

Original Research Article

# AWARENESS OF OBSTETRIC DANGER SIGNS AMONG ANTENATAL WOMEN IN RURAL SOUTH INDIA: A CROSS-SECTIONAL STUDY OF 300 PATIENTS IN A FREE TERTIARY CARE SETTING

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## ABSTRACT

**Background:** Maternal mortality continues to be a major public health concern in low-resource settings, with delays in recognizing obstetric danger signs contributing significantly to adverse outcomes (1,5). The objective is to assess the level of knowledge regarding danger signs during pregnancy and identify factors influencing awareness among antenatal women.

**Materials and Methods:** A cross-sectional study was conducted among 300 antenatal women attending the ANC clinic at Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, Karnataka, India. Data were collected using a structured questionnaire. Knowledge scores were categorized into good, average, and poor. Statistical analysis included descriptive statistics and chi-square testing.

**Results:** Overall, 36% of participants had good knowledge, 41% average knowledge, and 23% poor knowledge. Vaginal bleeding (68%) and abdominal pain (61%) were the most recognized danger signs, whereas convulsions (34%) and blurred vision (39%) were least recognized. Education and parity were significantly associated with knowledge levels ( $p < 0.05$ ).

**Conclusion:** Awareness of danger signs remains suboptimal despite access to free tertiary care. Strengthening structured antenatal education is essential to improve timely care-seeking and maternal outcomes.

**Keywords:** Obstetric Danger Signs, Antenatal Women.

## INTRODUCTION

Maternal mortality remains a significant global health challenge, particularly in low- and middle-income countries.<sup>[1]</sup> Despite improvements in antenatal care coverage and institutional deliveries, preventable maternal deaths continue to occur due to delays in recognizing complications and seeking appropriate care.

Knowledge of obstetric danger signs is a critical determinant of early healthcare-seeking behaviour. Women who are aware of warning symptoms such as vaginal bleeding, severe headache, and reduced fetal movements are more likely to seek timely medical attention.<sup>[2,3]</sup> However, studies from rural settings consistently report suboptimal awareness levels.<sup>[2-5]</sup>

Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, operates a unique model providing completely free tertiary care services. While financial barriers are eliminated, it remains important to evaluate whether awareness gaps persist even in such settings.

**Objectives:** To assess the level of knowledge regarding danger signs during pregnancy and identify factors influencing awareness among antenatal women.

**Primary Objective:** To assess knowledge of danger signs during pregnancy among antenatal women.

**Secondary Objectives:** To determine socio-demographic factors influencing awareness; to

identify sources of information; and to suggest interventions for improving awareness.

## MATERIALS AND METHODS

A cross-sectional study was conducted among 300 antenatal women attending the ANC clinic at Sri Madhusudan Sai Institute of Medical Sciences and Research, Muddenahalli, Karnataka, India. Data were collected using a structured questionnaire. Knowledge scores were categorized into good, average, and poor. Statistical analysis included descriptive statistics and chi-square testing.

**Study Design:** Cross-sectional descriptive study.

**Study Population:** Pregnant women attending the ANC clinic.

**Sample Size:** 300 antenatal women

**Data Collection Tool:** Structured questionnaire assessing socio-demographic characteristics, obstetric history, and knowledge of key danger signs.  
**Knowledge Scoring:** □75% (Good), 50–74% (Average), <50% (Poor).

## RESULTS

A total of 300 antenatal women were included in the study. Socio-Demographic Characteristics- As shown in [Table 1], most participants (68%) were aged 20–30 years, with 12% below 20 years and 20% above 30 years. The majority were literate (78%), while 22% were illiterate. Primigravida and multigravida women constituted 46% and 54% of the sample, respectively.

**Table 1: Socio-Demographic Profile (n=300)**

Variable	Frequency	Percentage
Age 20–30 years	204	68%
Age <20 years	36	12%
Age >30 years	60	20%
Literate	234	78%
Illiterate	66	22%
Primigravida	138	46%
Multigravida	162	54%

### Awareness of Individual Danger Signs

[Table 2] shows that vaginal bleeding (68%) was the most recognized danger sign, followed by abdominal pain (61%) and reduced fetal movements (58%).

Awareness was moderate for swelling (52%), headache (47%), and fever (44%), but low for blurred vision (39%) and convulsions (34%), indicating poor recognition of critical neurological warning signs.

**Table 2: Awareness of Individual Danger Signs**

Danger Sign	Aware (n)	Percentage
Vaginal bleeding	204	68%
Severe abdominal pain	183	61%
Reduced fetal movements	174	58%
Swelling of face/hands	156	52%
Severe headache	141	47%
Fever	132	44%
Blurred vision	117	39%
Convulsions	102	34%

**Overall Knowledge Levels:** As depicted in [Table 3], 36% of participants had good knowledge, 41%

had average knowledge, and 23% had poor knowledge, reflecting overall suboptimal awareness.

**Table 3: Overall Knowledge Levels**

Category	Frequency	Percentage
Good	108	36%
Average	123	41%
Poor	69	23%

**Association with Education:** [Table 4] demonstrates a significant association between education and knowledge levels, with literate women

showing better awareness compared to illiterate women (Chi-square = 17.84,  $p < 0.001$ ).

**Table 4: Association Between Education and Knowledge**

Education	Good	Average	Poor
Literate	96	99	39
Illiterate	12	24	30

Chi-square = 17.84,  $p < 0.001$  (Statistically significant)

**Association with Parity:** As shown in [Table 5], multigravida women had significantly better knowledge than primigravida women (Chi-square =

10.96,  $p = 0.004$ ), suggesting the role of prior pregnancy experience.

**Table 5: Association Between Parity and Knowledge**

Parity	Good	Average	Poor
Primigravida	33	63	42
Multigravida	75	60	27

Chi-square = 10.96, p = 0.004 (Statistically significant)

**Sources of Information:** [Table 6] indicates that healthcare providers (64%) were the primary source

of information, followed by ASHA workers (49%), family/peers (37%), and media (19%).

**Table 6: Sources of Information**

Source	Percentage
Healthcare providers	64%
ASHA workers	49%
Family/Peers	37%
Media	19%

**Summary of Result:** Overall, awareness of obstetric danger signs was suboptimal. Education and parity were significantly associated with knowledge levels, highlighting the need for targeted antenatal education.

## DISCUSSION

This study highlights that awareness of obstetric danger signs among antenatal women remains suboptimal, even in a setting where financial barriers to care have been eliminated. Similar findings have been reported in other low-resource settings.<sup>[2-4]</sup>

Education level was strongly associated with awareness, and multigravida women demonstrated better knowledge, likely due to prior exposure to healthcare services.<sup>[2,4]</sup>

Low awareness of neurological danger signs such as convulsions and blurred vision is concerning, as these are critical indicators of hypertensive disorders.<sup>[1]</sup> Failure to recognize these signs may delay care and worsen outcomes.

The findings reflect persistence of the ‘first delay’ in seeking care, as described in the three-delay model.<sup>[5]</sup>

## CONCLUSION

Awareness of danger signs during pregnancy remains inadequate. Strengthening structured antenatal education is essential to improve maternal health outcomes.

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