%, of the participants could not identify problems that could develop after delivery. The responses from the urban and rural setting differed significantly (p= 0.001) with only less than half, 45%, of the rural participants having inadequate knowledge.

The remaining participants demonstrated limited knowledge of the actual complications that could develop because the frequency of the identified problems were very low (see Table 4). Only four percent the of participants mentioned postpartum haemorrhage (PPH). This finding is below the findings of a participatory needs assessment done in two districts in Malawi, where bleeding was mentioned as a complication by only 18% of the women. However, in this study 6.7% of the participants identified sepsis, which was not mentioned in the needs assessment study (Safe Motherhood Project 1998: 15). In response to problems that needed immediate treatment 15.6% of the participants stated that they did not know any. Sepsis was the complication that was mostly mentioned by just above half, 56%, of the participants. Other complications mentioned and their frequencies are illustrated in Fig. 3.

All of the problems in Fig. 3 require immediate treatment because they can result in the death of the mother. It is therefore of concern that less than 50% of participants identified PPH, fitting and retained placenta as problems needing immediate treatment. It can be assumed that this is because the participants were not aware of these complications (refer Table 4) and therefore it was impossible for them to have information about its management. Information on obstetric complications should be provided in such a way that it promotes awareness of problems requiring prompt management. As already stated there is need for a clear demarcation between serious obstetric complications needing prompt treatment and those that do not. The primigravidae should know when and where to go when an obstetric complication occurs. This may prevent

Table 4 Problems that may occur after the birth of the baby (n = 45)

PROBLEM	n	PERCENTAGE
Sepsis	3	6.7
Postpartum haemorrhage	2	4.4
After pains	1	2.2
Malnutrition	1	2.2
Engorged breasts	1	2.2
Anaemia	1	2.2

Figure 1 Problems needing immediate treatment in pregnancy

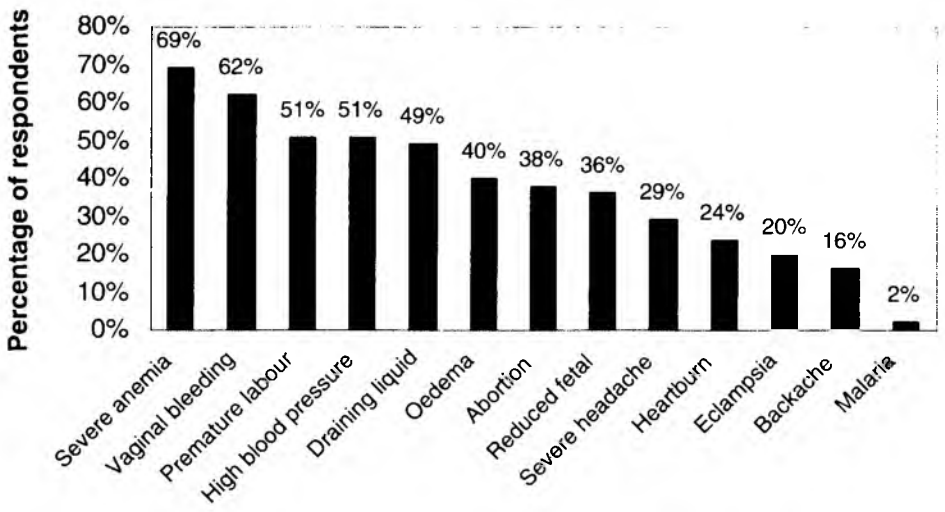


Figure 2 Respondents' identification problems needing immediate treatment

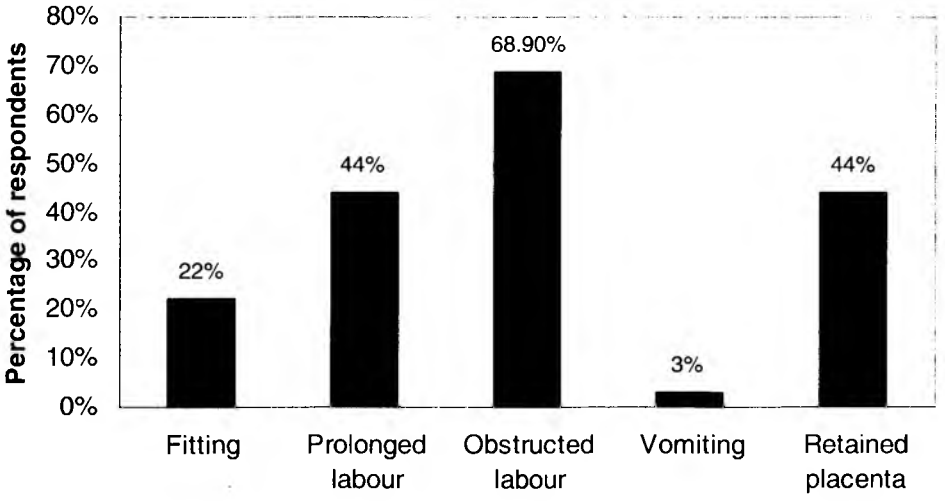
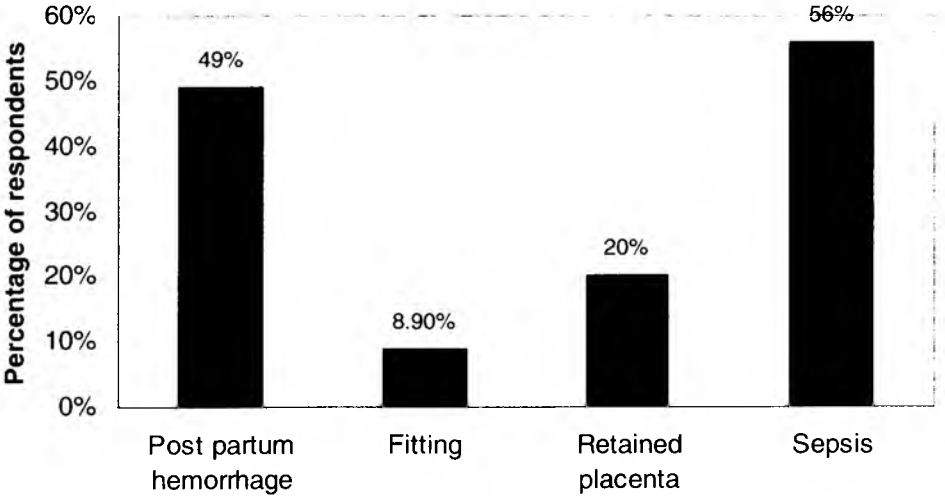


Figure 3 Distribution of problems needing immediate treatment after delivery



delays in seeking care at health facilities with complications that require emergency obstetric care. The majority, 95.6%, of the participants reported that they would go to the hospital if they had a problem after delivery. However, only 13.3% of the participants stated that they would go quickly to the hospital. This contrasts with 42.2% participants who stated that they would go quickly to the hospital if they experienced problems during pregnancy. Gennaro, Kamwendo, Mbweza and Kershbaumer (1998: 194) state that postpartum care is not valued. They stated that a comment made regarding postpartum care was, "The baby is already born, so what is the point?" However it is important for the primigravidae to understand the importance of early management of maternal complications during the puerperium. Haemorrhage and sepsis account for 48% of maternal deaths in Malawi, both at 24% respectively. Primigravidae need to be informed about likely postpartum problems in order for them to recognise the problems and access care promptly. This is significant because it has been noted that women are discharged postnatally with inadequate advice about possible problems, such as fever, offensive discharge or continued bleeding (Malawi Safe Motherhood Programme undated: 27). In addition, 75% of maternal deaths globally occur in the postpartum period (UNICEF 1999: 19).

Twenty- four percent (95% confidence interval: 11; 38) of the primigravidae had some knowledge and could make an informed decision to go to the hospital. This is very low considering that timely decision to seek care is very important in preventing adverse effects.

In conclusion, 27 (60%) of the participants had received some information about pregnancy complications compared with only19 (42.2%) who had information on childbirth problems. This was reflected in the participants' responses during the study in that the 27 participants

stated they knew about complications that could occur in pregnancy. This is in contrast to 12 (27%) and 7 (16%) of the participants who knew about complications that could occur during the birth and after the birth of the baby respectively.

Limitations

The use of only primigravidae who attended antenatal clinics limits the generalisability of the findings to primigravidae who do not attend antenatal clinics, as well as to multigravidae. Purposive sampling limited a wider representation of pregnant women as they did not have an equal chance for inclusion. Therefore, generalisation of the results to other primigravidae is limited. Polit and Hungler (1997: 230) note that it is risky to generalise findings from a purposive sample to a broader population. The data were based on the women's ability to recall what they knew and they may not have remembered, although they were informed. The findings, therefore, should be approached with caution.

Recommendations

Midwifery practice

There is need to make a clear distinction between minor disorders of pregnancy and obstetric complications during health education for women to know difference. It is also important to emphasise which obstetric complications need immediate treatment and why. These complications should be written on the maternal card in the local language, to remind the women about them. The community as well needs to be empowered with knowledge on obstetric complications. This is important, because from the findings of this study women start antenatal care late.

Midwifery education

Students and graduates of midwifery programmes need to be given a strong component of Safe Motherhood and life-saving knowledge and skills. This is important because from the study findings these women were attending antenatal care in an urban health centre but they did not have adequate information about obstetric complications. There is also a need for continued refresher courses to update health personnel on current issues about Safe Motherhood. This could ensure that relevant information is provided to the women.

Midwifery Research

The study needs to be replicated to include multigravidae and using a larger sample to enable generalisations of the results.

Conclusion

Most of the participants knew about obstetric complications in pregnancy in contrast with complications during the birth and after the birth of the baby. Primigravidae therefore, should be provided with sufficient information on obstetric complications that may occur during pregnancy, childbirth and after birth. This may enable them make appropriate decisicions to seek care for complications when they occur.

REFERENCES

ABOUZAHR, C; WARDLAW, T; STANTON, C & HILL, K 1996: Maternal mortality. World Health Statistics Quartery. 49: 77 – 87.

ADOLESCENCE AND PREGNANCY www. hsph.harvard.edu.grhf Accessed 25 May 2001

ALISJAHBANA, A; WILLIAMS, C; DHARMAYANTI, R; HERMAWAN, D; KWAST, B E & KOBLINSKY, E 1995: An integrated village maternity service to improve referral patterns in a rural area in West Java. International Journal of Gynaecology and Obstetrics 48: Suppl. : 83 – 94.

BENNET, V R & BROWN, L K Eds. 1999: Myles Textbook for Midwives 13th ed. Edinburgh: Livingstone.

CASTRO, R; CAMPERO, L; HERNANDEZ, B & LANGER, A 2000: A study on maternal mortality in Mexico through a qualitative approach. Journal of Women's Health and Gender Based Medicine, 9 (6) : 679 – 691.

GENNARO, S; KAMWENDO, L; MBWEZA, E & KERSHBAUMER, R 1998: Childbearing in Malawi, Africa. Journal of Obstetric, Gynaecologic and Neonatal Nursing. 27 (2) : 191 –196.

GUMMI, F B; HASSAN, M; SHEHU, D & AUDU, L 1997: Community Education to encourage use of emergency obstetric services. Kebbi State, Nigeria. International Journal of Gynaecology and Obstetrics. 59 (Suppl. 2): 191 – 200.

KUMBANI, L C & McINERNEY, P A 2002: Knowledge of obstetric complications among primigravidae in a rural health centre in the district of Blantyre, Malawi. Curationis 25 (Aug) : 43-54.

KWAST, B E 1995: Building a community-based maternity programme. International Journal of Gynaecology and Obstetrics 48 (Suppl): 67 -82.

LALONDE, A B 1998: Safe motherhood: can we make a difference? Canadian Medical Association 158 (7): 889-891.

MALAWI NATIONAL SAFE MOTHERHOOD PROGRAMME (undated): Malawi National Strategic Plan for Safe Motherhood. Ministry of Health and Population. Lilongwe : Malawi.

MALAWI SAFE MOTHERHOOD PROGRAMME, MALAWI SAFE MOTHERHOOD PROJECT AND MINISTRY OF HEALTH AND POPULATION 2000: Obstetric life skills training manual for Malawi. Lilongwe, Malawi

MATERNAL HEALTH AND SAFE MOTHERHOOD PROGRAMME 1994: Mother –Baby Package: Implementing Safe Motherhood in countries. WHO, Geneva.

MATINGA, P U 1998: Improving quality and access to maternal health services for Malawian women: a participatory needs assessment for Blantyre and Nsanje. Safe Motherhood Project, Blantyre, Malawi.

NATIONAL STATISTICS OFFICE 1997: Knowledge, Attitudes and Practices in Health Survey 1996.Zomba, Malawi.

NATIONAL STATISTICS OFFICE AND ORC MACRO 2001: Malawi Demographic and Health Survey 2000. Zomba, Malawi and Claverton, Maryland, USA.

NGAIYAYE, R & SAFE MOTHERHOOD PROJECT (undated): Safe Motherhood Media Tool Kit: Booklet for media practitioners in Malawi. Ministry of Health and Population,

Lilongwe, Malawi.

OLANIRAN, N; OFFIONG , S; OTTONG, J; ASUQUO, J & DUKE, F 1997: Mobilizing the community to utilize obstetric services, Cross River State, Nigeria. International Journal of Gynaecology and Obstetrics 59 (Suppl. 2): 181 - 189.

OPUKU, S A; KYEI –FARIED, S; TWUM, S; DJAN, J O; BROWNE, E N L & BONNEY, J 1997: Community education to improve utilisation of emergency obstetric services in Ghana. International Journal of Gynaecology and Obstetrics. 59 (Suppl. 2): 201-207.

POLIT, D F & HUNGLER, B P. 1997: Essentials of Nursing Research : Methods, Appraisal and Utilisation 4th ed. Philadelphia: J.B. Lippincott Co.

RATSMA, Y E 2001: Why more mothers die: The confidential enquiries into institutional maternal deaths in the southern region of Malawi. Blantyre: Malawi Safe Motherhood Project (South).

REPRODUCTIVE HEALTH UNIT, MINISTRY OF HEALTH AND POPOULATION AND WORLD HEALTH ORGANISATION 2003: Malawi obstetric quality of care assessment (Draft report). Lilongwe: Malawi.

SAFE MOTHERHOOD PROJECT 1998: Participatory needs assessment results: Summary document for Blantyre and Nsanje districts. Blantyre, Malawi.

SAFE MOTHERHOOD PROJECT 1999a: Participatory needs assessment results (draft): Zomba Phalombe and Chiradzulu. Blantyre, Malawi.

SAFE MOTHERHOOD PROJECT 1999b: Qualitative needs assessment report: Zomba, Phalombe and Chiradzulu. Blantyre, Malawi.

SIMPSON, H 1998: Quality of care study: A qualitative and quantitative study exploring users;health staff and managers satisfaction with obstetric services offered in Blantyre and Nsanje districts in the Southern region of Malawi. Safe Motherhood Project. Blantyre, Malawi.

THEMMEN, E 1995: Essential obstetric care: Community awareness, involvement and support. In : A report of a technical meeting of the Inter – Agency Group for safe motherhood.

UNICEF 1999: Programming for safe motherhood: Guidelines for maternal and neonatal survival. New York: Total Concept Graphics.

WORLD HEALTH ORGANISATION. 1999: Reduction of maternal mortality: A joint WHO/ UNFPA/ UNICEF/ World Bank statement. Geneva