

ORIGINAL RESEARCH ARTICLE

pISSN 0976 3325 | eISSN 2229 6816 Open Access Article **3** www.njcmindia.org DOI: 10.5455/njcm.20210222113144

Perceptions among Antenatal Mother for Birth Preparedness and Complication Readiness: A Hospital Based Survey

Swati Matwaya¹, Kamlesh Malik², Sunita Kumari³, Shaveta Jain⁴, Kusum Rohilla⁵

¹MSc Nursing Student, College of Nursing, Pt. B.D. Sharma PGIMS Rohtak

²Junior Lecturer, College of Nursing, Pt. B.D. Sharma PGIMS Rohtak

³Professor, College of Nursing, Pt. B.D. Sharma PGIMS Rohtak

⁴Assistant Professor, Dept. of Obstetrics and Gynecological, Pt. B.D. Sharma PGIMS Rohtak

5PhD Scholar & Nursing Tutor, College of Nursing, All India Institute of Medical Sciences, Rishikesh

ABSTRACT

Introduction: Preparing future mothers for the birth of newborn is an important part of birth preparedness counseling and one of major responsibility of health care provider.

Objectives: The aim of this study was to assess awareness of antenatal mothers for birth preparedness and complication readiness and find association of awareness with socio demographic variables.

Methodology: This descriptive study was conducted using cross sectional research design. Total 200 antenatal mothers were selected using the purposive sampling technique who was attending antenatal OPD at Pt. B. D. Sharma PGIMS, Rohtak, and Haryana, India. Data was collected by using semi structured questionnaire.

Result: The majority of antenatal mothers were belongs to age group of 18-25 years and were secondary level educated. Most of antenatal mothers (54%) had poor knowledge of birth preparedness and complication readiness. Chi square test showed a significant association among awareness level of antenatal mothers with age (0.002*), educational level of self (0.003*) and husband (0.000*), gravida (0.03*), time to reach to health care facility (0.015*) and mode of transportation in emergency (0.005*). Odd ratios showed that antenatal mother who did not done their antenatal register had a 0.81 times more chances for less awareness than registered mothers.

Conclusion: Awareness of antenatal mothers for birth preparedness and complication readiness was poor. There are various hindering factors which must be explored for betterment of maternal outcome and success of birth preparedness and complication readiness programs.

Key words: Perceptions; Antenatal mother; Birth preparedness; Complication readiness

INTRODUCTION

Maternal mortality rate is a substantial burden for developing countries including India.⁽¹⁾ In Millennium Development Goals (MDGs), reducing maternal mortality is one of major goal to be achieved.⁽²⁾ Pregnancy is an important phase in every woman's life which should be joyful and pleasant experience.⁽³⁾ But for a few women, it is an experience of misery

and suffering.⁽⁴⁾ Pregnancy is a natural process, but it does not mean that it is always problem free.⁽⁵⁾ Early and regular prenatal care is the best way to ensure healthy outcomes of pregnancy.⁽⁶⁾ During pregnancy, we need to understand developmental changes occur⁽⁷⁾, which again helps us to better anticipatory guidance and also identify deviations from expected patterns of development.⁽⁸⁾

How to cite this article: Matwaya S, Malik K, Kumari S, Jain S, Rohilla K. Perceptions among Antenatal Mother for Birth Preparedness and Complication Readiness: A Hospital Based Survey. Natl J Community Med 2021;12(3):62-67. DOI: 10.5455/njcm.20210222113144

Financial Support: None declared Conflict of Interest: None declared

Copy Right: The Journal retains the copyrights of this article. However, reproduction is permissible with due acknowledgement of the source.

Date of Submission: 22-02-2021; Date of Acceptance: 18-03-2021; Date of Publication: 31-03-2021

Correspondence: Kusum K Rohilla (Email: kus2211@gmail.com)

Information regarding how to stay healthy during pregnancy needs to obtain by assess their knowledge about normal and abnormal symptoms which are common during pregnancy.⁽⁹⁾ Knowledge and awareness of danger signs related to pregnancy significantly increases the capacity of each antenatal woman, their partners and their families to remain healthy throughout pregnancy and to ensure a safe birth and to seek any emergency timely.⁽¹⁰⁾

Preparing future mothers for safe birth is the responsibility of every health care provider. (11) Birth preparedness also helps pregnant women to acquire skills and confidence needed to make birth a positive experience. (12) In developing countries like India, where maternal mortality rate is high, health care facilities available at far distance and there is lack of transportation facilities, birth preparedness is again a strong need for mothers and society also. (13)

Birth preparedness and complication readiness interventions are widely promoted by governments and international agencies to reduce maternal and neonatal mortality and health risks in developing countries, however their overall impact is not explored. (14) As per literature search, very few studies have been done on this topic in India. This study is conducted o explore awareness of antenatal mother for birth preparedness and complication readiness.

SUBJECTS AND METHODS

The present study was descriptive study with cross sectional research design. Using the purposive sampling technique, 200 antenatal mothers were selected who were attending antenatal OPD at Pt. B. D. Sharma PGIMS, Rohtak, and Haryana. Study was conducted in district Rohtak, Haryana.

Study was conducted from 1st Jan to 29th Feb, 2020. 200 Antenatal mothers were selected using convenient sample techniques. Sample size was calculated by using Rao-soft formula in which prevalence=18%, power=80% and confidence interval=95%.

A structured interview schedule was conducted on each antenatal mother for 20 minutes to collect the relevant data. The data collection tool consists of two sections. Section I consists of socio-demographic data sheet i.e. age, education, occupation, gravida, income, type of family, antenatal registration, source of information, gestation time, transportation, hospital visits.. Section II consists of awareness questions contains total 14 items i.e., details of antenatal visit, antenatal period, lab investigation during pregnancy, plans for arrangement of transport, place of delivery, preparation of bags during labor and arrangement of funds for delivery. The total score mainly contains two categories i.e., score 0-7 is poor awareness, score 8-14 is good awareness. Tools reliability score was 0.92 which found tool is reliable. A pilot study was conducted on 20 antenatal mothers for check feasibility of this study.

Ethical approval was by institutional ethical committee. The study was not funded and has no conflicts of interest. A written formal consent was obtained from each participant after formal introduction. Confidentiality and anonymity of each participant were maintained during the complete study.

Data analysis was done using SPSS version 23.0. Descriptive statistics i.e. frequency, percentage was calculated for socio-demographic variables and awareness questionnaire. Chi-square values and odd's ratio was calculated to find out the association of awareness of antenatal mother with selected socio-demographic variables.

RESULTS

Out of 200 antenatal mothers, most of them were of age group 18-25 years (52), both husband (34) and self (39) were secondary level educated and multigravida (58). Majority mothers were home-makers (88), their husbands were doing private jobs (66) and their family income was from 5000-10000 Rs per month.

Most of them belong to a joint family (74) and did their antenatal registration in any hospital (74). Family members (91) were main source of information for birth preparedness and complication readiness service and were in their 3rd trimester (71). Antenatal mothers belong to areas where they need an hour (64) to reach a nearby health care facility. In an emergency condition, they will use ambulance (60) for transportation to reach the hospital. In normal condition, they will prefer to come to a government hospital (93) for delivery. In emergency condition, only 86% prefer to come to the government hospital for delivery.

In antenatal mother, during problem of pregnancy the final decision will be made by their mother-in-law (43). Their mother-in-law (56) will accompany them to seek care during delivery and afterwards also. [Table 1]

In this study, antenatal mother has poor level of awareness (54) regarding birth preparedness and complication readiness. [Table 2]

Chi square test showed a significant association among awareness levels of antenatal mothers with age, educational levels of self and husband, gravida, time to reach a health care facility and mode of transportation in an emergency. Age showed significant association with those of higher age (31-35 years) group, and had poor awareness for birth preparedness and complication readiness. Less education level of antenatal mothers and their husbands showed association with poor knowledge and less awareness of birth preparedness and complication readiness. Multi-gravida showed a significant association which indicates multi-gravida antenatal mothers was less aware of their birth preparedness and complication readiness.

Table 1A: Distribution of cases according to Sociodemographic variables (n=200)

Variables Cases (%) Age (years) 18-25 year 104 (52) 26-30 year 52 (26) 31-35 year 44 (22) **Educational status of self** 30 (15) Illiterate **Primary Education** 18 (9) 78 (39) Secondary Education (Bachelor of Arts) Graduate and above 74 (37) **Educational status of husband** Illiterate 52 (26) Primary Education 28 (14) Secondary Education 68 (34) (Bachelor of Arts) Graduate and above 52 (26) Gravida Primi-gravida 84 (42) Multi-gravida 116 (58) Occupation of self Home maker 176 (88) Private Job 18 (9) Self-Employed 2(1)Govt. job 4(2) Occupation of husband Private job 132 (66) Government job 8 (4) Self-business 24 (12) Labourer 36 (18) Family income (Rs/month) 5000-10000 136 (68) 10001-15000 22 (11) 15001-20000 6(3)More than Rs 20000 36 (18) Type of family Nuclear 52 (26) Ioint 148 (74)

Antenatal mothers who were staying near health care facilities (immediately) were less aware of birth preparedness and complication readiness. Modes of transportation showed a significant association with antenatal mothers who preferred to use ambulances and had less awareness of birth preparedness and complication readiness.

Antenatal mothers aged 31-35 years had a 0.42 times higher chances for less awareness level. Antenatal mother who are doing government job had 1.1 times higher chance of having less awareness. Antenatal mothers, whose husbands are doing private jobs, had 2.5 times their family income, and more than 20000 Rs per month had more chance for less awareness. Joint family women have a 1.52 times more chances for less awareness of birth preparedness and complication readiness than nuclear families. Antenatal mother who did not done their register had a 0.81 times more chances for less awareness than registered mothers. Women who were in third trimester have a 0.29 times more chances for less knowledge than second trimester mothers. Antenatal mothers who are staying near to health care facilities have 3.06 times less awareness than others.

Table 1B: Distribution of cases according to Obstetrical variables (n=200)

Variables	Cases (%)
Status of antenatal registration	-
Yes	148 (74)
No	52 (26)
Source of information*	
Family members	182 (91)
Newspaper/mass media	4(2)
Health worker	14 (7)
Trimester	
2 nd trimester	58 (29)
3 rd trimester	142 (71)
Time taken to reach the health fa	cility?
Immediately	28 (14)
Hour	128 (64)
Minute	44 (22)
Transportation to be used during	gemergency
Ambulance	120 (60)
Private car	46 (23)
Taxi/bus	34 (17)
Preferred delivery place in norm	al condition
Govt. hospital	186 (93)
Private hospital	12 (6)
Nursing home	0 (0)
At home	2 (1)
Preferred delivery place in emer	gency
Govt. hospital	172 (86)
Private hospital	28 (14)
Nursing home	0 (00)
At home	0 (00)
Final decision maker for problem	n related pregnancy
Self	50 (25)
Husband	64 (32)
Mother-in-law	86 (43)
Person who Accompanied you to	seek care
Husband	34 (17)
Mother-in-law	112 (56)
Not decided	54 (27)

^{*}regarding birth preparedness and complication readiness service

Table 2: Awareness level of antenatal mother for birth preparedness and complication readiness (n=200)

Level of awareness	Frequency (%)		
Awareness of antenatal mother			
Poor awareness (0-7)	108 (54)		
Good awareness (8-14)	92 (46)		

Antenatal mothers who would use private care during emergency conditions had 2.69 times less knowledge of birth preparedness and complication readiness. Antenatal mothers who want to give birth to a baby in a normal situation in a private hospital are having 2.43 times less awareness and antenatal mothers who want to give birth to a baby in an emergency situation in a private hospital are having 1.68 times less awareness regarding birth preparedness and complication readiness. Antenatal mothers whose final decision for problem related pregnancy will be taken by a husband had 1.43 times less awareness and whose husband will accompanied to seek care had 1.65 times less awareness of birth preparedness and complication readiness. [Table 3]

Table 3: Association of awareness level with socio-demographic variables (n=200)

Variables	Poor (n=108)	Good (n=92)	Odds ratio	Chi value	p-value
Age (years)	4.4	60	1	12.22	0.002*
18-25 year	44	60	1	12.22	0.002*
26-30 year	36	16	0.33 [0.16-0.66]		
31-35 year Educational status of self	28	16	0.42 [0.2-0.87]		
Illiterate	10	20	1	13.98	0.003*
Primary Education	16	02	0.06 [0.01-0.33]	13.90	0.003
Secondary Education	42	36	0.43 [0.18-1.03]		
(Bachelor of Arts) Graduate and above	40	34	0.43 [0.18-1.03]		
Educational status of husband	10	34	0.43 [0.10-1.03]		
Illiterate	14	38	1	23.34	0.000*
Primary Education	14	14	0.37 [0.14-0.96]		
Secondary Education	46	22	0.18 [0.08-0.39]		
(Bachelor of Arts) Graduate and above	34	18	0.2 [0.08-0.45]		
Gravida					
Primi-gravida	38	46	1	4.47	0.03*
Multi-gravida	70	46	0.54 [0.31-0.96]		
Occupation of self					
Home maker	92	84	1	3.10	0.37^{NS}
Private Job	12	06	0.55 [0.2-1.52]		
Self- Employed	02	00	0.00 [0.0-00]		
Govt. job	02	02	1.1 [0.15-7.95]		
Occupation of husband	72	60	2 5 [0 40 12 0]	6.29	0.09 ^{NS}
Private job Government job	06	02	2.5 [0.49-12.8] 0.21 [0.04-1.2]	6.29	0.0913
Self-business	16	08	0.32 [0.11-0.94]		
Labourer	14	22	0.32 [0.11-0.94] 1		
Family income (Rs/month)	17	22	1		
5000-10000	70	66	1	4.07	0.25 ^{NS}
10001-15000	16	06	0.4 [0.15-1.08]	,	0.20
15001-20000	04	02	0.53 [0.09-2.99]		
More than Rs 20000	18	18	1.06 [0.51-2.21]		
Type of family			. ,		
Nuclear	32	20	1	1.60	2.05 ^{NS}
Joint	76	72	1.52 [0.8-2.89]		
Status of antenatal registration					
Yes	84	68	1	0.40	0.52^{NS}
No	24	24	0.81 [0.42-1.55]		
Source of information @					
Family members	98	84	1.14 [0.38-3.43]	80.0	0.95^{NS}
Newspaper/mass media	02	02	1.33 [0.14-12.3]		
Health worker Trimester	08	06	1		
2 nd trimester	28	30	1	1.60	2.05 ^{NS}
3 rd trimester	108	34	0.29 [0.15-0.56]	1.00	2.05.0
Time took to reach the health facility	100	34	0.27 [0.13 0.30]		
Immediately	22	06	1	8.40	0.015*
Hour	62	66	0.35 [0.1-1.22]	0.10	0.015
Minute	24	20	3.06 [1.04-9.0]		
Transportation during emergency conditi	ion		. ,		
Ambulance	76	44	1	10.55	0.005*
Private car	18	28	2.69 [1.34-5.4]		
Taxi/bus	14	20	2.47 [1.13-5.37]		
Place of delivery in normal condition?					
Govt. hospital	102	84	1	3.82	0.14NS
Private hospital	04	08	2.43 [0.71-8.35]		
Nursing home	00	00	0.0 [0.0-0.0]		
At home	02	00	0.0 [0.0-0.0]		
Place of delivery in emergency condition	0.6	76	4	4.16	0.1200
Govt. hospital	96	76	1	4.16	0.12 ^{NS}
Private hospital	12 00	16 00	1.68 [0.75-3.77]		
Nursing home	00	00	0.0 [0.0-0.0] 0.0 [0.0-0.0]		
At home		UU	0.0 [0.0-0.0]		
At home					
Final decision for the problem related pre	egnancy	20	0 84 [0 41-1 71]	2.14	0 34NS
Final decision for the problem related pro Self	egnancy 30	20 34	0.84 [0.41-1.71] 1.43 [0.75-2.74]	2.14	0.34 ^{NS}
Final decision for the problem related pro Self Husband	egnancy 30 30	34	1.43 [0.75-2.74]	2.14	0.34 ^{NS}
Final decision for the problem related pro Self Husband Mother-in-law	egnancy 30 30 48			2.14	0.34 ^{NS}
Final decision for the problem related pro Self Husband	egnancy 30 30 48	34	1.43 [0.75-2.74] 1	2.14	0.34 ^{NS}
Final decision for the problem related pro Self Husband Mother-in-law Person who accompanied with the case to	egnancy 30 30 48 o seek care	34 38	1.43 [0.75-2.74]		

@ regarding birth preparedness and complication readiness service; *Significant, NSNon significant at 0.05 level

DISCUSSION

In this study, most antenatal mothers belongs to young age group, educated, multi-gravida, homemaker, belongs to joint family and received information for birth preparedness from family with family income of Rs 5000-10000 per month. Most of them were in their 3rd trimester and did their antenatal registration in any hospital. Antenatal mothers staying in close proximity to health care facilities. They will use ambulances in emergency conditions for transportation to hospital. In both normal and emergency conditions, they prefer to come to a government hospital for delivery. During any problem related to pregnancy the final decision will be taken by their mother-in-law and they will also accompany them to seek care during delivery and afterward also.

In the present study, antenatal mother has poor level of awareness (54) regarding warning signs of pregnancy and less knowledge of birth preparedness and complication readiness. Another study also showed only 40.75% antenatal mothers know about danger signs of pregnancy and no woman knows eight danger signs of pregnancy.^(15, 16) Another study showed 58.5% antenatal mothers had good knowledge of birth preparedness and complication readiness.⁽¹⁷⁾ The reason for this difference in knowledge could be majority of females in our study are only educated either Bachelor of Arts or Senior secondary, in which there is no such curriculum related to genitourinary system, which could a reason for this big gap in knowledge.

A significant association of level of awareness with age i.e. higher the age of antenatal mothers less will be awareness of birth preparedness and complication readiness, which is again a serious issue in the community and society every female who is more than 20 years should have compulsory knowledge of birth preparedness and complication readiness. Another study from Delhi showed contradictory results that as age increase, knowledge for birth preparedness and complication readiness improves, the reason could be metropolitan cities have more emphasis on female education than others. (18) Antenatal mothers and their spouse less education also showed a significant association with less awareness of birth preparedness and complication readiness, so every child; either male or female, showed get compulsory education until senior secondary. The government should further revise their existing education policy and try to identify loopholes and solve them.

Antenatal mothers who had a previous history of birth also showed less awareness of their birth preparedness and complication readiness, which is again pinpointing towards shortcomings in our existing maternal services provided by government. Another study from Ethiopia showed that as antenatal mothers visit any hospital for their four antenatal visits, their knowledge improves always.⁽¹⁹⁾

The antenatal mothers who are staying in proximity to health care facilities showed less awareness of birth preparedness and complication readiness, which again indicates no community education, was provided by health centers, which is again pointing towards our failure of community outreach program.

Antenatal mothers who would come via ambulance during emergency situations had less awareness of birth preparedness and complication readiness, which further raises questions towards maternal and child health services provided through various health program, whether future of our nation and the next generation is safe or not.

CONCLUSION

Proper planning and complete education may help a woman to avoid or minimize pregnancy related complications. Proper awareness regarding birth preparedness helps future mothers to give birth to healthier babies, feel easy after giving birth, recover quickly and can have a pleasant postpartum experience. It further minimizes risk for child's health problems. In this study, the majority of the antenatal mothers 54% had poor awareness which is again alarming sign for the health system of our country? Policy makers and administrator of health system must reevaluate the birth preparedness and complication readiness program that is running in our country. They must try to identify loophole is health system and fix it for betterment of antenatal services in our country. Antenatal outreach camps must be conducted to discuss issues and barriers that are hindering the adoption of appropriate practices relating to birth preparedness and complication readiness programs.

Recommendation

Planning before women get pregnant is very important. A woman should start planning for pregnancy as soon as she begins to have thoughts about having a baby. In this regard health personnel play a very important role as they have to educate the women about birth preparation and have a healthier pregnancy. Policy makers and administrator of health system must reevaluate again maternal and child health program and try to identify loophole and fix it for betterment of maternal and child health services.

Relevance of the study

The study helps in exploring maternal and child health program running in our country.

Author's contribution

All authors contributed in study from concepts, methodology, data collection and data analysis to manuscript writing. SM, KM and SK prepared con-

cept and did data collection of the study. SK and SJ did data analysis. SM and KKR did literature search and prepare report of this study.

Acknowledgement

We would like to extend my sincere regarding to participants of our study, who help us throughout our complete project.

REFERENCES

- Montgomery AL, Ram U, Kumar R, Jha P, for The Million Death Study C. Maternal Mortality in India: Causes and Healthcare Service Use Based on a Nationally Representative Survey. PLOS ONE. 2014: 9.
- WHO WHO. Millennium Development Goals (MDGs). World Health Organization: WHO; 2018; Available from: https://www.who.int/news-room/factsheets/detail/millennium-development-goals-(mdgs).
- Modh C, Lundgren I, Bergbom I. First time pregnant women's experiences in early pregnancy. International Journal of Qualitative Studies on Health and Well-being. 2011; 6.
- Beigi NMA, Broumandfar K, Bahadoran P, Abedi HA. Women's experience of pain during childbirth. Iranian Journal of Nursing and Midwifery Research. 2010; 15:77.
- Lampinen R, Vehviläinen-Julkunen K, Kankkunen P. A Review of Pregnancy in Women Over 35 Years of Age. Open Nursing Journal. 2009; 3:33.
- Kassaw A, Debie A, Geberu DM. Quality of Prenatal Care and Associated Factors among Pregnant Women at Public Health Facilities of Wogera District, Northwest Ethiopia. Journal of Pregnancy. 2020; 2020:9592124.
- 7. Godfrey KM, Inskip HM, Hanson MA. The long term effects of prenatal development on growth and metabolism. Seminars in reproductive medicine. 2011; 29:257.
- Bernard-Bonnin DA-C. Maternal depression and child development. 2004; 9:575.
- Biaggi A, Conroy S, Pawlby S, Pariante CM. Identifying the women at risk of antenatal anxiety and depression: A systematic review. Journal of Affective Disorders. 2016; 191:62.

- 10. Tamang ST, Dorji T, Yoezer S, Phuntsho T, Dorji P. Knowledge and understanding of obstetric danger signs among pregnant women attending the antenatal clinic at the National Referral Hospital in Thimphu, Bhutan: a cross-sectional study. BMC Pregnancy and Childbirth. 2021; 21:104.
- 11. Lothian JA. Safe, Healthy Birth: What Every Pregnant Woman Needs to Know. Journal of Perinatal Education. 2009; 18:48.
- 12. Asrat T, Baraki N, Assefa N, Alemkere G. Birth Preparedness among Women Who Gave Birth in the Last Twelve Months in Jardega Jarte District, Western Ethiopia. Journal of Pregnancy. 2019; 2019:6473725.
- Singh R, Neogi SB, Hazra A, Irani L, Ruducha J, Ahmad D, et al. Utilization of maternal health services and its determinants: a cross-sectional study among women in rural Uttar Pradesh, India. Journal of Health, Population and Nutrition. 2019; 38:13.
- 14. Soubeiga D GL, Hatem MA, Johri M. Birth Preparedness and Complication Readiness (BPCR) interventions to reduce maternal and neonatal mortality in developing countries: systematic review and meta-analysis. BMC Pregnancy and Childbirth 2014; 14:129.
- Sharma N, Kumar N, Singh S, Malik JS, Jangra A. Status and determinants of birth preparedness and complication readiness in a rural block of Haryana. J Family Med Prim Care. 2019: 8:482.
- Kiataphiwasu N, Kaewkiattikun K. Birth preparedness and complication readiness among pregnant women attending antenatal care at the Faculty of Medicine Vajira Hospital, Thailand. International journal of women's health. 2018; 10:797.
- 17. Kusuma YS, Kaushal S, Garg R, Babu BV. Birth preparedness and determinants of birth place among migrants living in slums and slum-like pockets in Delhi, India. Sex Reprod Healthc. 2018; 16:160-6.
- Acharya AS, Kaur R, Prasuna JG, Rasheed N. Making Pregnancy Safer—Birth Preparedness and Complication Readiness Study Among Antenatal Women Attendees of A Primary Health Center, Delhi. Indian J Community Med. 2015; 40:127.
- Letose F, Admassu B, Tura G. Birth preparedness, complication readiness and associated factors among pregnant women in Agnuak zone, Southwest Ethiopia: a community based comparative cross-sectional study. BMC Pregnancy and Childbirth. 2020; 20:72.