



AWARENESS AND PRACTICE OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG PREGNANT WOMEN.

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ABSTRACT

Introduction: Despite a 45 percent global drop since 1990 to fulfill the ambitious SDG target of less than 70 deaths per 100,000 live births by 2030, maternal mortality remains a major public health issue. Because pregnancy-related difficulties cannot be consistently foreseen, it is critical to develop ways to address them as they arise. The ultimate goal is to eradicate maternal death that is preventable. The principle and practice of birth preparedness and complication readiness is productive in a third world setting where there is prevailing illiteracy, inefficient infrastructure, poor transport system and unpredictable access to skilled care provider. The aim of this study is to assess the awareness, practice and the factors associated with Birth preparedness and complication readiness (BPCR) among pregnant women. **Methods:** This is a facility- based cross sectional study conducted among pregnant women who were at 32 weeks of pregnancy and above and attending ANC at chosen health facility in the department of Obstetrics and Gynecology of the Chettinad Hospital and Research Institute, Kelambakkam, Chennai, Tamil Nadu, from December 2021 to February 2022. Thus 100 women were selected using non-probabilistic convenience sampling and data was collected using a structured questionnaire then coded and entered into Microsoft Excel and analyzed using SPSS version 26 software. **Results:** The mean age of the study participants was found to be 27.54 ± 5.07 years. Among 100 participants, majority (70%) was house wives, 72% of the study participants were below poverty line, 50% were second gravida. All of them had identified decision maker and birth companion, 91% had identified blood donors, 88% had identified health facility, 85% of them had identified mode of transportation in birth or emergency and 87% of them had saved funds for birth/ complication but only 42% had awareness about danger signs of pregnancy. 100% of the antenatal women were aware of vaginal bleeding as specific danger sign. Only 27% of them were aware of epigastric pain as a specific danger sign. While comparing birth preparedness and age group, 65.4% (17) of the age group of 21 to 30 years belong to the prepared category. 74.3% (55) of the housewives belong to the prepared category and 73.1% (19) of the women below poverty line were birth prepared. Awareness about danger sign was significantly correlated with birth preparedness. **Conclusion:** The findings of the study revealed that the awareness of birth preparedness and complication was not very much as majority of the pregnant women did not make preparations as required by the BPCR plan. Therefore the ministry of health and family welfare, must work to improve women's birth preparedness and complication readiness plan. We recommend further systematic review and metaanalysis on factors that affect birth preparedness and complication readiness plan of pregnant women in Tamil Nadu.

KEYWORDS : danger sign, contraception, birth preparedness, labor

INTRODUCTION:

Despite a 45 percent global drop since 1990 to fulfil the ambitious SDG target of less than 70 deaths per 100,000 live births by 2030, maternal mortality remains a major public health issue^[1]. Eastern Asia had the highest regional decline rate (ARR 5.0 (4.0 to 6.0) while the Caribbean had the lowest (ARR 1.8 (0.0 to 3.1))^[2]. Pre-existing medical disorders such as diabetes, HIV, malaria, and obesity cause more than 1 in 4 maternal deaths, and their health effects can all be exacerbated by pregnancy^[3]. Because pregnancy-related difficulties cannot be consistently foreseen, it is critical to develop ways to address them as they arise^[4]. The ultimate goal is to eradicate maternal death that is preventable^[5]. The United Nations' safe motherhood programme established the idea of birth preparedness and complication readiness (BPCR) with the goal of lowering maternal and newborn mortality. It is an important component of attempts to reduce preventable maternal death. This allows pregnant women and their families to seek medical attention as soon as possible in the event of obstetric problems or birth.^[6]

In a third-world setting with widespread illiteracy, insufficient infrastructure, limited transportation, and unpredictable availability to professional care providers, the theory and practise of birth preparedness and complication readiness is effective^[7]. Thaddeus and Maine (1994) introduced the Three Delays Model to the safe motherhood community, which emphasises delays in seeking, reaching, and receiving care as important factors leading to maternal death^[8]. Based on this, the BPCR programme has been designed to shorten all three phases of delays in accessing these treatments by preparing for birth and being prepared for difficulties. This works on a number of levels, including at the individual level, where pregnant women and their partners prepare to learn about the danger signs of pregnancy, find a skilled provider, and choose a birth location. At the community level, where their families can arrange for money and transportation, and at the facility level, where equipment, supplies, and

support systems are made available. Despite the fact that it is a simple and practical method of lowering maternal and neonatal mortality, it is still not generally used by pregnant women and their families, resulting in maternal death owing to delays.

Birth preparedness and complication readiness among women in Bankura District, West Bengal, The majority of women (69.3%) had signed up for antenatal care within the first 12 weeks of their pregnancy, and 74.0 percent had four or more antenatal check-ups, with 81.3 percent having an institutional delivery.

Pregnant women and recently delivered women had BPCR indices of 45.2 and 59.0, respectively, whereas the total BPCR index was 52.1. The health system should take advantage of the opportunity during visits to raise awareness among pregnant women and their families about how to plan for pregnancy and recognise warning indications. Therefore this study is conducted to provide analysis on the awareness and practice of BPCR among pregnant women in Chennai, the metropolitan district of Tamil Nadu. The results of this study may help in the reduction of maternal mortality and morbidity by taking corrective measures.

OBJECTIVES:

1. To assess the awareness and practice of Birth preparedness and complication readiness (BPACR) among pregnant women along with the factors associated with BPACR.

MATERIAL AND METHODS:

Study design:

This is a facility- based cross sectional study conducted in the department of Obstetrics and Gynecology of the Chettinad Hospital and Research Institute, Kelambakkam, Chennai, Tamil Nadu.

Study Duration:

This study was conducted from December 2021 to February 2022.

Study Population: The target population was pregnant women who were at 32 weeks of pregnancy and above attending ANC at Chettinad health facility.

Criteria For Inclusion:

- Those who are willing and able to give informed consent
- Those women with ≥32 weeks of pregnancy and attending ANC at the Chettinad health facility.

Criteria For Exclusion:

- Women attending ANC visit for the first time.
- Women less than 32 weeks of pregnancy.

The study population was chosen using a non-probabilistic convenience sampling technique. As a result, any pregnant woman who was both eligible and willing to take part was included in the study. A total of 100 women were included in the study.

Variables:

Birth preparedness and complication readiness were the dependent variables in this study. The women were divided into two groups: "prepared" and "unprepared." Women who had done less than these six parts of BPCR (recognised health facility, saved cash for birth/complications, mode of transportation in birth/emergency, identified blood donors, danger indications of pregnancy, identified decision-maker and birth companion) were judged "unprepared."

Birth preparedness and complication readiness: if a woman identified six of the BPCR items, she was regarded to be prepared for birth/complications.

The following are the independent variables that will be linked to the dependent variable: - Socio-demographic factors (age, level of education, marital status, religion, residence, income). - Factors affecting reproductive health (parity, gestational age at first ANC, and number of ANC visits).

Tools/techniques for data collection: The data collecting instrument was a structured questionnaire filled out by the investigator during a face-to-face interview with the participant in order to elicit replies if the subject was eligible for the study during the data collection period. Data was coded and imported into Microsoft Excel for processing and analysis. It was then transferred to SPSS version 26 software, which was used to analyse it. A simple frequency distribution was used to evaluate the prevalence of BPCR awareness and practise. To be regarded as "prepared." The woman should have followed the BPCR strategy in six steps. The dependent variable BPCR was tested for relationship with the other factors using Pearson's chi-square. To find characteristics that favour birth preparedness and complication readiness, bivariate and multivariate logistic regression at 95 percent confidence intervals and p0.05 were used to assess components with p-values below 0.2.

Ethical considerations: The Chettinad Academy of Research and Education's institutional human ethics committee gave its permission.

RESULTS

Table 1: Basic Characteristics Of The Study Participants

Basic characteristics	Number	Percentage
Age Group		
Less than 20 years	10	10%
21 to 30 Years	63	63%
31 to 40 years	27	27%
Mean Age + Standard Deviation	27.54 ± 5.07	
Occupation		
Government Job	15	15%
House wife	70	70%
Private business	15	15%
Socio economic status		
Above Poverty line	28	28%
Below Poverty Line	72	72%
Parity		
1	38	38%
2	50	50%
3	9	9%
4	3	3%

ANC Visit	Number	Percentage
Less than 4	22	22%
≥ four visit	78	78%
Total	100	100%

The mean age of the study participants was found to be 27.54 ± 5.07. Among 100 participants, majority (70%) were house wives. And 72% of the study participants were below poverty line. Poverty line was determined depending on modified kuppusswamy scale. 50% of women in this study were second gravida. The World health organization recommends minimum 4 antenatal visit on the basis of effectiveness of the healthcare system. About 78% of the antenatal women had more than 4 ANC visits.

Table 2: Birth Preparedness And Complication Readiness Practice Among Study Participants

Elements of preparation	Number (N=100)	Percentage (100%)
Identified mode of transportation in birth or emergency.	85	85%
Saved funds for birth/complications.	87	87%
Identified Health Facility	88	88%
Identified blood donors	91	91%
Awareness about danger signs of pregnancy.	42	42%
identified decision maker and birth companion	100	100%
Number of Elements prepared		
Mentioned at least one element of preparation	100	100%
Mentioned at least two element of preparation	100	100%
Mentioned at least three element of preparation	99	99%
Mentioned at least four element of preparation	92	92%
Mentioned at least five element of preparation	76	76%
Mentioned all the elements of preparation	26	26%

Note: Multiple response question

Among 100 participants, all of them had identified decision maker and birth companion, 91% had identified blood donors, 88% had identified health facility, 85% of them had identified mode of transportation in birth or emergency and 87% of them had saved funds for birth / complication but only 42% had awareness about danger signs of pregnancy. Only 26% of study participants had mentioned all the elements of preparation.

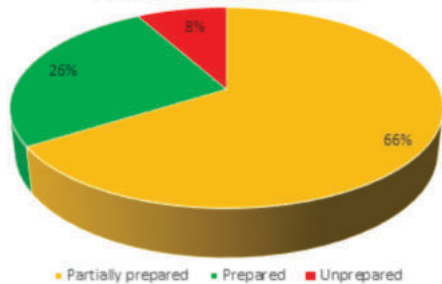
Table 3: Knowledge And Awareness About Pregnancy And Specific Danger Signs

Elements of preparation	Number (N=100)	Percentage (100%)
Awareness about false Labor pain		
Yes	55	55%
No	45	45%
Awareness about Contraction		
Yes	37	37%
No	63	63%
Awareness about Adequate contraction		
Yes	31	31%
No	69	69%
Awareness about Instrumental delivery		
Yes	88	88%
No	12	12%
Awareness about painless labor		
Yes	47	47%
No	53	53%
Awareness about Specific danger sign		
Vaginal bleeding	100	100%
Lower abdominal pain	98	98%
Swelling of legs/arms/face	71	71%
Difficulty in breathing	53	53%
Loss of consciousness	48	48%

High grade fever	58	58%
Decreased baby movements	83	83 %
Water breaks without labour	56	56%
Foul smelling vaginal discharge	29	29%
Curdy white vaginal discharge	65	65%
Epigastric pain	27	27%
Nausea and Vomiting	92	92%
Blurring of vision	28	28%
Headache	45	45%
Convulsion	40	40%

Regarding elements of preparation, 55% were aware about false labor pain, 37% were aware about contraction, 31% were aware about adequate contraction, 88% were aware about instrumental delivery and 47% about painless labor. All participants were aware of vaginal bleeding as specific danger sign. Only 27% of them were aware of epigastric pain as a specific danger sign.

Figure 1: Pie diagram shows status of birth preparedness among study participants



This pie diagram depicts that 8% of the study population falls under the category of unprepared. Most of the study population (66%) were partially prepared and 26% of them were categorized as “prepared”.

Table 4: Comparison Of Basic And Reproductive Health Characteristic With Birth Preparedness

Basic characteristics	Unprepared (N=8)	Prepared (N=26)	Partially Prepared (N=66)	p value
Age Group				
Less than 20 years	1 (12.5%)	1 (3.8%)	8 (12.1%)	0.325
21 to 30 Years	7 (87.5%)	17 (65.4%)	39 (59.1%)	
31 to 40 years	0	8 (30.8%)	19 (28.8%)	
Occupation				
Government Job	2 (25.0%)	7 (26.9%)	6 (9.1%)	0.157
House wife	6 (75.0%)	15 (57.7%)	49 (74.2%)	
Private business	0	4 (15.4%)	11 (16.7%)	
Socio economic status				
Above Poverty line	2 (25.0%)	7 (26.9%)	19 (28.8%)	0.965
Below Poverty Line	6 (75.0%)	19 (73.1%)	47 (71.2%)	
Parity				
1	3 (37.5%)	10 (38.5%)	25 (37.9%)	0.460
2	4 (50.0%)	16 (61.5%)	30 (45.5%)	
3	1 (12.5%)	0	8 (12.1%)	
4	0	0	3 (4.5%)	
ANC Visit				
Less than 4	1 (12.5%)	8 (30.8%)	13 (19.7%)	0.409
≥ four visit	7 (87.5%)	18 (69.2%)	53 (80.3%)	
Awareness about danger sign				
Yes	0	26 (100%)	16 (24.2%)	0.001
No	8 (100%)	0	50 (75.8%)	
Total	100		100%	

Note: P Value Based On Chi Square Test.

While comparing birth preparedness and age group, 65.4 % (17) of the age group of 21 to 30 years belong to the prepared category. 74.3% (55) of the housewives belong to the prepared category and 73.1% (19) of the women below poverty line were birth prepared. Awareness about

danger sign was significantly correlated with birth preparedness.

DISCUSSION:

This study was conducted among women who were pregnant to determine the number of study participants and as such, the study was adequately powered as planned. Findings of the study reveals that awareness about danger signs of pregnancy (42%) is the one poorly utilized element of birth preparedness and complication readiness whereas most of the other elements are well prepared and planned by majority of the antenatal women. All of them are prepared with atleast two elements of birth preparation.

Making arrangements for blood donors in case of emergency is one of the key elements of BPCR, was mentioned by majority (91%) of the study participants. But this is contradictory to the other studies conducted in Ethiopia, Northern Ghana and Nepal^[9-11].

A large percentage of participants (87%) said that one of their preparations for childbirth was to allocate money for delivery purpose. In research undertaken in Ethiopia, central Tanzania, Eti-Osa local government regions of Lagos state, Rwanda, and Northern Ghana, the most common feature of BPCR was to save money^[9,10,12-14]. This resemblance may be related to the fact that women understand the value of money in purchasing necessary supplies or paying for transportation in the event of an obstetric emergency.

Similarly, only one-fourth of pregnant women were prepared for birth and associated complications, according to the findings of this study. This finding is comparable to that of a research conducted in Uganda (35%)^[15]. However, it was higher than a research conducted in Gambia (14%)^[16]. In comparison, research in West Bengal, India (57 percent)^[17], Delhi, India (41 percent)^[18] and Osun State, Nigeria (61 percent)^[19] found similar results. This disparity could be related to socio-cultural factors such as the employment of a traditional birth attendant, women's educational and economic status, and differences in prenatal health programme implementation, such as the quality of antenatal care services.

BPCR was more commonly used by women who were younger; women aged 21-30 years (65.4 percent) were more likely than those aged 35 years and more to be prepared for birth and its complications. The results are consistent with those from Ethiopia and south-west Nigeria^[20,21]. The explanation for this could be that older women, who may belong to a more conventional cohort, have more experience with childbirth and believe they can deliver safely without the assistance of a medical expert. However, our findings contrasted with those from Karnataka, India, where women over the age of 26 were nearly three times as prepared for birth and problems as compared to older women^[22].

CONCLUSION:

The study's findings found that the majority of pregnant women did not undertake the necessary preparations as needed by the BPCR plan, indicating a lack of awareness of birth preparedness and complications. According to the report, only one-fourth of the people were prepared. The low level of birth preparedness and complication readiness among pregnant women in this district could be related to limited information supplied by health providers and by the community health workers in the neighbourhood. Hence, the ministry of health and family welfare, as well as other stakeholders, must collaborate to strengthen women's birth readiness and complication readiness plans. Further systematic review and meta analysis of factors that improve birth preparedness and complication readiness plans of pregnant women in Tamil Nadu, are recommended.

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