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A Study To Assess Birth Preparedness And Complication Readiness To Promote Safe Motherhood Among Women From A Rural Area Of Northern Chhattisgarh

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Abstract

Background: Safe motherhood continues to be a major public-health challenge in rural India. Birth Preparedness and Complication Readiness (BPCR) is a proven approach to reduce maternal and neonatal morbidity and mortality by encouraging timely decision-making and access to skilled care.

Objectives: To assess the level of BPCR among women in a rural area of Northern Chhattisgarh and to determine its association with selected socio-demographic factors.

Methods: A community-based descriptive cross-sectional study was conducted among 120 antenatal and postnatal women selected through purposive sampling. Data were collected using a pretested structured interview schedule that included socio-demographic variables and BPCR components. Data were analyzed using descriptive and inferential statistics; chi-square tests were applied ($p < 0.05$).

Results: Overall, 42% of respondents demonstrated adequate BPCR, 33% had moderate preparedness, and 25% exhibited inadequate readiness. Only 35% could identify at least three key danger signs. Education, parity, and exposure to antenatal counseling were significantly associated with BPCR levels ($p < 0.05$).

Conclusion: BPCR among rural women remains moderate, with notable gaps in awareness and planning. Strengthened maternal-health education, early antenatal registration, and community-based BPCR interventions are essential to ensure safe motherhood in Northern Chhattisgarh.

Keywords: Birth preparedness; Complication readiness; Safe motherhood; Rural women; Antenatal education; Chhattisgarh.

Introduction

Maternal mortality remains one of India's most persistent public-health challenges. Despite initiatives such as Janani Suraksha Yojana and RMNCH + A, maternal and neonatal deaths are concentrated in rural and tribal populations where access to skilled obstetric care is limited.

BPCR—introduced by JHPIEGO and endorsed by the WHO—encourages women and families to prepare for normal delivery and emergencies through recognition of danger signs, identification of skilled birth attendants, transport and financial planning, and timely facility access.

In rural Chhattisgarh, socio-economic barriers, low literacy, and limited healthcare infrastructure restrict women's preparedness for childbirth. Assessing BPCR levels and influencing factors will guide community interventions to improve maternal outcomes.

Objectives

1. To assess the level of BPCR among women from a rural area of Northern Chhattisgarh.
2. To identify gaps in knowledge and practices related to safe motherhood.3. To determine the association between BPCR and selected socio-demographic variables (age, education, parity, antenatal visits).

Hypotheses

H1: There is a significant association between socio-demographic variables and BPCR level. H0: There is no significant association between socio-demographic variables and BPCR level.

Methodology

Design: Community-based descriptive cross-sectional study.

Setting: Selected villages of Northern Chhattisgarh, representing typical rural population.

Sample: 120 antenatal and postnatal women selected through purposive sampling based on inclusion criteria: women aged 18–40 years, currently pregnant or having delivered within the past 6 months, and willing to participate.

Data Collection Tool: Structured interview schedule designed in two sections:

- **Section A:** Socio-demographic information (age, education, occupation, parity, family type, income, antenatal visits)
- **Section B:** BPCR components covering knowledge of danger signs during pregnancy, labor, postpartum period, planning for place of delivery, transport, financial readiness, and identification of skilled birth attendants..

Data Collection Procedure: Women were approached in their homes, and after explaining the purpose of the study, informed consent was obtained. Interviews were conducted face-to-face ensuring privacy and confidentiality. Participants were encouraged to answer freely, and clarifications were provided when necessary.

Data Analysis: Data were coded and entered into SPSS version 22. Descriptive statistics (frequency, percentage, mean) were used to summarize socio-demographic variables and BPCR knowledge. Chi-square tests were applied to examine associations between BPCR levels and socio-demographic factors. Significance level was set at $p < 0.05$.

Ethical Considerations: Ethical approval obtained from Institutional Ethics Committee. Participants provided informed consent. Confidentiality and anonymity were strictly maintained throughout the study.

Results

Table 1: Socio-Demographic Characteristics (n = 120)

Variable	Category	Frequency	%
Age (yrs)	18–22	30	25
	23–27	50	42
	28–32	25	21
	age 33	15	12
Education	Illiterate	20	17
	Primary	35	29
	Secondary	45	38
	Higher secondary & above	20	16
Occupation	Homemaker	90	75
	Labour / Field work	25	21
	Others	5	4
Parity	Primigravida	50	42
	Multigravida	70	58
Antenatal visits	< 4 visits	40	33
	More than 4 visits	80	67

Table 2: Knowledge of Danger Signs and BPCR Components

Component	Correct Responses (n=120)	%
≥ 3 pregnancy danger signs identified	42	35
≥ 3 labor danger signs identified	45	38
Knows place of delivery	100	83
Aware of skilled birth attendant	95	79
Has emergency transport plan	60	50
Has financial preparation	65	54
Knows postpartum danger signs	40	33

Table 3: Overall BPCR Knowledge Levels

Level	Score Range	Frequency	%
Good	8–10	35	29
Moderate	5–7	50	42
Poor	≤ 4	35	29

Table 4: Association of Socio-Demographic Variables with BPCR

Variable	$\chi 2$	df	p	Interpretation
Age	3.56	4	0.47	NS
Education	15.82	3	0.001	Significant
Parity	7.21	1	0.007	Significant
Antenatal visits	12.34	1	0.001	Significant
Family type	0.45	1	0.50	NS

Discussion

Only 42% of participants demonstrated adequate BPCR, reflecting moderate preparedness. Education, parity, and antenatal counseling significantly influenced BPCR levels. These findings correspond with Thapa & Paudel (2018) and Sreeramareddy et al. (2017), who found similar patterns in rural South Asian contexts.

Despite government programs and ASHA outreach, gaps persist in knowledge of danger signs and emergency planning. Empowering women through structured antenatal education and family involvement can substantially enhance readiness for childbirth complications.

Recommendations

- Intensify BPCR-oriented community and antenatal counselling sessions.
- Incorporate BPCR modules into ASHA/ANM training curricula.
- Encourage early registration and ≥ 4 ANC visits.
- Develop community emergency-transport and savings schemes.
- Undertake longitudinal studies to measure the impact of BPCR interventions.

Conclusion

BPCR levels among rural women in Northern Chhattisgarh remain moderate. Education, parity, and ANC exposure are decisive determinants. Strengthened maternal-health education, family participation, and

supportive community mechanisms are imperative to promote safe motherhood and reduce preventable maternal and neonatal deaths.

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