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A Descriptive Study to Assess the 'Birth Preparedness' in Third Trimester of Pregnancy among Antenatal Mothers in a Low Income Group Colony

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Abstract

A study was taken to assess the 'Birth Preparedness' in third trimester antenatal mothers of low income group colony. Two types of performas were used in the study i.e. survey performa and interview schedule. A survey performa to identify and register antenatal mothers of third trimester was used. After validation nine questions were added to the standardized tool. Total enumeration sampling technique was used and total 65 third trimester antenatal mothers were interviewed. Method used for data collection was house to house survey. The findings of the study revealed that two third (64.7%) of antenatal mothers were moderately prepared. Most of the antenatal mothers comply with the WHO's recommendations which includes registration of pregnancy in first trimester, more than three antenatal visits, receiving complete doses of TT injection, lab tests, taking iron and folic acid supplements, most of them had adequate knowledge about birth control measures and institutional delivery. They were having partial knowledge of danger signs of antenatal period, postnatal period and of new born. Similarly they had partial knowledge regarding care after normal vaginal delivery, caesarean section, breastfeeding, essential care of new born and immunisation schedule. The study shows that there is moderate 'Birth Preparedness' and suggested that there is a need for providing knowledge to the antenatal mothers about 'Birth Preparedness' through counselling, health melas and adding information about birth preparedness in antenatal card.

Keywords: *Birth preparedness, third trimester, antenatal mothers, low income group*

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INTRODUCTION

For a woman motherhood is an honour and this honour is associated with responsibility. It is a special period in women's life, though the process of becoming mother is natural but not problem free. It demands special care, attention and regular monitoring of mother and the growing foetus throughout the pregnancy, during child birth and post natal period. Regular monitoring, care and guidance during antenatal period result in healthy mother and healthy baby. Through efficient reproductive health services there is need to empower the women to take care of herself during this special period of child bearing. To achieve this goal it is important that every mother should be prepared for normal delivery, readiness to deal with complications, postnatal and new born care. It is a strategy to promote the timely use of skilled maternal care especially during childbirth, based on theory that preparing for childbirth reduces the delays in obtaining care. It also helps ensure that women can reach at the

institute to get professional help for safe delivery when labour begins. The birth preparedness also helps her to identify obstetric complications at early stages and deciding timely to which health facility to reach and to which health professional to approach for healthy pregnancy outcome[1].

Women and new-borns need timely access to skilled care during pregnancy, childbirth, and the postpartum/new born period. Every pregnant woman and new born is at risk of complications. These complications can be prevented by doing the planning and preparation for the birth well in advance. Information on how to stay healthy during pregnancy and when to obtain the services of a skilled birth attendant is important for every mother. Ability of recognizing signs of the onset of labour, danger signs of pregnancy-related complications and deciding what to do if they arise would significantly increase the capacities of women, their partners and their families to reach to health facility where skilled care is available to deal with obstetric emergency so that a safe birth is ensured. Birth preparedness can help the women in overcoming the barriers of reaching to skilled birth attendants which can be related to cultural, high cost of transportation, perception of poor health services at health care facilities.

Maternal mortality is a substantial burden in developing countries. The world health organization estimates that 5,00,000–600,000 women die from pregnancy and child birth related complications each year, with 99% of these deaths occurring in developing countries[2]. In India, the maternal mortality ratio (MMR) is 178 per 100,000 live births (2012) and health professionals are working towards achieving the goal to reduce MMR to less than 100 per 100,000 live births[3]. In 1987, for the first time the international public health community publicly recognized and agreed to address a long neglected, little understood problem: the dramatically high rate of maternal death and disability prevalent in the developing world, especially Sub Saharan Africa and South Asia. Data generated by analysis by the world health organization(WHO) indicated that more than half a million women were dying each year from the complications of pregnancy and child birth, with a vast majority of these deaths(99%) occurring in the developing world. Across all the developing countries for every 1, 00,000 live births, 450 women died during pregnancy, childbirth, or the postpartum period. By comparison, the figure for the developed world was 30. This enormous discrepancy highlights one of the most striking aspects of maternal mortality[4]. According to the demographic and health surveys, only 51% of women in developing countries were assisted by a skilled provider at last birth[2].

The nurses working in community are seen as an agent of change in the community and can contribute positively to the reduction of maternal and perinatal morbidity and mortality. They can take up the responsibility to provide skilled birth care professional services to the mothers staying in any community. These services include registering women at early pregnancy, monitoring her health and foetal growth at regular intervals, early detection of complications and managing them timely and empowering her with self-care techniques. They educate community on the need of regular monitoring during child bearing, delivery and postnatal period. The community need to be empowered to identify danger signs related to mother, foetus or neonate during antenatal, intranatal and postnatal period so that they can seek timely health care services. Among women, their husbands, families and the community at large, the individualized 'Birth Preparedness' plan, is very important. Nurses working in

community are responsible for providing care to every mother during pregnancy, labour, childbirth, postpartum period and basic new born care to each baby born in their assigned community and refer them when identify that it cannot be managed at their level[5].

The majority of pregnant women and their families do not know how to recognize the danger signs of complications. When complications occur, the unprepared family will waste a lot of time in identification of problem, deciding where to go and how to reach that health care facility. It will become much easier if they are well informed in advance while preparing her for birth[1]. Preparing mother for the birth is an important part of antenatal counselling and one of the responsibilities of the nurses working in community. For giving proper counselling it is important to know how much the mother already prepared for birth. Hence need was felt to conduct a study on this aspect.

OBJECTIVES

To assess the 'Birth Preparedness' in third trimester of pregnancy among antenatal mothers.

MATERIAL AND METHOD

The study was conducted in a Low income group colony situated in northwest corner of Chandigarh. The Colony is well equipped with all modern sanitary facilities like underground drainage, tap water supply, electricity and other amenities like primary and senior secondary school and an adult education centre. There is an allopathic dispensary and a number of private practitioners, 17 angarwaris, a balwadi and a crèche. Dimensions of the Colony are 1.6 kilometres and 1.1 kilometre i.e. 1.76 square kilometres area. It inhabits a population of 24,885(census 2011).Total number of eligible couples were 3,630. According to 2012-2013 birth rate was 16.8% (as per ANM record, civil dispensary of the colony).

Enrolment of the antenatal mothers was done by total enumeration technique i.e. all the pregnant mothers in third trimester residing in the colony from 20th to 30th March, 2014 were included in the study. Two types of Performa's were used in the study i.e. survey Performa and interview schedule.

A survey Performa was used to identify and register antenatal mothers of third trimester which included address, total number of pregnant women in that house, name, age, last menstrual period, expected date of delivery, gravida and period of gestation of antenatal mother.

"An interview schedule to assess mother's preparedness for delivery" prepared by Ms. Varinder Kaur was used for data collection. The initial tool contained 31 questions which included socio demographic profile (Part-A), obstetric history (Part-B), preparation for delivery (Part-C), postnatal period (Part-D), new born care (Part-E). The maximum score was 51. The score was divided into three categories to check 'Birth Preparedness' i.e. well prepared (35-51), moderately prepared (25–35) and insufficiently prepared(less than 25). Permission from Ms. Varinder Kaur was taken to use the developed tool in the study. Content validity of the tool was assessed by getting opinion from the experts from Nursing, Obstetrics and Gynaecology and public health. After validation nine questions related to Caesarean section were added to the standardized tool. The tool was renamed as "Modified interview schedule to assess 'Birth Preparedness' of third trimester antenatal mothers". The maximum score of the tool was 65. On the

basis of the score, 'Birth Preparedness' was classified into three categories; well prepared (49–65), moderately prepared (33–48) and insufficiently prepared(less than 33).

Data was collected from 20th to 30th, March 2014. A house to house survey was made and 70 third trimester antenatal mothers were registered, out of these only 65 were interviewed. The remaining 5 were not interviewed as 1 refused to participate in the study and 4 had gone to their maternal homes for delivery. Before carrying out the interview self-introduction was given, rapport was built. The purpose of study was explained. They were asked for their willingness to participate in the study. Informed written consent was taken. Privacy and comfort were provided as the interview was taken in a separate room. Antenatal mothers were assured about confidentiality. They were informed that data so collected will be used for research purpose only. The average time for each interview was 25 minutes. Their antenatal cards and health records were checked to confirm the information given by them. Data analysis was done by descriptive and inferential statistics. Data was analysed using SPSS 16 version.

RESULTS

Total 65 third trimester antenatal mothers were interviewed. They were in the age range of 19 to 37 years with mean age of 24 years. Out of which 31(47.3%) antenatal mothers were of 21 to 25 years and 20(30.8%) were of 26 to 30 years. Majority of them i.e. 59(90.7%) were literate out of which 27(41.5%) were matriculate. As per occupation, majority were housewives i.e. 63(96.9%) and only 2(3.1%) were working. Majority of them (92.3%) were Hindu by religion. Most of them belong to joint family i.e. 46(70.7%) and rest belongs to nuclear family. The per capita income ranges from Rs 500/- to Rs 13,300/- with mean of Rs.2460/-. Out of which 51(78.5%) had per capita income of Rs 1,001/- to Rs 5,000/-.

More than half of them were with no living chid (56.9%) and only 2(3.1%) having three living children. Gestation of antenatal mothers was in between 27–42 weeks, out of which two third were in 27^{+1} to 32 weeks i.e. 40(61.5%).

Table 1 depicts preparation of antenatal mothers related to antenatal care and delivery. Majority of the antenatal mothers i.e. 58 (89.2%) were aware of their EDDs and 52 (80%) registered themselves in 1st trimester. Majority of them come for more than 3 antenatal visits i.e. 62(95.4%) and only 3(4.6%) had two antenatal visits. Most of mothers i.e. 54(83.1%) received two doses of TT or booster dose. Majority (95.4%) had undergone all the lab tests which included [Hb, VDRL, HIV, blood grouping, RH factor etc.] Majority of the antenatal mothers, 60(92.3%) were taking Iron, Folic acid and calcium supplements but only half (50.8%) of them knows their blood group. Among them 63(96.9%) antenatal mothers there was no problem related to nipple and only 2(3.1%) had problem and had taken treatment for that. Only 7(10.8%) antenatal mothers were doing antenatal exercises. When asked about danger signs in pregnancy only 1(1.5%) had adequate knowledge of danger signs, 40(61.5%) had partial knowledge. Nearly all antenatal mothers i.e. 64(98.5%) had planned to contact hospital or nursing home whereas 1(1.5%) responded to contact dai in case of emergency. All the antenatal mothers had planned to deliver their babies in hospitals or nursing homes and decided the person who will accompany them to hospital. Out of which majority, 58(89.2%) knows the distance of health facility from home and 38(58.5%) have arranged transport at the time of need. Only 12(18.5%) have kept nearly all the articles ready for delivery and nearly half (49.2%) have arranged few articles for delivery. About half (52.3%)

have arranged for emergency transport and 29(44.6%) have arranged for blood donors. 45(69.2%) antenatal mothers have made arrangement of money for delivery.

Table 1: *Preparation of Antenatal Mother Related to Antenatal Care and Delivery.*

Variables related to antenatal care and delivery	**N=65f (%)**
Knows EDD	58(89.2)
Registration done in	
1st trimester	52(80.0)
2nd trimester	13(20.0)
Number of antenatal visits	
>3	62(95.4)
Two	03(04.6)
Received TT	
2 doses	52(80.0)
One dose	11(16.9)
Booster dose	02(03.1)
Lab tests done	
Adequate(4–7)	62(95.4)
Some(1–3)	03(04.6)
Taking iron, folic acid and calcium tablets	60(92.3)
Knows Blood group	33(50.8)
Any problem r/t nipples	
No	63(96.9)
Yes, treatment taken	02(03.1)
Doing antenatal exercise	07(10.8)
Knowledge about danger signs of antenatal period	
Adequate knowledge(7–12)	01(01.5)
Partial knowledge(1–6)	40(61.5)
Not at all	24(37.0)
If danger signs are present, planned place of contact	
Hospital/nursing home	64(98.5)
Dai	01(01.5)
Planned place of delivery	
Hospital/Nursing home	65(100.0)
Knows distance of health facility	58(89.2)
Arrangement for transport	38(58.5)
Articles kept for delivery	
Adequate(6–11)	12(18.5)
Few(1–5)	32(49.2)
Not at all	21(32.3)
Decided the person who will accompany to hospital	65(100.0)
Made arrangement of emergency transport	34(52.3)
Made arrangement of money	45(69.2)
Arranged for blood donor	29(44.6)

Table 2 depicts preparation of antenatal mothers related to postnatal period during the study. It was found that 3/4them i.e. 49(75.4%) have no knowledge about

danger signs whereas the rest had partial knowledge i.e. 16(24.6%). Nearly all of them i.e. 64(98.5%) have decided the person who will assist them in postnatal period. About half of them (53.8%) had partial knowledge regarding care of episiotomy site. Out of all the antenatal mothers 58(29.2%) knew about the diet in postnatal period and only 5(7.7%) knew about postnatal exercises. On asking about care of surgical site in C-section [if they would had] most of them, 47(72.3%) had no knowledge at all. Only 8(12.3%) knew about early ambulation after C-section and 11(16.9%) knew when to start normal routine after C-section. On asking about special care after C-section only 1(1.5%) had adequate knowledge, half of them, 37(56.9%) had no knowledge at all. More than half i.e. 40(61.5%) had no knowledge about danger signs after C-section. Nearly 3/4th i.e. 47(72.3%) antenatal mothers know birth control measures.

Table 2: *Preparation of Antenatal Mothers Related to Postnatal Care.*

Variables related to postnatal care	**N=65f(%)**
Knowledge about danger signs of postnatal period	
Adequate knowledge(8–14)	----
Partial knowledge(1–7)	16(24.6)
Not at all	49(75.4)
Decided the person who will assist in postnatal period	64(98.5)
Care of episiotomy	
Adequate knowledge(3–4)	05(07.7)
Partial knowledge(1–2)	35(53.8)
Not at all	25(38.5)
Knows about diet in postnatal period	58(89.2)
Knows postnatal exercises	05(07.7)
Care of surgical site in C-section	
Adequate knowledge(3–4)	---
Partial knowledge (1–2)	18(27.7)
Not at all	47(72.3)
Knows about early ambulation after C-section	08(12.3)
Knows about diet after C-section	
Knows when to start routine work after C-section	31(47.7)
	11(16.9)
Knowledge of special care after C-section	
Adequate knowledge(4–7)	01(01.5)
Partial knowledge(1–3)	27(41.5)
Not at all	37(57.0)
Knowledge of danger signs after C-section	
Adequate knowledge(6–10)	---
Partial knowledge(1–5)	25(38.5)
Not at all	40(61.5)
Knows birth control measures	47(72.3)

Table 3 depicts preparation of antenatal mothers related to newborn care. Only 12(18.5%) of them kept nearly all articles ready for baby and 35(53.8%) kept some articles for baby. About half of the antenatal mothers i.e. 35(53.8%) knew about exclusive breastfeeding and 34(52.3%) knew when to initiate

breastfeeding after Normal Vaginal Delivery. Only 7(10.8%) knew initiation of breast feeding after C-section. More than half, 39(60%) antenatal mothers knew the breastfeeding schedule and 26(40%) knew the importance of giving colostrums to baby. About 3/4th of the antenatal mothers (76.9%) had partial knowledge about danger signs of newborn. All antenatal mothers had planned to contact hospital or clinic, if danger signs appear in neonate. About half, 34(52.3%) of the antenatal mothers had partial knowledge about essential care of the newborn. There was partial knowledge about immunisation schedule among 37(56.9%) antenatal mothers, 13(20%) had adequate knowledge whereas 15(23.1%) had no knowledge.

Table 3: *Preparation of Antenatal Mothers Related to Newborn Care.*

Variables related to newborn care	**N=65f(%)**
Articles kept ready for baby	
Adequate(3–4)	12(18.5)
Some(1–2)	35(53.8)
None	18(27.7)
Knows about Exclusive breastfeeding	35(53.8)
Knows when to initiate breastfeeding after NVD	34(52.3)
Knows when to initiate breastfeeding after C-section	07(10.8)
Knows breastfeeding schedule	39(60.0)
Knows the importance of colostrums	26(40.0)
Danger signs of newborn	
Adequate knowledge (6–12)	---
Partial knowledge (1–5)	50(76.9)
Not at all	15(23.1)
If danger signs appear, planned place of contact	
Hospital/clinic	65(100.0)
Essential care of newborn	
Adequate knowledge (4–5)	29(44.6)
Partial knowledge (1–3)	34(52.3)
Not at all	02(03.1)
Knowledge of immunisation schedule	
Adequate knowledge(6–10)	13(20.0)
Partial knowledge (1–5)	37(56.9)
Not at all	15(23.1)

Figure 1 depicts the Birth Preparedness in third trimester antenatal mothers. About two third (64.7%) of them are moderately prepared, one third (33.8%) are insufficiently prepared and only 1(1.5%) is well prepared.

Table 4 depicts the association of level of birth preparedness to the socio demographic profile of the antenatal mothers. Age of the antenatal mother and their educational status was directly proportional to the level of birth preparedness though this difference is statistically not significant. Higher percentage of antenatal mothers with per capita income less than Rs 5000/-, housewives, Hindus by religion and were living in joint family were moderately prepared as compared to their counter parts, though this difference is statistically not significant.

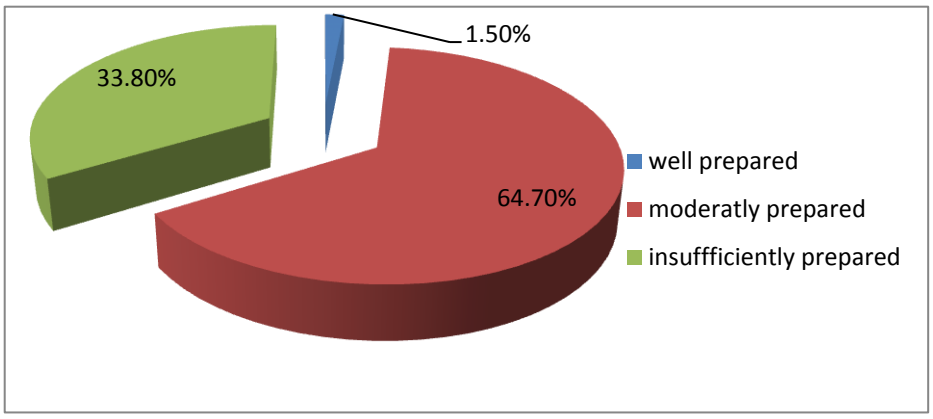

Fig. 1: *Birth Preparedness in Third Trimester Antenatal Mothers.*

Table 5 depicts the association of level of birth preparedness to obstetric history of the antenatal mothers. Significantly higher percentage of antenatal mothers of 2nd and 3rd gravida were moderately prepared as compared to their counterparts (p=0.05 as per x^2). Higher percentage of antenatal mothers who have one or more living child and gestation more than 37 weeks were moderately prepared though this difference was statistically not significant.

Table 4: *Association of Birth Preparedness to Socio-Demographic Profile.*

Socio demographic profile	**Birth Preparedness**		**X^2(df)p**
	Moderate*	**Insufficient**	
Age			
Less than 25	22(56.4%)	17(43.6%)	4.15(2)0.12
26–30	16(80.0%)	04(20.0%)	
More than 31	05(83.3%)	01(16.7%)	
Per capita income			
Less than Rs 5000	42(66.7%)	21(33.3%)	0.24(1)0.62
More than Rs 5001	01(50.0%)	01(50.0%)	
Education			
Illiterate	02(33.3%)	04(66.7%)	4.52(2)0.10
Upto matric	34(66.7%)	17(33.3%)	
Graduate and above	07(87.5%)	01(12.5%)	
Occupation			
Housewife	42(66.7%)	21(33.3%)	0.24(1)0.62
Working	01(50.0%)	01(50.0%)	
Religion			
Hindu	40(66.7%)	20(33.3%)	0.09(1)0.76
Others**	03(60.0%)	02(40.0%)	
Type of family			
Nuclear	10(52.7%)	09(47.4%)	5.10(2)0.07
Joint	33(71.7%)	13(28.3%)	

*Only one antenatal mother was well prepared. **Others include Sikh, Christian and Muslims.

Table 5: *Association of Birth Preparedness to the Obstetric History of Antenatal Mothers.*

Obstetric history	Birth preparedness		x^2(df)p
	Moderate*	Insufficient	
Gravida Primigravida G_2–G_3 G_4-G_7	 14(56.0%) 25(80.6%) 04(44.4%)	 11(44.0%) 06(19.4%) 05(55.6%)	5.95(2)0.05
Number of living children 0 >1	 23(62.2%) 20(71.4%)	 14(37.8%) 08(28.6%)	0.61(1)0.43
Period of gestation(in weeks) 27^{+1}–32 32^{+1}–37 >37	 27(67.5%) 09(60.0%) 07(70.0%)	 13(32.5%) 06(40.0%) 03(30.0%)	0.35(2)0.83

***** Only one antenatal mother was well prepared.

DISCUSSION

'Birth Preparedness' is an advance planning and preparation for delivery, postnatal and newborn care. It is a strategy to empower antenatal mothers for timely use of skilled maternal care during child birth. It helps to ensure that antenatal mothers can get professional help when labour begins and it reduces unnecessary delay in seeking care in case any complication.

A descriptive study was done in a low income group Colony to assess the 'Birth Preparedness' in third trimester antenatal mothers. Third trimester antenatal mothers were chosen because we expect antenatal mothers to be prepared for child birth during third trimester. These preparations include getting the pregnancy register, three antenatal visits; diagnostic tests, transport arrangement, blood arrangement, money arrangement, planned place of delivery etc.

A list of essential components of obstetric care is given by WHO for safe antenatal visits, receiving complete dose of TT injection, lab tests, taking iron and folic pregnancy and childbirth, this includes registration of pregnancy in first trimester, more than three acid supplements, knowledge about birth control measures and institutional delivery[6]. In present study most of the antenatal mothers comply with the WHO's recommendations. All the antenatal mothers got themselves registered and majority of them in the first trimester. Almost all antenatal mothers had more than three antenatal visits and have undergone all lab tests. All of them had planned for institutional delivery and were taking iron and folic acid supplements and have received complete dose of TT injection. Different findings were reported in other studies in different regions like Southern Ethiopia[7] and Nigeria[8]. These studies reported that most of the antenatal mothers planned to deliver at home.

Knowledge of danger signs of antenatal, postnatal and neonatal period is essential for every antenatal mother as it helps in early identification and receiving timely care for preventing complications. According to a Nigerian study conducted on pregnant women of less than 36 weeks gestation, only 1/4th of them knew about danger signs of pregnancy[8]. Another study conducted in Kenya shows that only 2/3rd of the respondents knew about at least one danger sign in pregnancy and very few knew about more danger signs[9].

Another study of Madhya Pradesh reveal knowledge of danger signs was very low[10]. In present study, about half of the antenatal mothers had partial knowledge of danger signs of antenatal, postnatal and neonatal period. The result was similar as that of the study conducted in Ethiopia[11].

If there is no arrangement of money, transport and blood donor in advance then it will lead to chaos at the time of emergency. So, it is essential to ensure that there is availability of all these components in advance to prevent any delay in receiving care. Arrangement of transport, money and blood donor is average in this study. As about 2/3rd of the antenatal mothers had arranged money for delivery and the results were same as that of the studies conducted in Nigeria[8] and Kenya[9], in Ethiopia 1/3rd have saved money for emergency[7]. Transport arrangement in present study is in half of the antenatal mothers with similar results in a study of Burkina Faso[12]. The result was different in two different studies, in Nigeria transport arrangement was among 1/3rd women[8] whereas in Madhya Pradesh it was very low[10]. As knowledge of danger signs is low, about half have arranged for blood donor in present study whereas in Nigeria, it is about 10%[8].

There are many factors which can have impact on 'Birth Preparedness' of antenatal mothers. It may be some aspects of socio demographic of antenatal mothers and some of obstetric components. Educated and older age mother are more prepared than others as education brings general awareness and increasing age brings maturity and experience. According to present study the 'Birth Preparedness' increases with increased period of gestation and the study carried out in Burkina Faso shows the similar results[12]. Those antenatal mothers who had previous pregnancies or have children have better 'Birth Preparedness' because of their previous experiences. Due to family support and experience of the other women of family the antenatal mothers living in joint family are more prepared. As normal deliveries are more often, knowledge about Caesarean section is very low. Those who had previous Caesarean section were the only ones who were able to answer the questions related to Caesarean section. In present study only 1(1.5%) antenatal mother is well prepared, most of them were moderately prepared and 33.8% were insufficiently prepared. The study of Southern Ethiopia shows that 17% antenatal mothers were well prepared[7].

The study shows that there is moderate 'Birth Preparedness' and suggested that there is a need for providing knowledge to the antenatal mothers about 'Birth Preparedness' through counselling, health melas etc. by Community Health Nurse. Instructions for 'Birth Preparedness' should be included in the Antenatal card. Nurses and other health care professionals working with pregnant women should have a checklist consisting different components of 'Birth Preparedness' for each antenatal mothers, which will help her in assessing the 'Birth Preparedness' of everyone. This will help in early and timely identification of the danger signs and complications so that skilled obstetric care can be provided in case of emergency. This will help in reducing maternal as well as neonatal mortality resulting in better outcome of pregnancy.

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