



ORIGINAL RESEARCH PAPER

Medicine

DETERMINANTS OF BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG ADOLESCENT PREGNANT WOMEN IN FIELD PRACTICE AREA OF RURAL HEALTH AND TRAINING CENTRE, MANGLIA, INDORE.

KEY WORDS: BPCR, antenatal care, adolescent obstetric care.

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ABSTRACT	<p>Background: Maternal deaths contribute substantial burden on health in developing countries. Improving maternal mortality has received recognition at the global level as evidenced by the inclusion of reducing maternal mortality in the Millennium Development Goals. Evidence indicates that promoting Birth preparedness and complication readiness has important role in tackling maternal mortality.</p> <p>Methods: A cross-sectional study was conducted from December 2013 to June 2014 in field practice area of rural health and training centre, Manglia. All the pregnant females ,attending the anganwadi and those seeking care at the training centre were subjected to pretested semi-structured BPCR questionnaire. Appropriate statistical analysis was done.</p> <p>Results: The BPCR index was found to be 46.02.</p> <p>Conclusion: Proportion of women who were well prepared for birth and ready for complications was still found to be low. Improving awareness of women and reinforcing counselling on obstetric Care was recommended to increase level of birth preparedness and complication readiness.</p>
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OBJECTIVES:

- To find the prevalence of adolescent pregnancies among the study subjects.
- To study the demographic profile of the adolescent pregnant women.
- To assess the birth preparedness and complication readiness among study subjects.

Introduction:

Maternal mortality is a substantial burden in developing countries.¹ Improving maternal mortality has received recognition at the global level as evidenced by the inclusion of reducing maternal mortality in the Millennium Development Goals.² The figures state that every five minutes one woman in India dies from pregnancy related complications amounting to 1 lac maternal deaths and 10 lacs newborn deaths each year.³ About 16 million adolescent girls aged 15-19 give birth each year, roughly 11% of all births worldwide. Almost 95% of these births occur in developing countries⁴.The major reason for this being marriages to happen still when womb is already blessed with offspring, in this context, birth preparedness is a comprehensive strategy linked via continuum of care⁵ to improve the use of skill providers at birth, the key intervention to decrease maternal mortality.⁶

Birth preparedness is a strategy to promote the timely use of skilled maternal and neonatal care, especially during childbirth, based on the theory that preparing for childbirth reduces delays⁷ **Delays in deciding to seek care, reaching care and receiving care.** The causes of these delays are common and predictable.⁸ A birth plan/emergency preparedness plan include identification of following elements: knowledge of danger signs, the desired place of birth, the preferred birth attendant, the location of the closest appropriate care facility, funds for birth-related and emergency expenses, a birth companion, support in looking after the home and children while the woman is away, transport to a health facility for the birth, transport in the case of an obstetric emergency, and identification of compatible blood donors in case of emergency.

Materials and methods:

Study Area - The present study was undertaken in the field practice area of Rural Health and Training centre, Mangliya, which is attached to the Department of Community Medicine, Shri Aurobindo Medical College and P G Institute, Indore.

Study Design - The present study is a cross sectional observational

study, carried out for a period of one and half years from December 2013 to June 2015 while data collection was done for a period of first 6 months. All the adolescent pregnant females, attending the anganwadi and those seeking care at Rural Health and Training centre, Mangliya and those who gave consent were included in the study.

Sampling Technique and sample size - Rural Health and Training centre, Mangliya is 18 kilometers away from the Institute and is located at the west of Indore district, with population being 28,176 according to 2011 census. As this study is a part of large study conducted among antenatal cases in manglia ,of the sample 547 ,139 turned out to be adolescent pregnant females.^{9,10}

All the adolescent pregnant women who came at anganwadi and those who came at rural health and training centre Manglia during the study period were included in the study.all those who gave consent for the study were enrolled in the study rest all were excluded.

Method of data collection - There are 28 anganwadis in the field practice area of Mangliya and all the anganwadis were included in the study. For each anganwadi one day was fixed in a week when all the pregnant females were requested to be present for their antenatal visit. Anganwadi workers' help was sought to inform all the pregnant females and were explained regarding the purpose of study and verbal consent was obtained before the interview. This was cross checked with the due list of pregnant females already made by anganwadi worker and ASHA and due care was taken to enroll greater no. of study subjects by conducting extra sessions during fixed immunization days.. On these particular days the study subjects were interviewed using pilot tested predesigned semi-structured questionnaire which consisted of socio-demographic profile and questions related to birth preparedness and complication readiness. the date of birth of the participant was cross checked by voter identity card.

Statistical Analysis - The recorded data was entered on MS Excel sheet. Percentages, Z-test and Chi square were applied for statistical analysis. The calculation of BPCR index was done taking into account 13 indicators, where presence of each indicator was awarded with 1 mark making maximum as 13 pointer scale of BPCR index. 2 indicators in the list are important for recently delivered woman hence 11 indicators are taken for calculation.¹¹ After awarding 1 mark each, it is expressed in percentages and then mean of percentage is calculated. This is BPCR index.

Result:

Table 1 illustrates socio demographic determinants of adolescent pregnancies n=139 (25.41). Of the total, 81% conceived for the first time, reservation by caste constitutes only 28.77%, majority belonged to socioeconomic class 5 that is 30.93% and greater fraction 46% was found to be illiterate.

Table 2 reveals distribution of BPCR indicators according to the age of pregnant mothers in which knowing one key danger sign of pregnancy and knowing one key component of essential newborn care was found to be significant, this can be due to increased awareness campaigns for programmes JSSK and Janani Suraksha Yojna as the data collection was done during the period when Mahila Swastha Shivar was also run by National Health Mission or it could have been due to chance alone.

Table 3 illustrates the BPCR indicators where the mean of obtained percentages of BPCR indicators will be =506.26/11 =46.02

Authors contribution: Amongst the total 139 adolescent pregnancies 88(63.30%) were accompanied by their husband at the health facility for delivery, where bargaining at the health facility helped them save some money which was used for baby care at home. Adolescent pregnancies delivered at delivery hub were 106 (75.25%) and were readily managed for the complications while those who delivered at home, 2 death cases were reported.

Discussion:

Age is a highly significant predictor of birth preparedness. As we see the percentage of adolescent and adult pregnancies, birth preparedness in every aspect is greater in adult pregnancies, with significant values in knowledge of key danger signs of pregnancy is obtained. No single respondent could innumerate all the key danger signs.

Similar are the results of by D Markos in Gobe Woreda¹² where the mean age of the respondents were 26.6 (SD=+ 5.9) year. Majority of respondents, 33.8% were between the age group of 21 and 25 years and a few were in the age group of less than 20 years.

Besides, the odds of birth preparedness & complication readiness among knowledgeable women about key danger signs during pregnancy were nearly two times greater than not knowledgeable women (AOR=1.74, 95% CI=1.06,2.88). Similarly, the odds of birth preparedness and complication readiness among knowledgeable respondents about key danger signs during postpartum period were two times greater than those who lack knowledge about it (AOR=2.08, 95% CI=1.20,3.60).¹²

Educational status was the best predictor of awareness of birth preparedness (P = 0.0029), but not a good predictor of intention to attend four antenatal clinic sessions (P = 0.449)¹³.

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Preparation for birth and its complication was higher among educated mothers (AOR=6.23, 95% CI=1.5, 25.87).^{14,15}

As reported in earlier studies, those having less than 5 years of education showed reluctance in it. Community practice and religious belief played crucial role in accessing formal care.^{14,16}, women with primary education and above were twice more likely

to be prepared and ready for birth and complications. Furthermore, women who knew ≥3 obstetric danger signs were 3 times more likely to be prepared for birth and complications.¹⁷ Knowledge about obstetric danger signs was found to be better prepared for birth^{18,19,20}, but in this study not a single candidate knew about all the danger signs.

Presence of husband at hospital during delivery was found to be better.^{21,22}

Conclusion:

The prevalence of adolescent cases was found to be. Birth preparedness and complication readiness was found to be better in adult pregnant females in comparison to adolescent pregnant females but due to greater risk suspected, presence of husband at the time of delivery, better education lead the BPCR index to reach 46.02.

Table 1: Table showing socio-demographic characteristics of adolescent pregnant females:

Variable	Category	Frequency (%)
Age of ANC mothers	<20 years	139(25.41%)
	20-30 years	403(73.67%)
	31-40 years	5(0.91%)
	41-49	0
Category (n=139)	Reserved	40(28.77)
	Unreserved	99(71.2)
Formal education* of adolescent mother (n=139)	Illiterate	64(46)
	<5 years	28(20.14)
	5-9 years	19(13.66)
	10-12 years	14(10.07)
	Undergraduate –graduate	11(7.91)
Socioeconomic class (n=139)*	Graduate –postgraduate	3(2.16)
	Class 1 >5842	4(2.87)
	Class 2 5841-2921	14(10.0)
	Class 3 1752-2920	38(27.3)
	Class 4 876.3-1751	40(28.77)
Parity (n=139)	Class 5 <876.3	43(30.93)
	0	113(81.29)
	1	23(16.54)
	2	3(2.15)

***kuppuswaamy classification**

Table 2: Table showing distribution of BPCR indicators according to the age of pregnant mothers.

(Z test of 2 proportions applied)

BPCR indicators	< 20 years (n=139)	>20 years (n=408)	Z value	P – value
Registration < 12 weeks	53 (9.6)	153 (27.9)	0.1323	0.896
ANC visits >4	46 (8.4)	163 (29.79)	-1.437	0.149
Institutional delivery	102 (18.6)	28 (52.2)		0.429
Saving money for pregnancy	129 (23.5)	362 (66.17)	1.3705	0.170
Identifying blood donor	79 (14.44)	242 (44.24)	0.5127	0.610
Identifying transport	125 (22.8)	363 (66.36)	0.3143	0.756
Knowing 1 key danger sign of pregnancy	18 (3.29)	88 (16.08)	-2.2203	0.026*
Knowing 1 key danger sign of labor	17 (3.10)	62 (11.33)	-0.8591	0.389
Knowing 1 key danger sign of postpartum	12 (2.19)	35 (6.3)	0.0199	0.984
Knowing 1 key danger sign of new born	11 (2.01)	31 (5.66)	0.1207	0.9044

Knowing 1 key component of essential new born care	31 (5.66)	55 (10.05)	2.4677	0.013*
Govt. cash incentive scheme	132 (24.13)	382 (69.83)	0.5716	0.568
Govt. transport scheme	97 (17.77)	283 (51.73)	0.0932	0.928

* Significant at p<0.05, in parenthesis () percentages are expressed.

Table3: table showing BPCR variables contributing to BPCR index

BPCR VARIABLES	YES	NO
Registration < 12 weeks	53(38.12)	86(61.8)
ANC visits >4*	46(33.09)	93(66.9)
Institutional delivery*	102(73.38)	37(26.6)
Saving money for pregnancy	129(92.8)	10(7.19)
Identifying blood donor	79(56.8)	60(43.16)
Identifying transport	125(89.9)	14(10.07)
Knowing 1 key danger sign of pregnancy	18(12.9)	121(87.05)
Knowing 1 key danger sign of labor	17(12.2)	122(87.7)
Knowing 1 key danger sign of postpartum	12(8.6)	127(91.3)
Knowing 1 key danger sign of new born	11(7.9)	128(92.08)
Knowing 1 key component of essential new born care	31(22.3)	108(77.69)
Govt. cash incentive scheme	132(94.96)	7(5.03)
Govt. transport scheme	97(69.78)	42(30.2)

* Significant at p<0.05, in parenthesis () percentages are expressed.

+both the indicators are important for recently delivered women.

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