

Impact of Antenatal Care on Birth Preparedness and Knowledge of Obstetrics Danger Signs in Married Indian Women Attending a Tertiary Care Hospital

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Abstract

Aims & Objective: The objective of this study was to compare the knowledge, attitude and practices (KAP) among women attending ANC and those not receiving ANC with reference to recognizing the danger signals of high risk pregnancy. *Material and Methods:* The survey was conducted using a pre-designed, structured questionnaire. 150 women who had availed antenatal care and 150 women who had never availed ANC responded to the questionnaire. All data was entered in SPSS (Statistical package for Social Sciences) version 10.0 (SPSS, Chicago, Illinois, USA). Cross tabulations were obtained in order to compare women receiving and not receiving antenatal care. *Results:* The mean age of women in our study was 25±7.1 years. Mean family income per month was Rs 10,000±8,000 and 19.5% of the women were illiterate with majority (81.5%) being housewives. Antenatal care used in any of the previous pregnancy was 65.02% in the ANC group. 35.8% women had studied up to secondary school and 39.8% of their husbands had higher education.

Statistically significant difference was found among women who received antenatal care as compared to those who did not in recognizing fever (OR=2.8, 95% CI 1.4-5.5), persistent vomiting (OR=2.35, 95% CI 1.19-4.64), dizziness and fainting (OR= 1.18, 95% CI 0.57-2.42) and antepartum haemorrhage

(OR=2.1, 95% CI 1.2-3.86) as danger signs in pregnancy. There was no significant difference between the two groups with regards recognizing breathlessness, persistent palpitations, generalised oedema, previously scarred uteri, multiple abortions and jaundice in pregnancy. *Conclusion:* Significant number of women had a basic knowledge of danger signs for anaemia, hypertension and infections in the proactive ANC group; however women are still negligent regarding unsupervised MTP Pill intake, unsafe abortions, scarred uteri, medical disorders with pregnancy. Therefore, health personals should strengthen their awareness creation activities in the community with emphasis on the predictors of high risk pregnancy.

Keywords: Antenatal Care; KAP; Oedema.

Introduction

Pregnancy and childbirth are two important natural processes in a woman's lifetime. Majority of pregnancies are normally free from complications, but sometimes problems do arise. These complications are preceded by certain signs and symptoms which are referred as "danger signs" in obstetrics. If these danger signs are recognised and timely action taken, many complications during pregnancy can be avoided. Antenatal care provided to women during pregnancy is considered as a major way of awareness regarding these danger signs.

As per World Health Organisation (WHO), approximately 3,03,000 women and adolescent girls died as a result of pregnancy and childbirth-related complications in 2015 [1]. Around 99% of these deaths were in low-

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resource countries and most of these are preventable. India and Nigeria were estimated to account for over one-third of all maternal deaths worldwide in 2015, with an approximate of 45,000 maternal deaths (15%) occurring in India alone [2].

There is an evidence that with effective interventions, almost two thirds of the global maternal and neonatal disease burden could be alleviated through optimal adaptation and uptake of existing research findings [3].

Antenatal care is a medical service provided to a woman throughout her pregnancy in order to ensure safe pregnancy and childbirth. The primary objective of antenatal care is to prevent, detect and alleviate pregnancy complications and manage health problems that develop during pregnancy or pre-existing health problems that worsen during pregnancy. With the assumption that "every pregnancy faces risks", women should be made aware of the danger signs of obstetric complications during pregnancy, delivery and the postpartum^[4,5,6,7]. To improve the pregnancy outcome there is, therefore, a need for women to be aware of changes during normal pregnancy and warning signs of pregnancy complications.

WHO introduced a concept of "focused antenatal care (FANC)" in 2016, which emphasises targeted and individualised care and birth planning. Focused antenatal care (FANC) segregates pregnant women into those eligible to receive routine ANC from those who need specialised care for specific health conditions or risk factors [8].

WHO recommends a minimum of four antenatal visits under focused antenatal care. On contrary, demographic survey in 2005-06 had shown that in India 61.3% deliveries were at home and approximately 58.3% received no antenatal check-up [9]. Keeping this background in view, the aim of our study was to compare the knowledge among women who availed antenatal care and those who never received ANC in reference to recognition of obstetrics danger signs and to analyze impact of demographic profile, socioeconomic status and level of education on it.

Materials and Methods

A cross-sectional study was conducted in Vardhman Mahavir Medical College and Safdarjung hospital, New Delhi, India during the period from September 1 to October 31, 2015 among married women of reproductive age group who had a delivery in the last five years. A total of 300 women, 150 who had availed antenatal care while another 150 women who had never availed ANC were enrolled.

A survey was conducted using a pre-designed, structured questionnaire. The data entry and analysis were done by using SPSS-version 16. Descriptive statistics like mean and percentage were used. Chi square test was used for comparison between the groups. A p-value of <0.05 was taken as statistically significant.

Table 1: Socio-demographic characteristics of study and control group

Variables	Group A(n=150)		Group B(n=150)	
	Number	Percentage	Number	Percentage
Age (Years)				
≤ 20	24	16%	39	26%
21-30	99	66%	81	54%
>30	27	18%	30	20%
Education (Women)				
Illiterate	17	11%	42	28%
Primary school	33	22%	59	39%
Middle school	57	38%	30	20%
High school and above	43	29%	19	13%
Education (Spouse)				
Illiterate	10	7%	39	26%
Primary school	34	23%	66	44%
Middle school	59	39%	26	17%
High school and above	47	31%	19	13%
Monthly Income				
<10,000	18	12%	47	31%
10,000-20,000	92	61%	82	55%
>20,000	40	27%	21	14%

Results

Study women were divided into two groups. Group A, consists of 150 women who had at least one or more antenatal visit while Group B consists of 150 women who had no antenatal visit during their antecedent pregnancy. All women in this study were married. Majority of women in both groups (i.e 66% in Group A vs 54% in Group B) were 21-30 years of age. Both study groups were comparable in parity and socioeconomic status (Table 1).

Women who attended antenatal clinics were more aware of "danger signs" in first trimester including "fever", "vomiting" and "bleeding per vaginum". Sixty percent (90/150) women in Group A were aware that bleeding per vaginum is a predictor of high risk pregnancy and immediate reporting to hospital is required in such a situation as compared to 42% (62/150) women in Group B. Few women in both study

groups considered "history of abortion" and "previous caesarean section" as high risk factors (Table 2).

Considering awareness regarding second and third trimester "danger signs", statistically significant number of women in Group A knew about bleeding and leaking per vaginum in comparison to Group B. Around 65% women in Group A knew that they need to report to doctor in case of jaundice during pregnancy in comparison to 47% women in Group B (p value 0.002). However, knowledge of signs of impending eclampsia was low in both the groups, still women in Group A performed significantly better (Table 3).

Significantly more number of women in Group A in comparison to Group B women were aware of need to report to hospital in case of excessive bleeding, fever and loss of consciousness during postpartum period (Table 4).

Table 2: Awareness of first trimester "danger signs"

Danger sign	Group A (n=150)		Group B (n=150)		P value
	Number	%	Number	%	
History of abortion	54	36	39	26	0.16
Previous caesarean section	27	18	16	11	0.09
Fever	65	43	28	19	0.001
Vomiting	62	41	39	26	0.004
Bleeding per vaginum	90	60	62	42	0.002

Table 3: Knowledge of predictors of high risk pregnancy in second and third trimester

Predictors	Group A		Group B		P value
	No	%	No	%	
Breathlessness	71	47	51	34	0.02
Edema	59	39	57	38	0.4
Headache	59	39	40	27	0.02
Blurred Vision	68	45	43	29	0.005
Convulsion	125	83	91	61	0.001
Jaundice	98	65	70	47	0.002
Bleeding per vaginum	108	72	78	52	0.005
Leaking per vaginum	95	63	61	41	0.0002

Table 4: Knowledge of predictors of high risk pregnancy during postpartum in two groups

Predictors	Group A		Group B		P value
	Number	%	Number	%	
Excessive bleeding	92	61	63	42	0.001
Fever	74	49	42	28	0.001
Loss of consciousness	107	71	90	60	0.06

Discussion

This hospital based cross-sectional study assessed the knowledge of obstetrics danger signs among women attending antenatal clinic and those who don't.

In our study, a statistically significant difference was observed in awareness of women who received antenatal care in comparison to their counterparts who didn't received any antenatal care. Awareness of antenatal women regarding these obstetrical danger signs is important, for timely intervention and prevention of complications. Three phases of delay

to access care have been described: delay in making the decision to seek care; delay in arrival at a health facility; and delay in receiving appropriate treatment after arriving at the health facility. Awareness of the danger signs of obstetric complications among pregnant women and in their communities is the first step to accepting appropriate and timely referral to essential obstetric care [10].

Awareness of women regarding these obstetrical danger signs can come either from their knowledge from previous pregnancy or from experience of some other family member or visit to antenatal clinic for followup or from mass media awareness programme. We observed major impact of antenatal care in this perspective, in our study. We didn't find any other study comparing importance of antenatal care in this aspect in our literature search.

Our study revealed that awareness of predictors of high risk pregnancy is influenced by educational status of both the woman herself and her spouse. Majority of women (i.e 67%) who attended ANC had middle and high school education as compared to 33% who had no ANC visits ($p < 0.05$). Besides, 70% of spouses of women in Group A had education up to middle and high school level whereas only 30% in Group B had similar education level ($p < 0.05$). Educational status had also shown statistically significant association with knowledge about danger signs in a study by Demissie et al, in ethiopia, in 2015 [11]. On contrary, educational status of women bears no importance in terms of their health facility seeking behaviour and birth preparedness if proper counselling was provided to women during antenatal period, as per Pembe et al, in their study in Tanzania [12].

As per our study, bleeding and leaking per vaginum, jaundice and convulsions were known as predictors of high risk pregnancy by majority of women attending ANC clinics. However, headache and edema which are signs of impending eclampsia were not known to both the groups. Also during postpartum period, severe bleeding following childbirth and loss of consciousness were appreciated as danger signs by majority of women. On the other hand, awareness of postpartum fever as obstetrical danger sign is low in both groups, irrespective of whether they received antenatal care or not (i.e 49% vs 28%). Higher awareness of vaginal bleeding after delivery is also reported in a poor fishing community in Karachi, Pakistan [13]. The reason excessive vaginal bleeding after delivery is most commonly recognized as a danger sign may be that it is the most visible sign and the most common cause of maternal death immediately after delivery [5,14].

Conclusion

This study shows that a significant number of women attending the antenatal clinics had a basic knowledge of danger signs for anaemia, hypertension and infections when compared with women not attending antenatal clinics. Significant number of women in both the groups were unaware of scarred uteri, multiple abortions, headache and edema (signs of impending eclampsia) and other medical disorders associated with pregnancy. Women who received antenatal care knew the importance of regular health check-ups during pregnancy and predictors of high risk pregnancy more oftenly than who don't. This poor awareness may be due to inadequate counseling or poor understanding of danger signs during pregnancy among those attending antenatal clinics.

In conclusion, there is an urgent need to increase ANC coverage universally for every pregnant women. The involvement of family and community is crucial for motivating women to attend antenatal clinics during pregnancy. Universal basic education can also contribute significantly in this direction, as educated women are more aware of antenatal care and hence high risk factors of pregnancy. But, if proper counselling and focused antenatal care is provided, birth preparedness and awareness of danger signs will be same in educated and illiterate females.

Based on this study we would like to recommend that efforts should be made to strengthen community awareness programmes in order to provide information on predictors of high risk pregnancy and to encourage women to attend antenatal clinics. This will reduce the percentage of women reaching hospital in critically ill state and inturn will help in improving fetomaternal outcome of pregnancy.

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