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### **Original Research Article**

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# How well urban families are prepared for child birth and its complications

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#### **ABSTRACT**

**Background:** Globally every day, approximately 830 women die from preventable causes related to pregnancy and childbirth. 99% of all maternal deaths occur in developing countries. Care before during and after childbirth can save the lives of women and new born babies which is also known as birth preparedness and complication readiness (BPACR). The objective of this study aims to assess practice of birth preparedness and complication readiness among families of women in the field practicing area of Kamineni Academy of Medical Sciences and Research Centre, Hyderabad.

**Methods:** Field based descriptive study was done during August 2019 to February 2020 for a period of 6 months in urban field practising area. Sample size was 450 families, which includes, antenatal mothers 450 and their husbands 450, and 220 reproductive age group women.

**Results:** Awareness of key danger signs during pregnancy (73.8%), labour/childbirth (56.7%) and postpartum (44%) were more among antenatal women whereas knowledge of danger signs of new born was highest among husbands of currently pregnant women. Planning of giving birth with a skilled provider was also high among antenatal women (98%) and in their husbands (97.5%), but saving for the same was very low in reproductive age group study population (20.4%).

**Conclusions:** All these findings conclude Indian husbands of urban were more concerned about problems and safety of their offspring that is new born, than antenatal mother. Awareness of danger signs in the new born was lowest.

**Keywords:** BPACR, Birth preparedness, Complication readiness, Antenatal care, Reproductive women, New born

#### INTRODUCTION

Approximately 830 women die from preventable causes related to pregnancy and childbirth worldwide. The percentile of these maternal deaths occurs in developing countries is 99%. Utmost care before, during and after childbirth can save the lives of women and new-born

babies. As part of the sustainable development goals between 2016 and 2030, the target is to reduce the global maternal mortality ratio to less than 70 per 100 000 live births. The maternal mortality ratio (the number of maternal deaths per 100 000 live births) was declined by only 2.3% per year between 1990 and 2015 worldwide. Maternal mortality is inadmissibly high. In 2015, roughly 303 000 women died in the year 2015 during and

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following pregnancy and childbirth. Almost all of these deaths occurred due to low-resources, and most of these could have been prevented.<sup>2</sup> Birth preparedness and complication readiness (BPACR) is the process of planning for normal birth and anticipating the actions needed in case of an emergency.<sup>3</sup> It is necessary to promote the utilization of skilled maternal and neonatal care timely, assuming that preparing for child birth and being ready for complications reduces delay in obtaining this care.<sup>4</sup> Most of the maternal deaths are consequence of complications during and following pregnancy and childbirth, which are preventable or treatable when births are assisted by skilled birth attendants.

Although a safe motherhood program is successful in reducing maternal mortality, it does not mean to utilize the maternal health services extensively. The problem may be due to the delays in seeking, reaching and receiving timely care.<sup>5</sup> One effective strategy to prevent maternal mortality is BPACR, which will encourage pregnant women to make prompt decisions to seek care from skilled birth attendants.6 Due to BPACR the pregnant women are well aware of complications during antenatal and postnatal period. Identifying the importance of a specific birth attendant, place of delivery along with making arrangements for transport and money for every birth, by women and their families is highly improved with the help of BPACR, in particular. Births assisted by skilled birth attendants help in prevention and treatment of complications that occur during and following pregnancy and childbirth, which account for most of the maternal death today. Though the maternal mortality was reduced successful by the safe motherhood program, it could not lead to the improvement in the utilization of maternal health services by the population. Delay in seeking, reaching and receiving adequate care could be the core problem for this issue.

BPACR is one effective strategy that could help in the prevention of maternal mortality by encouraging the women and their family to make prompt decisions to pursue care from skilled birth attendants during pregnancy. It helps the pregnant women in planning and preparing for the unexpected adverse events that could occur during the birth, in antenatal period.

#### Rationale of study

Very limited information is documented about the practice of birth preparedness and complication readiness among women, though its strategy was indeed targeting the improvement of awareness among women about the danger signs of pregnancy related complication and the importance of maternal and neonatal health services. Therefore, this study aims to assess practice of birth preparedness and complication readiness among families of women in the field practicing area of Kamineni Academy of Medical Sciences and Research Centre, Hyderabad.

#### Aim and objectives

To assess the BPACR among antenatal mothers and their husbands and in women reproductive age living in the urban field practising area of Kamineni Academy of Medical Sciences and Research Centre, Hyderabad.

#### **METHODS**

This is a field based cross sectional study. Study was conducted during August 2019 to February 2020 for a period of 6 months. Urban Field practising area Kamineni Academy of Medical Sciences and Research Centre, Hyderabad. According to census 2011, Hyderabad urban has 881512 households. Study population was taken from which is the field practising area which constitute around 10,000 households. Sample framing was done by house to house survey in the entire field practising area. Three groups of people were included in the present study (men and women index). All women of reproductive age (nonpregnant, 18-49 years), antenatal women, and husbands of antenatal women. Among total population in the field practising, there were only 471 families were having antenatal mothers who are living with their husbands at the time of study period. 21 families were not willing to participate in the study. 450 families were included in the study which is fulfilling following criteria, which includes antenatal mothers and their husbands 450 each, and 220 reproductive age group women.

#### Inclusion criteria

Inclusion criteria were families with pregnant women who is living with their husband and adolescent women within the same family, all pregnant women/antenatal women above 18 years age, and their husbands, and reproductive age women of (18-49) years who are not pregnant at the time study.

#### Exclusion criteria

Exclusion criteria were families which doesn't have pregnant women/antenatal women, antenatal women of age less than 18 years, and those who are not willing to participate in the study.

#### Validation of questionnaire

#### Data collection

The data collection tool was adapted from JHPIEGO: maternal and neonatal health on monitoring birth preparedness and complication readiness. The adapted questionnaire was modified and contextualized to fit the local situation and the research objective. The questionnaire was prepared first in English, translated into local language (Telugu, Hindi) and then back into English.

#### Study variables

Three main variables are taken into consideration. (a) Knowledge of key danger signs that include signs during pregnancy (severe vaginal bleeding, swollen hands/face, blurred vision), signs during labor and childbirth (severe vaginal bleeding, prolonged labor, convulsions, retained placenta), signs during the postpartum period (severe vaginal bleeding, foul smelling vaginal discharge, high fever), signs in the new born (convulsions/spasms/ rigidity, difficult/fast breathing, very small baby, lethargy/unconsciousness), (b) knowledge of service use and planning such as intentions and behaviours, use of 4 antenatal care (ANC) visits, women who (plan to) give birth with a skilled provider, (plan to) save money for childbirth, identify a mode of transport to place of childbirth, and (c) Knowledge of community resources which includes knowledge of the existence of community level systems to provide emergency funds, transport, and blood donors.

#### Statistical analysis

Data was collected, reviewed, coded entered in microsoft office excel than transferred and analysed by IBM SPSS version 21 software (trial version). Results were expressed in numbers, frequencies, percentages etc. Relevalant statistical tests were applied and p<0.05 is considered as statistical significance.

#### **RESULTS**

As given in Table 1, all women of reproductive age group were in age between 19 to 48 years, with mean of 37.3 years, and antenatal women were in 18 to 36 years with

mean of 27.7 years. Whereas husbands' group were in 23 to 41 years with mean of 29 years. Most of the women of reproductive age group (32.7%) are falling under 40 years and above, followed by 18 to 25 years (23.6%). Where as in antenatal study population 26 to 30 years age group were more (46.2%). Husbands of currently pregnant women respondents of 31 to 35 years were more (47.8%).

Education in both antenatal (44.7%) and reproductive age group (49.5%) respondents educated up to secondary schooling predominates among study population. Degree holders were more among the husbands of currently pregnant women (52.2%). More frequency of women study population was unemployed, and vice versa in husband group population (93.5%).

Table 2 showing, awareness of key danger signs during pregnancy (73.8%), labour/childbirth (56.7%) and postpartum (44%) were more among antenatal women whereas knowledge of danger signs of new born was highest among husbands of currently pregnant women. When chi-square test was applied, difference between the groups was found to be significant (p-value is <0.00001).

Table 3 presents the plans of attending at least 4 antenatal care visits with a skilled provider, among antenatal women was more (93.5%). Planning of giving birth with a skilled provider was also high among antenatal women (98%) and in their husbands (97.5%), but saving for the same was very low in reproductive age group study population (20.4%). More than half of antenatal mothers (64.2%) and their husbands (69.3%) identified a mode of transport to place of child birth. When chi-square test was applied, difference between the groups was found to be significant (p value is <0.00001).

Table 1: Distribution of socio demographic characteristics of study population.

Sociodemographic characteristics		All women of reproductive age		Currently pregnant women		Husbands of currently pregnant women	
		N	%	N	%	N	%
	18-25	52	23.6	178	39.6	65	14.4
	26-30	26	11.8	208	46.2	102	22.7
A as in vissus	31-35	38	17.3	50	11.1	215	47.8
Age in years	36-40	32	14.5	12	2.7	48	10.7
	41 and above	72	32.7	2	0.4	20	4.4
	Total	220	100.0	450	100.0	450	100.0
	Primary	50	22.7	43	9.6	27	6.0
	Secondary	109	49.5	201	44.7	99	22.0
Education	Degree and above	22	10.0	77	17.1	235	52.2
	Illiterate	39	17.7	129	28.7	89	19.8
	Total	220	100.0	450	100.0	450	100.0
Occupation	Employed	31	14.0	49	10.9	421	93.5
	Unemployed/ housewife	189	86.0	401	89.1	29	6.5
	Total	220	100.0	450	100.0	450	100.0

Table 2: Knowledge of key danger signs among study population.

Knowledge of key danger signs	All women of reproductive age		Currently pregnant women		Husbands o pregnant w	· ·
	N	%	N	%	N	%
Who know all key danger signs during pregnancy	97	44.1	332	73.8	164	36.4
Who know all key danger signs during labour and childbirth	78	35.5	255	56.7	151	33.6
Who know all key danger signs during postpartum	34	15.5	198	44.0	123	27.3
Who know all key danger signs in the new born	66	30.0	155	34.4	301	66.9

The p value is <0.00001. The result is significant at p<0.05.

Table 3: Knowledge of service use and planning actions: intentions and behaviours among study population.

Service use and planning actions: intentions and behaviours	All women of reproductive age		Currently pregnant women		Husbands of currently pregnant women	
intentions and benaviours	N	%	N	%	N	<b>%</b>
Who (plan to) attend at least 4 antenatal care visits with a skilled provider	201	91.4	421	93.5	390	86.7
Women who attend first antenatal care visit with a skilled provider during first trimester*	NA	NA	382	84.9	NA	NA
Who (plan to) give birth with a skilled provider	189	85.9	441	98	439	97.5
Who (plan to) save money for childbirth	45	20.4	198	44	222	49.3
Women who (plan to) identify a mode of transport to place of childbirth	59	26.8	289	64.2	312	69.3

<sup>\*</sup>These variable values were excluded while applying chi square test. The p value is <0.00001. The result is significant at p<0.05.

Table 4: Knowledge of community resources among study population.

Knowledge of community resources	All women of reproductive age		Currently pregnant women		Husbands of currently pregnant women	
	N	%	N	%	N	%
Who know that their community has a financial support system	98	44.5	153	34	179	39.8
Who know that their community has a transportation system	179	81.4	199	44.2	212	47.1
Who know that their community has a blood donor system	44	20.0	76	16.9	112	24.9

The p value is 0.001509. The result is significant at p<0.05.

Table 5: Source of information about BPACR among study population.

Source of information about BPACR	All women of reproductive age		Currently pregnant women		Husbands of currently pregnant women	
	N	%	N	%	N	%
Health professionals	35	15.9	137	30.4	211	46.9
Community health workers	32	14.5	157	34.9	35	7.8
Trained traditional birth attendants	16	7.3	17	3.8	3	0.7
Friends and relatives	91	41.4	98	21.8	112	24.9
Media (TV, newspaper, social media)	46	20.9	41	9.1	89	19.8

P value is <0.00001. The result is significant at p<0.05.

Table 4 showing, among knowledge of community resources, most of them were aware of regarding transport system followed by awareness of financial support system. In knowledge regarding transportation system reproductive age group population were more aware (81.4%), whereas in other study groups only about half of them (antenatal mother 47.1% husband group 44.2% antenatal women) were aware. Awareness about blood donor system was low in all the groups and lowest (16.9%) among antenatal group.

Table 5 showing, source of knowledge and awareness about BP/CR, among reproductive women group was mostly from various modes of media (41.4%), in antenatal women was from both health professionals (30.4%) and community health workers (34.9%). Whereas in husbands of currently pregnant women group, source was mostly by health professionals (46.9).

#### **DISCUSSION**

This study was conducted to assess birth preparedness and complication readiness in a family domain which includes antenatal mother and husband, other women in reproductive age group.

#### Socio-demographic characteristics

Mean age of reproductive study population was on the higher side (>40 years) It may be because of the presence of elderly people (mother or mother in law) who takes care of antenatal mother in the family. Mean age and common age of antenatal group is also lies between 26 to 30 years, with more older mothers. It may be because of late marriages or infertility problems, which is an increasing trend in urban population nowadays and also because of presence of multi gravidae in the study population. This present study findings supported by the increasing trend mean age of marriage from 2001 to 2011 by census india where it showed that the median age for men increased to 23.5 from 22.6 as per the 2001 figures, whereas the median age for women increased to 19.2 years from 18.2 years.<sup>8</sup>

According census 2011, among graduates and above, the median age at marriage is 24.6 years in comparison to 19.6 years for illiterates which is also supporting our study.<sup>9</sup>

As this study was conducted in urban area, minimum education level of secondary school is expected. Most of the antenatal group and reproductive women group were unemployed, and husbands of pregnant women were employed which is self-explainable where antenatal women will prefer being unemployed during pregnancy period, and husbands will be employed whereas other reproductive age group were mostly housewives which is common scenario in families of Indian society. Similar findings are found in a majority study population of

pregnant women in Akshaya et al study was of them were homemakers (n=145, 78.8%) by occupation.<sup>10</sup>

#### Knowledge of key danger signs

JHPIEGO monitoring and evaluation tools of BPACR was used to evaluate the major key danger signs of pregnancy, child birth and labour, postpartum, new born were evaluated in three groups and several important findings emerged from this study. Husbands of currently pregnant women group were less aware of all major key danger signs of BPACR than women groups. Pregnant women were more aware of all danger signs except for the new born danger signs which was found to be high in husband group of study population. It may give an impression of Indian Men attitude towards to pregnancy and child birth. Indian husbands were more concerned about problems and safety of their offspring that is new born, than antenatal mother. These findings were supported by a study done in Karnataka India by Kalliath et al in which only 37.6% of the husbands had adequate awareness of BPACR and Only one third of husbands felt it necessary to accompany their wife for antenatal visits or delivery.<sup>11</sup>

ZubairuIliyasu et al study also showed only 32.1% of men ever accompanied for maternity care spouses in their study done in Nigeria. This low level of awareness was found in many other studies done in underdeveloped and developing countries like in South Ethiopia (Debiso et al and Tadesse), Tanzania (Furaha et al), Nigeria (Sikoni et al and Oguntunde). Among antenatal mother group, awareness about 'danger signs during pregnancy' were high (73.8%) followed by knowledge of danger signs during labour and childbirth (56.7%), but awareness of danger signs in the new born were lowest (34.4%) when compared to other signs among antenatal mothers. It was surprising to see these kinds of results even in urban area.

On the same point, in different parts of India showed, different results from each other. A study done in South India (Karnataka) by Akshayaet al have similar findings with high awareness. 10 Almost 80% of the women were aware of at least one danger sign in antenatal women. Contrary to that, a study of Mukhopadhyay et al done in North India (West Bengal) showed completely opposite results to the present study where proportion of women aware of at least one key danger sign each of pregnancy, labor, postpartum were very low, ranged from 12.1% to 37.2%, whereas essential new born care was high (58.3%) than present study. 18 A similar study done in neighbouring developing country Bangladesh by Moinuddin et al had showed, less than a quarter (24.5%) of women were considered well prepared for birth among their study population which is also not coinciding with the present study. 19 In reproductive women age group have highest level of awareness about danger signs (97%) about pregnancy, and labour and child birth (78%) when compared to other groups in the present study may be

because of presence of elder women in the group who already have the experience.

#### Knowledge of service use and planning actions

All groups were having highest level of awareness (>80) in this domain. Women groups were having more awareness about ANC visits than husband group. Among total study groups, Antenatal group were having high knowledge about importance of attending 4 ANC visits, and were planning to attend followed by reproductive age group women (91.4%). Husband group and antenatal mother groups were having equal and highest (97.5%, 98%) awareness/planning to go with delivery by a skilled provider. A similar study in Indore city slum areas by Agarwal et al showed only 40% of study population (antenatal mother) were having awareness/planning of attending ANC clinic for at least ≥3 times which is not correlating with present study, but awareness about other ANC services like TT vaccine shots, and IFA drugs consumption were high (>80%) in their study is similar to present study.<sup>20</sup> An Indian study by Mukhopadhyay et al study showed, around only half of the study women planned for first ANC within first trimester, four or more ANCs, and institutional delivery, which is lesser than the present study results.<sup>19</sup> Akshaya et al study showed nearly similar results showed 78.3% of the women had 4 ANC visits during their pregnancy. 10

Regarding attitude for (planning to) saving money for childbirth, was less than 50% in all the groups, lowest in the reproductive women group (44%). This shows low level of economic readiness in all groups. An Indian study (Indore) done by Agarwal et al showed higher level of readiness (76.9%) regarding saving money by antenatal women was seen when compared to present study (44%).<sup>20</sup>

### Knowledge of community resources among study population

In this study most of them were aware of regarding transport system followed by awareness of financial support system. In knowledge regarding transportation system reproductive age group population were more aware, whereas in other study groups only about half of them (antenatal mother, husband group) were aware. Awareness about blood donor system was low in all the groups and lowest (16.9%) among antenatal group. The present study findings were similar to another study conducted by Siddharth Agarwal et al in which preparedness for transport for emergency was low (29.5%). Almost similar findings were seen in a study conducted by Kalliath et al in which the awareness about community resources was very low among husbands of antenatal women.

### Source of information about BPACR among study population

Source of knowledge and awareness about BPACR, among reproductive women group was mostly from various modes of media, in antenatal women was from both health professionals and community health workers. Where as in husbands of currently pregnant women source was mostly by health professionals only. The present study findings were different to a study by Kalliath et al in which husband's awareness regarding BPACR was significantly associated with living in a joint family, having read the MCP card, seen posters in hospital regarding birth preparedness, and use of the mobile phone as a source of information on BPACR. The present study findings were similar to a study conducted by Akshaya et al in which the main source of awareness was media and health professionals. To

#### **CONCLUSION**

Elderly primi/delayed age for first pregnancy were increasing in trend. Indian husbands of urban were more concerned about problems and safety of their offspring that is new born, than antenatal mother. Awareness of danger signs in the new born were lowest when compared to other signs among antenatal mothers which was surprising to see these kinds of results even in urban area. Regarding attitude for (planning to) saving money for childbirth, was less than 50% in all the groups. All these findings conclude overall BPACR was adequate in most of the variables but lacking in some places which need to be addressed to get complete and BPACR knowledge.

#### Recommendations

Knowledge of BPACR should be given to all men and women of reproductive age groups. BPACR training programme should be done in every hospital. A BPACR card should be devolved for all antenatal mothers similar to MCH (mother and child) card.

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