

Level of awareness of risk factors and danger signs of pregnancy among pregnant women attending antenatal care in PHC, Nandagudi

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ABSTRACT

Danger signs of pregnancy are warning signs that women encounter during pregnancy, child birth and post-partum period. It is important, to know these warning signs for women and health care providers to rule out serious complications and initiate treatment immediately. **Objectives:** 1. To assess the awareness of danger signs of pregnancy among pregnant women attending antenatal care in Nandagudi PHC. 2. To give health education to the pregnant women about the risk factors and danger signs. **Methodology:** A cross sectional study was conducted in PHC, Nandagudi, field practise area of MVJMC and RH. Study was carried out from September 2017 to November 2017. A total of 210 pregnant women who attended the ante natal clinic at PHC, Nandagudi were the study subjects. A pre designed pretested questionnaire was used. Data collected was thus entered in M S excel and was analysed using SPSS 21 version. **Results:** 60% of the study population belonged to the age group 23-27. Majority (90%) of them knew the importance of iron and folic acid. 72% of the cases knew the importance of blood group in pregnancy. Majority (91%) preferred hospital delivery compared to home delivery (9%). All 210 women knew about only 3 danger signs, they are bleeding per vagina, loss of consciousness and convulsions. **Conclusion:** Every pregnant woman faces the risk of sudden, unpredictable complication that could end in death or injury to herself or to her infant. Hence, it is necessary to employ strategies to overcome such problems as they arise.

Keywords: Antenatal women, danger signs, knowledge

Introduction

The danger signs of pregnancy are warning signs that women encounter during pregnancy, child birth and post-partum period. It is important, to know these warning signs for women and health care providers to rule out serious complications and initiate treatment immediately.

The most common danger signs during pregnancy that can increase the risk of maternal deaths are: vaginal bleeding,

convulsions or fits, high fever, abdominal pain, severe headache, blurred vision, absence of foetal movements, gush of fluid from vagina, foul smelling vaginal discharge.^[1]

According to World Health Organisation (WHO), maternal mortality rate is unacceptably high. About 295000 women died during and following pregnancy and childbirth in 2017. Sub-Saharan Africa and Southern Asia accounted for approximately 86% of the estimated deaths in 2017.^[2]

In India, there has been a significant reduction in maternal mortality ratio. WHO commends India for its progress in the recent years in reducing the MMR by 77%, from 556 per 100,000 live births in 1990 to 130 per 100,000 live births in the year 2016.^[3] The reduction may be attributed to the

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good Screening for high risk conditions. Screening for high risk conditions in pregnancies, known as the risk approach, which is a managerial tool and is an integral component of antenatal primary health care.^[4] This risk approach involves early detection of high risk pregnancies to ensure prevention of obstetric complications.^[5]

In spite of the risk approach, there is still a need to improve the awareness among women about the danger signs during pregnancy as most of the morbidity resulting from neglected or inadequately managed obstetric complications is far greater than mortality often leading to grave consequences like: formation of various fistulae, reproductive tract infection and infertility.^[6]

Every pregnant woman faces the risk of sudden and in predictable complications that could end in death or injury to herself or her infant. Hence, it is necessary to employ strategies to overcome such problems as and when they arise. Lack of advanced planning for use of a skilled birth attendant for normal delivery. The adequate preparation required for any rapid action in the event of obstetric complications are documented factors which delay in receiving skilled obstetric care.^[7,8]

Maternal morbidity and mortality can be reduced significantly if women and their families can recognize the danger signs on time and seek proper health care.

Furthermore, there is evidence suggesting improvement in knowledge about obstetric danger signs will facilitate early detection of problems and improve decision making to access appropriate healthcare.^[9]

Besides, these danger signs may be easily identified by non-specialist health workers who form the backbone of primary healthcare, and may help to counter the lack of skilled birth attendants and emergency obstetric services. Thus, empowering women to identify danger signs will go a long way in strengthening primary health care.^[10]

However, very little is known about the current knowledge and influencing factors in the study area. Therefore, this study aims to fill this gap by assessing the knowledge and determinants of danger signs among pregnant women seeking obstetric care in a teaching hospital. Hence this study was done to assess the level of awareness among people of rural area of Nandagudi.

Objectives

1. To assess the awareness of danger signs of pregnancy among pregnant women attending antenatal care in Nandagudi PHC
2. To give health education to the pregnant women about the risk factors and danger signs

Methods

Study design

This was a cross sectional descriptive study.

General setting

The study was conducted in Hoskote taluka of Bengaluru rural district of the state of Karnataka with a population of 66.8 million. Bengaluru rural comprises of 4 Talukas – Devenhalli (population - 2,09,622), Doddaballapura (population - 2,99,594), Hoskote (population- 2,70,818) and Nelamangala (population -2,10,889). The terrain of the district is mainly a plain area and population of 9, 90,923. MVJ medical College and research hospital is a teaching hospital situated in Hoskote, Bengaluru rural.

Specific setting

The study was conducted in Primary Health Centre, Nandagudi, one of the field practise area of Department of Community Medicine, MVJ Medical College and Research Hospital, Dandupalya, Bengaluru rural.

Study population

The study included pregnant women between 18-32 years of age who attended ante natal clinic at PHC Nandagudi from September 2017 to November 2017. A total of 210 pregnant women who attended the ante natal clinic at PHC, Nandagudi which is on every Wednesday were the study subjects. Women who refused to give consent, who were not permanent residents of Nandagudi and who had high risk pregnancy, were excluded from the study.

Data variables, source of data and data collection

A pre designed, pretested questionnaire which was prepared and pilot tested by the principal investigator was used to collect data. After collecting the data health education session was conducted among the same antenatal women who had filled the proforma. Health education was about the risk factors and danger signs. The principal investigator is fluent in local language. Health education was given by the principal investigator in the local language (Kannada). Health education was conducted with the help of banners, flipcharts and pamphlets were also distributed. One month after the health education session the same questionnaire was administered again and post-test.

Data analysis

Data collected was coded and entered in M S excel and was analysed using SPSS version 22. Pre-test and post-test was evaluated by scoring both the pre-test and post-test and comparing by using paired T test.

Ethics approval

Ethics approval was obtained from the Institutional Ethics Committee of the MVJ Medical College and research hospital, Hoskote, Bengaluru, India. Informed consent was taken from all the study subjects November 15 2018.

Results

A total of 210 women were surveyed. Out of 210 antenatal women, majority i.e., 60% of the study population were in age group 23-27 and only 1% of study population belonged to age group 28-32 years [Figure 1]. Of the study population majority of them around 55% were educated up to high school level, 9% was illiterate and only about 6% of the women had completed their degree. About 80% of the study population belonged lower middle class [Figure 2]. About danger signs of pregnancy all 210 women had knowledge about at least 3 danger signs – bleeding PV, abdomen pain and convulsions [Table 1]. The least that is only 2 women knew about loss of consciousness and reduced fetal movements. Of the 18 illiterate women only 3 (%) women had knowledge about antenatal care and among women who were educated 158 (%) women had knowledge [Table 2]. This difference was found to be statistically significant. Regarding the education status, there was a difference in knowledge regarding spacing with respect to education status and the difference

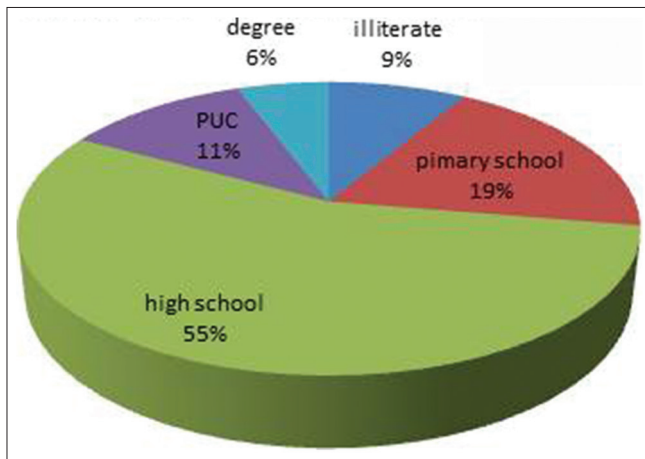


Figure 1: Educational status of study population

Table 1: Awareness of danger signs

Sl.no.	Danger signals	knowledge
	Fever	78 (37.1%)
	Bleeding PV	210 (100%)
	Reduced fetal movements	2 (0.95%)
	Leaking pv	4(1.90%)
	Blurred vision	7 (3.33%)
	Abdomen pain	210(100%)
	Loss of consciousness	2 (0.95%)
	Convulsions	210 (100%)

Table 2: Association between education status and regarding knowledge of ante natal care

	ANC yes	ANC no	P
Illiterate	3	15	
Literate	158	34	
Total	161	49	0.0000001*

*highly significant

was found to be statistically significant [Table 3]. There was significant difference in the scores post intervention [Table 4]. This difference is found to be statistically significant.

Discussion

In a women’s life pregnancy is a normal phenomenon. However, around 40% of pregnancies are said to be high risk. To overcome the adverse maternal and fetal outcomes which occur due to pregnancy complications, awareness of danger signs in pregnancy are important key parameters.

Our study is relevant to primary care physicians as it focuses on the awareness of pregnant women about the various risk factors and danger signs of pregnancy. Awareness of danger signs is an integral part of ante natal care, which is very important for all primary care physicians in order to ensure a healthy mother and a healthy fetus. In order to ensure a healthy mother and healthy fetus, it is very important to understand the maternal knowledge and practices of the ante natal mothers during pregnancy. Ante natal care is one of the major pillars to attain the sustainable development goal of reduction of maternal mortality ratio. Hence, this study was done to assess the awareness of danger signs among pregnant women in the rural area.

The danger signs which we have taken for our study are fever, bleeding PV, reduced fetal movements, leaking PV, blurred vision, abdomen pain, loss of consciousness and convulsions.

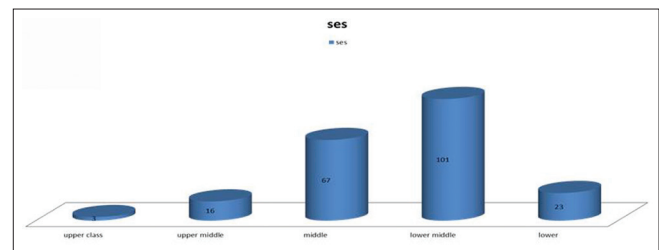


Figure 2: Distribution according to socio economics status

Table 3: Association between education status and knowledge regarding spacing

	Spacing knowledge	No spacing knowledge	P
Illiterate	5	13	
Literate	161	31	
Total	133	77	0.0000001*

*highly significant

Table 4: Comparison between pretest and post test scores

	Mean	Standard deviation	Significance (2 tailed)
Pre test scores	22.30	1.889	0.000
Post test scores	24.85	2.295	

In our study, all 210 women had knowledge about at least 3 danger signs – bleeding per vagina, abdomen pain and convulsions. 37.14% of the women had knowledge about fever as one of the danger sign, 3.33% women knew about blurred vision as a danger sign, 1.9% had knowledge about leaking pv and only 0.95% of the study population had knowledge about reduced fetal movements and loss of consciousness as the danger sign in pregnancy.

Of the 18 illiterate women, only 3 (%) women had knowledge about antenatal care and among women who were educated 158 (%) women had knowledge. Majority (90%) of them knew the importance of iron and folic acid. Similar findings were observed by Hassan and Omar^[11] where the study showed a good knowledge score among antenatal mothers about the use of iron and folic acid. In another study by Somu P *et al.*,^[12] 82.9% of the mothers were aware about the importance of iron and folic acid.

In the present study, 72% of the cases knew the importance of blood group in pregnancy. Majority (91%) preferred hospital delivery compared to home delivery (9%). There was significant improvement in the scores post intervention i.e., after giving health education.

In a study conducted by Somu P *et al.*, knowledge about danger signs like pain abdomen was 16.8%, bleeding per vagina was 23.9%, leaking per vagina was 25.4%. Danger signs like pedal edema, fever, convulsions were known to be 4.3%, 12.9% and 22.9% respectively.^[12]

The findings of another study^[13] revealed good knowledge of respondents regarding obstetric danger signs. In that study, the most common danger sign mentioned during pregnancy was vaginal bleeding by 64.7% mothers which was lesser than our study.

In a study done in Dale district of Southern Ethiopia revealed severe vaginal bleeding as most common danger sign which was reported by 68.4% pregnant mothers. 45.5% and 29.1% of women could mention at least 2 danger signs of childbirth and postpartum.^[14]

When considering awareness of danger signs, a study^[15] found the percentage of pregnant women who mentioned all danger signs during pregnancy were 19.4%. In another study,^[16] 29.1% identified severe vaginal bleeding as a danger sign at any time during pregnancy.

In contrary to our study a research done by Demissie *et al.*^[17] in South West Ethiopia showed that only 66.8% of respondents know vaginal bleeding, 29.4% reduced fetal movement and 23.9% swollen hand and face as danger sign of pregnancy.

In study done by Mubeena^[18] in Mangalore, knowledge about vaginal bleeding was found to be highest, which was followed by anemia, excessive vomiting and decreased fetal movements.

The study by Acharya *et al.*^[19] was conducted in New Delhi, India. The common danger signs enumerated by their study population were severe bleeding (20.1%), pain abdomen (8.6%), swelling of face and hands (6.7%), and reduced fetal movement (5.8%). While in a study conducted by Sahithi *et al.* in Hyderabad, India, 39% of study participants reported convulsion as danger sign in pregnancy.^[20]

In other studies, 74.3%,^[21] Debar town north west 66.8%,^[22] Debra Birhan town 45.4%,^[23] Southeast Nigeria 67%,^[24] Lagos, Nigeria 48.4%,^[25] subjects mentioned vaginal bleeding as one of the danger signs of pregnancy.

The difference in the percentage of women's knowledge about danger signs in various studies might be due to socio-cultural difference, different study designs, location differences and difference in the implementation of relevant health intervention programs. This could also be attributable to the time gap that there could be improved in access and utilization of the health care information being provided.

In study done by Demissie *et al.*,^[17] educational status study participants were affecting the level of awareness, as educational status increase the level of awareness also increases.

Though all the study participants had knowledge of 3 obstetric danger signs, there was however a lack of knowledge for some of the important specific danger signs among study participants.

Our study is not devoid of limitations. First of all, the present study was conducted among women who came for regular antenatal checkup. Thus, generalization of the study findings would be difficult. Further, due to feasibility and time constraints, convenient sampling method was used to select the study participants. The ability to explore the reasons for actions the women took after recognizing the danger signs were limited because of the use of a structured interview format. One more limitation of our study was that the interval between the pre-test and post-test was only one month.

In the present study, knowledge about danger signs was assessed. All the respondents (100%) knew about at least 3 danger signs like– bleeding per vagina, abdomen pain and convulsions. The knowledge in our study was good in comparison to other studies where the respondents had poor knowledge about the danger signs. However, there were some gaps as knowledge about fever as one of the danger sign was not good and knowledge about blurred vision, leaking pv, reduced fetal movements and loss of consciousness as the danger sign in pregnancy was found to be very low. But this gap was overcome by giving proper health education about all the danger signs of pregnancy to the respondents because of there was significant improvement in post intervention scores. So by our study, we have tried to fill in the gap in the knowledge about danger signs by appropriate health education.

It is recommended that further exploratory studies on healthcare seeking behavior will provide insights into the association

between having knowledge and health care seeking actions of the pregnant women.

Conclusion

Women's knowledge of danger signs during pregnancy positively influenced their decisions regarding when to seek medical care and when to take appropriate action. It is imperative to educate pregnant women about obstetric danger signs, which could go a long way in improving the maternal and fetal outcomes. Further studies are recommended to address the knowledge gap and to plan more effective interventions for improving antenatal care in limited resource settings.

Recommendations

1. Proper ANC visits and utilisation of facilities provided by government to pregnant women
2. Nutritious diet to be encouraged
3. Knowledge regarding spacing between pregnancies, risks of teen age and old age pregnancy should be enhanced
4. Mild physical activity and de stressing attitude should be encouraged
5. Ensure proper social support to the pregnant lady.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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