

Video-tutelage on obstetric danger signs among spouses of antenatal mothers

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ABSTRACT

INTRODUCTION: During pregnancy, all antenatal women face the danger of death due to obstetrics entanglements. Spouse support is a must to reduce obstetric complications. This study assessed and educated the spouse of an antenatal mother's knowledge level on obstetric danger signs in Vani Vilas hospital, Bangalore, India.

METHODS: This evaluative study was conducted among 50 spouses of Antenatal mothers. The levels of knowledge were analyzed using pre- and post-education sessions.

RESULTS: Before the intervention, 17 out of 50 subjects (34%) had adequate and moderately adequate knowledge; respectively, there was inadequate knowledge among 16 (32%) spouses. After the intervention, all the subjects, 50 (100%), had an adequate knowledge level. To evaluate the intervention's effectiveness, a paired t-test was computed ($t = 15.68$ $p < 0.05$). Among 50 (88%), 44 had adequate knowledge, and 6 (12%) had moderately adequate knowledge during pre-test scores on danger signs in labor. Regarding puerperium danger signs, 19 (38%) of them had adequate knowledge, and 27 (54%) and 4 (8%) of them had moderately adequate and inadequate knowledge, respectively. In post-tests, 50 (100%) of them had adequate knowledge regarding danger signs during labor, and 40 (80%), and 10 (20%) of them, had adequate and moderately adequate knowledge regarding danger signs during puerperium. Regression analysis revealed that antenatal visits (0.002), gravidity (0.022), and parity (0.034) were associated with the pre-test knowledge score of the spouses.

CONCLUSION: The video teaching program was significantly associated with the knowledge of spouses of antenatal mothers by knowledge enhancement, so it should be encouraged and adopted by all the hospitals.

Keywords: Knowledge, Obstetrics, Spouses, Mothers, Pregnancy.

INTRODUCTION

Being pregnant is a natural process, and the involvement of a male partner plays a significant responsibility in the mother's health and helps

reduce pregnancy-related death [1]. Low-income countries have a higher death rate for mothers and children than any other country. In 2015, the maternal mortality rate calculated in developing countries was 239 per 100000 live births and 12

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per 100000 live births in developed countries. In 2017, it showed that the MMR rate in low-income countries was 462 per 100000 live births versus 11 per 100000 live births in high-income countries. On average, women in emerging countries have more conceptions than women in advanced countries. Therefore, their lifespan threat of death due to conception is also higher [2]. Death during pregnancy has unreasonably increased worldwide, with around 810 to 830 women dying daily due to obstetrics complications. In 2017, the World Health Organization (WHO) measured that approximately 295,000 women lost their lives during conception or delivery. Most of these issues happened in poor economic situations, and the majority could have been prevented. For most of the conditions that lead to death for pregnant women, the causes may be either direct or indirect: the immediate causes include pregnancy outside the uterine cavity, clot or air bubble formation, and insensitivity related to issues like placenta Previa and uterine rupture. In contrast, the secondary causes include lower hemoglobin levels, HIV or AIDS-related diseases, cardiac diseases, malaria, and tuberculosis. These direct conditions mainly develop after conceiving and are controllable and/or curable [2].

The direct causes of maternal deaths in developing and developed countries vary in quantitative terms, even though qualitatively, they appear the same. An analysis of the causes of maternal deaths in 2006 found that the leading causes of maternal deaths in Africa and Asia were hemorrhage, hypertensive disorders, sepsis/infections, obstructed labor, and abortion. This indicated that most maternal deaths in less developed countries were due to direct obstetric causes, whereas, in developed countries, maternal deaths were due to indirect causes [3]. In Bangladesh, approximately 85% of maternal deaths result from direct obstetric causes, mainly hemorrhage among the age of 25 years women and eclampsia among 15-24 years [4]. In rural Rajasthan, India, 58% of maternal deaths were due to direct obstetric causes, mainly post-partum hemorrhage, and sepsis [5].

Indirect obstetric deaths result from previously existing diseases or diseases that developed during pregnancy and were not due to direct obstetric causes but aggravated by the physiological effects of pregnancy. Globally, indirect causes, which include conditions such as malaria, HIV/AIDS,

and cardiac diseases, account for about one-fifth of all maternal deaths. In developed countries, embolism was the leading indirect obstetric cause of maternal deaths in 2004. In Africa, however, indirect causes accounted for only 4.6% of maternal deaths. Recent estimates indicate that 18% of global maternal deaths result from indirect causes. Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and are preventable or treatable. Other complications may present before conception but are worsened during pregnancy, especially if not managed as part of the woman's care. The major complications that account for nearly 75% of all maternal deaths are mostly due to excessive bleeding and contamination, especially after delivery, increased blood pressure and convulsion during conception, and unwanted miscarriage [6].

Antenatal care visits must be compulsory for all antenatal women to prevent the danger of pregnancy death and for the baby's good health. Antenatal visits also give a chance to inform pregnant women about the possibility of developing complications. Helping hands should be called off or asked from the health care delivery center. The involvement of male partners becomes critical in patriarchal societies. Men, as parents and partners, have the potential to influence maternal health. Participation of men in obstetrics health services could improve their knowledge of obstetrics danger signs, which would help them make proper decisions in emergency conditions to protect pregnant women and their children and help them survive.

Several studies have been carried out regarding the role of men in women's reproductive health. They have shown that more highly educated male partners participate in high-income countries than in developing countries. Knowledge among spouses of pregnant mothers varied widely in different countries. In confirmation of this, the study was conducted among 25-34 years in Srilanka, which revealed that 24.8%, 40.2%, and 31.3% of them failed to provide at least a single answer correctly for GDM, anemia, and PIH, respectively, and also they had significantly higher scores, compared to younger and older fathers (chi-square 15.11, $p=0.001$) [7].

Another study in Kenya indicated that more educated men were significantly more

knowledgeable than less educated men (Kruskal-Wallis $H = 14.47$; $df = 3$; $p=0.002$). Men displayed good knowledge of the danger signs of obstetric complications, with 92.2%, 91.6%, and 90.4% recognizing severe abdominal pain, absence of fetal movement, and prolonged labor as danger signs, respectively [8]. The next study also showed that Men play a key role in birth preparedness regarding economic and emotional support. Although some cultures prohibit men from participating in the process of birth preparedness, there is a need to educate men in this regard. It is recommended to make more efforts to encourage men's participation through community education, which can effectively modify prohibitive cultural practices [9].

A study conducted in Nigeria about Men's level of knowledge about obstetric danger signs and their involvement in BP/CR was found to be very poor. Considering the importance of male involvement in maternal health care, it is recommended to advocate policies and strategies that can improve the awareness of men and enhance their engagement in maternal care [10]. A similar study in Ethiopia revealed that out of 824 men, half of them stated one danger sign occurred during pregnancy, 407(49.4%), one-third during delivery, 271 (32.9%), and 213 (25.8%) during the post-partum period. Regarding birth preparations, 256 (31.1%) had not made any preparations; 363(44.1%) made one step; 116 (14.1%) made two steps; 82(9.9%) made three steps; 5 (0.6%) made four steps; 2(0.24%) made five steps; and no one made all the birth preparations steps during the birth of their last child. BP/CR was significantly associated with knowledge of at least one danger sign during pregnancy (AOR=3.3, 95% CI: 3.1, 3.9); during delivery (AOR=2.2, 95% CI: 1.1, 2.8); and post-partum period (AOR=1.8, 95% CI, 1.1, 2.4).

Nepal also did the study and revealed that the husband's knowledge level was low during pregnancy, delivery & post-partum period, along with supporting activities. Similarly, there was low knowledge of emergency obstetric conditions; danger signs during pregnancy and post-partum. The practice of birth preparedness was found to be unsatisfactory regardless of knowledge [11]. As a result of the above studies, the male partner's active participation during pregnancy suggests it will effectively control the maternal mortality rate. The spouse's involvement in maternal health enables the men to support their wives in utilizing emergency services early. It also

helps prepare couples for the birth of a child and any complications arising in childbirth [12]. Therefore, a man acts as a gatekeeper regarding a woman's health, so assessing the man's knowledge regarding birth preparedness is vital. This research aimed to discover the level of understanding about the danger signs in pregnancy, labor, and after childbirth and their part in pregnancy-related emergency executive action among the Spouses of pregnant women.

METHODS

Study design: A quantitative approach based on Quasi-experimental with one group pre-test and post-test design was followed. The inclusion criteria included the spouses of antenatal mothers involved during the pregnancy outpatient department visits. The exclusion criteria included the spouses of antenatal mothers who were not interested. By using a non-randomized purposive sampling technique, fifty were selected as participants. The investigator developed a checklist of statements related to pregnancy, labor, and puerperium and thirteen knowledge questionnaires on danger signs and obstetric complications during the antenatal period to abstract the information from the spouse of antenatal mothers and video-assisted teaching content also prepared. The nursing experts verified the instruments. The reliability of the instruments was identified through the split-half method, which was found to be reliable as the r-value was 0.94. The participants were asked to fill in their pre-tests, followed by the planned video teaching session on day one was given. After that, the participants contacted them for the post-tests. The extracted data were computed and coded.

Data analysis: The data was analyzed and interpreted based on statistics by using SPSS version 20, i.e., frequency and percentage, mean, and standard deviation used to assess the demographic variables, paired t-test used to assess the pre and post-test knowledge, and regression analysis used to assess the demographic variable with pre-test knowledge scores of pregnancy, Labour and Puerperium, p-value used for statistical significance.

Ethical clearance was obtained from the Institutional Ethical Committee of Krupanidhi College of Nursing. The approval reference Number is KCN/2019-07.

RESULTS

Of 50 antenatal mothers' spouses, the majorities were 31-40 years of age (56%) and belonged to the Hindu religion (74%). Most of them studied up to secondary education (74%) and worked as private employees (54%), earning Rs10001/- per month (90%). In addition, most of them obtained information on danger signs (74%) by discussing them with others. Out of 50 antenatal mothers (66%), 33 belong to multigravidae with (56%) two parities. Most of them went for antenatal visits (62%) up to 3-4 times during the antenatal period and delivered the children by normal vaginal delivery (56%). Based on the following criteria, knowledge scores were categorized as follows: less than 50% of scores obtained were classified as inadequate knowledge, 51-80% as moderately adequate knowledge, and above 81% as adequate knowledge.

In the pre-test, most spouses (34%) had adequate knowledge and moderately adequate knowledge (34%), whereas 32% had inadequate knowledge regarding danger signs during the antenatal period. In post-tests, all (100%) of 50 spouses had adequate knowledge regarding danger signs during the antenatal period, indicating that the planned teaching program was effective (Table 1).

Table 2 depicts that the post-test mean score

(12.20) is higher than the pre-test mean score (6.94), with a t-value of -15.68, significant at $P < 0.05$ level.

A simple linear regression analysis revealed that certain demographic and obstetric variables had a significant difference in subjective pre-test knowledge scores, like Occupation (Beta value -1.041) had a significant change with pre-test knowledge scores ($P < 0.05$) (Table 3).

A simple linear regression analysis revealed that specific demographic and obstetric variables had a significant difference in subjective pre-test knowledge scores regarding danger signs during labor and puerperium (Table 4). Obstetric variables like the number of antenatal visits (Beta value -0.198, $p = 0.002$), gravidity (Beta value -0.324, $p = 0.022$), and parity (beta value 0.227, $p = 0.034$) had a significant change in the knowledge level regarding labor, danger signs ($P < 0.05$).

DISCUSSION

Among the 50 spouses, most were 31-40 years of age (56%) and belonged to the Hindu religion (74%). Most of them studied up to secondary education (74%) and worked as private employees (54%), earning Rs10,001/per month (90%). In addition, most of them obtained information on danger signs (74%) through a discussion with

Table 1: Frequency and Percentage Distribution of Spouses of Antenatal Mothers Regarding Obstetric Danger Signs (N=50)

| Sl. No | Level Of Knowledge | Pre-test | | Post-test | |
|--------|---------------------|-----------|------------|-----------|------------|
| | | Frequency | Percentage | Frequency | Percentage |
| 1 | Adequate | 17 | 34% | 50 | 100% |
| 2 | Moderately Adequate | 17 | 34% | 0 | 0 |
| 3 | Inadequate | 16 | 32% | 0 | 0 |

Table 2: Mean, Standard Deviation, and t-value of the Spouse of Antenatal Mothers Regarding Obstetric Danger Signs (n= 50)

| Sl. No | Knowledge Score | Mean | SD | t-value | p-value |
|--------|-----------------|-------|-------|---------|---------|
| 1. | Pre-Test | 6.94 | 2.123 | | |
| | | | | -15.682 | 0.000 |
| 2. | Post-Test | 12.20 | 1.262 | | |

Table 3: Regression between demographic, obstetrics variables and impact on pre-test knowledge scores on danger signs (n= 50)

| Sl. No. | Variables | Co Efficient Beta | p-value |
|---------|-----------------------|-------------------|---------|
| 1 | Age | -0.280 | 0.582 |
| 2 | Religion | 0.009 | 0.985 |
| 3 | Education | 0.856 | 0.093 |
| 4 | Occupation | -1.046 | 0.041 |
| 5 | Family income | 1.761 | 0.151 |
| 6 | Source of information | 0.233 | 0.605 |
| 7 | Number of a visit | 0.841 | 0.060 |
| 8 | Gravidity | -0.969 | 0.322 |
| 9 | Parity | -0.115 | 0.876 |
| 10 | Type Of Delivery | 0.638 | 0.258 |

others. Out of 50 antenatal mothers two-thirds were multigravida with approximately half having at least two children. Most went for at least 3-4 antenatal visits. The majority (56%) delivered their children by normal vaginal delivery. A similar study was conducted in rural Uganda, where the mean age of the spouses was 32.8+ 8.3 years [13]. Another study in rural Kenya supported this study as the men with secondary education had more knowledge than primary-level education [8]. A study conducted in Southern Ethiopia also supported this in terms of monthly income [14]. Only a third of the spouses in the pre-test scores had adequate or moderately adequate knowledge regarding obstetrics danger signs, but likewise, a

third of the spouses had inadequate knowledge regarding these life-threatening danger signs. In post-tests, all 50 spouses had adequate knowledge regarding obstetric danger signs, indicating that the planned teaching program was effective.

Most of the partners (88%), had adequate knowledge, or moderately adequate knowledge during pre-test scores on danger signs in labor. Regarding puerperal danger signs, over half had adequate or moderately adequate knowledge on their pre-test, but almost 10 percent had inadequate knowledge. In post-tests, all partners had adequate knowledge regarding danger signs during labor, and, gratifyingly, most (80%) revealed that they were cognizant of the important danger

Table 4: Regression between demographic, obstetrics variables, and labor, puerperium pre-test scores (n= 50)

| Sl. No. | Variables | Labour | | Puerperium | |
|---------|-----------------------|------------------|---------|------------------|---------|
| | | Coefficient Beta | p-value | Coefficient Beta | p-value |
| 1 | Age | -0.051 | 0.545 | 0.017 | 0.911 |
| 2 | Religion | 0.059 | 0.463 | -0.011 | 0.942 |
| 3 | Education | 0.007 | 0.935 | 0.045 | 0.764 |
| 4 | Occupation | 0.122 | 0.142 | 0.193 | 0.203 |
| 5 | Family Income | -0.254 | 0.207 | -0.439 | 0.233 |
| 6 | Source of Information | -0.110 | 0.143 | -0.266 | 0.055 |
| 7 | Antenatal Visit | -0.198 | 0.002 | -0.187 | 0.159 |
| 8 | Gravidity | -0.324 | 0.022 | 0.126 | 0.664 |
| 9 | Parity | 0.227 | 0.034 | 0.070 | 0.751 |
| 10 | Type of Delivery | -0.025 | 0.752 | 0.002 | 0.988 |

signs to look for after birth, emphasizing the importance of educating the patient's significant others.

A similar study from Tanzania likewise demonstrated that less than half of men were cognizant of a minimum of at least one danger sign in pregnancy, delivery, and the postpartum period [15]. More concerning, however, only 10-20 percent of them mentioned excessive vaginal bleeding during pregnancy, childbirth, or post-delivery as a danger sign [16]. Another study conducted in northeastern Ethiopia showed similar results that only about half of the partners had adequate knowledge of danger signs of pregnancy, childbirth, and the postpartum period [17].

The study was limited to antenatal mothers' spouses who were admitted to Va ni Vilas hospital and were willing to participate at the time of data collection. A similar study should be conducted on a considerably larger sample size, and a power study would best guide the adequate number required. A mass awareness educational program could also be conducted in the hospital outpatient department, in a large primary health care center, or in a community setting with dedicated health care workers. Likewise, a similar study could be performed to see if there was a significant difference between rural and urban spouses of expectant mothers.

CONCLUSION

In our country, even today, men hold financial positions and decision-making authority in their house; hence they should be educated in the decision of spouse delivery or urgent situations, which can be identified earlier and prevent further complications. The findings suggest that video teaching successfully increases the cogency score of obstetric danger signs among spouses of antenatal mothers. Obstetric complications can be controlled effectively during the antenatal period by creating awareness among the spouse of the antenatal mother regarding obstetric danger signs. With good control and monitoring of all this, both of them can have a safe and healthy life that is mother and baby.

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