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Knowledge Towards Identification Of Alarming Signs Leading To Obstetrical Emergencies Among Antenatal Women At Selected Health Set Up Of Kashmir

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Abstract: The present study aimed to assess the knowledge of antenatal women regarding identification of alarming signs leading to obstetrical emergencies during pregnancy, labour and puerperium. A descriptive research approach was utilized at Florence Nightingale Hospital, Channapora Srinagar. The data was collected from 150 antenatal women by using self structured interview schedule. The most commonly reported risk factor related to alarming signs was present history of obstetric complications, present medical condition, family history of medical condition. Least found risk factor was nutritional deficiency. The mean percentage of knowledge score was 43.46% with median score of 14, mean score was 13.47, S.D of 2.097 .The Chi-square value showed that there was no significant association between the knowledge score and demographic variables(Age, weight, place of residence, educational status, availing use of social media for maternity care information, type of family), except Occupation which showed significant association with the knowledge score. The current findings further presented that there was no significant association between knowledge scores and obstetric variables (Gravida, parity, gestational age , mode of last delivery and number of live children).

Index Terms- Alarming signs, Obstetrical emergencies, Complications, Puerperium

1. INTRODUCTION Pregnancy danger signs are the major health problems and cause of mortality among women in developing countries. Majority of maternal death occur in developing countries. Knowledge regarding identification of alarming signs of obstetric complications is first step in the appropriate and timely referral to essential obstetric care. Although women's knowledge about the obstetric danger signs is important for improving maternal and child health, little is known about the current knowledge and influencing factors in the Kashmir Valley. Due to lack of awareness about the danger signs of pregnancy, women fail to seek care in the right time for life-threatening complications of pregnancy and child birth.

High levels of perinatal (49 per 1000 births), neonatal (39 per 1000 births) and maternal mortality (301 per 100,000 live births) remain major public health challenges in India.[1,2] About one-third of neonatal deaths occur on first day of life, and majority of maternal death occur during labor, delivery, and within 24 hours postpartum.[3] The common causes of maternal deaths are hemorrhage, postpartum infection, hypertensive disorders, obstructed labor and abortion complications.[4] With assumption that 'Every pregnancy faces

risk'.[5,6] women should be made aware of danger signs of obstetric complications during pregnancy, delivery and postpartum.[7,8] The danger signs are not actual obstetric complications but symptoms that are easily identified by nonclinical personnel. Knowledge of danger signs of obstetric complications is an essential first step in the appropriate and timely referral to essential obstetric care.[9] Knowledge of obstetric sign is the strategy aimed at enhancing utilization of skilled care during low-birth risks and emergency obstetric care in complicated cases.[10]

NEED OF THE STUDY Maternal mortality is a grave injury to a family, community, and the entire nation. The obstetric emergency has a profound effect on the mother and fetus resulting in high maternal and perinatal morbidity and mortality. Majority (99%) of all maternal deaths occur in developing countries. Between 1990 and 2015, maternal mortality worldwide dropped by about 44% from 385 to 216 maternal deaths per 100,000 live births. Despite this progress, the world still fell far short of the Millennium Development Goals target of a 75% reduction in the global maternal mortality rate (MMR) by 2015. Between 2016 and 2030, as part of the sustainable development goals, the target is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births.[11]

It is of utmost importance that women at risk must be identified and managed appropriately. Timely intervention by a dedicated multi-disciplinary team will help to prevent maternal mortailty. This descriptive study was conducted in this regard to make the pregnant women understand the alarming signs during pregnancy, labour and postpartum period that may lead to obstetrical emergencies. Knowledge of danger signs of obstetric complications is first step in the appropriate and timely referral to essential obstetric care so that women might succeed to seek care in the right time for life-threatening complications of pregnancy and child birth. The results of the study could help to formulate a policy to improve the maternal and perinatal outcome in the valley.

STATEMENT OF PROBLEM

A descriptive study to assess the knowledge regarding identification of alarming signs leading to obstetrical emergencies among antenatal women at selected health set up of Kashmir.

RESEARCH OBJECTIVES

1. To assess the knowledge regarding identification of alarming signs leading to obstetrical emergencies among antenatal women

2. To find out the association of knowledge score of antenatal women with their demographic variables.

5. To find out the association of knowledge score of antenatal women with their obstetric characteristics.

HYPOTHESES

H_1: There will be significant association of knowledge of antenatal women regarding identification of alarming signs leading to obstetrical emergencies with their demographic variables

H_2: There will be significant association of knowledge of antenatal women regarding identification of alarming signs leading to obstetrical emergencies with their obstetric variables

2. LITERATURE REVIEW

Vijay NR, Kumare B, Yerlekar DS (2015)[12] undertook a cross-sectional study to assess the knowledge regarding danger signs among 100 pregnant women attending antenatal outpatient department (OPD). About 6.38% of subjects having good awareness about danger signs were from age group 20 to 25 years and 10.25% of subjects with good awareness were from 25 to 30 years. 20% of subjects had fair knowledge while 73% of subjects had poor knowledge about danger signs. Among which majority, i.e. 46.48% of subjects were from age 20 to 25 years and 93.33% from large family size had poor awareness about danger signs. Majority of subjects having good knowledge about obstetric danger signs had completed their secondary (7.69%) and university (9.52%) education. About 61% of the subjects knew about danger signs of pregnancy. Among which major source of knowledge was health personnel (57.37%) and other source of knowledge was mass media (42.63%). 50% of subjects knew about bleeding. Thus, it was the most common obstetrical danger sign that was known by subject population.

Nagar A, Ahmed M, Belal G (2017)[13] conducted an exploratory descriptive study at 4 antenatal clinics (M.C.H centers) on 200 pregnant women to assess the knowledge and practice of pregnant women regarding danger signs of obstetric complications in Tanta City. The results of this study revealed that the most frequently recognized danger signs that may occur during pregnancy were vaginal bleeding, followed by severe abdominal pain and gush of water from the vagina that were mentioned by more than two third , more than half and nearly half of the women, respectively. While, vaginal bleeding was the most commonly known danger sign mentioned by nearly one third and slightly more than one third of the women during labor and puerperium, respectively. Also, the vast majority of the women consulted a doctor when these danger signs appeared.

Gobran, M. , Fatah, M. , Ramadan, M. , et al. (2021)[14] conducted a study to evaluate the effectiveness of the education program on pregnant women practices and knowledge on obstetric danger signs. A quasi-experimental design was used on 70 women from a population of 372 women in six-month in antenatal clinics (M.C.H centers) affiliated to the available geographical health zones in EL-fayoum rural area. The results revealed that there was an improvement in 63% of pregnant women knowledge and practices after educational program in all aspects. The study concluded that educational program had been effective in improving women's knowledge and practice regarding danger signs for pregnant women in rural areas, with highly statistically significant differences in all the tested items between pre/post program implementation ($P < 0.001$).

Zaki A, Fouad S, khedr N (2021)[15] conducted a descriptive study to assess knowledge and practices of 242 pregnant women toward danger signs of pregnancy at Obstetrics and Gynecology Department and Clinics at Mansoura General Hospital. The findings revealed that knowledge score of danger signs was poor in 57.9% of subjects while fair in 29.3% and good in less than 12.8% of them. During pregnancy the most commonly identified danger signs were vaginal bleeding (69.8%) followed by severe abdominal pain (56.20%) and severe vomiting (55.4%). A significant association was found between women's general characteristics and their knowledge about pregnancy danger signs ($p < 0.001$). More than two thirds (65.3%) of pregnant women had inadequate practices regarding danger signs of pregnancy. The study recommended developing antenatal programs for all pregnant women about pregnancy danger signs and about the actual time to seek emergency medical care. In addition, increase the mass media to disseminate correct and relevant information about danger signs of pregnancy to pregnant women, families and communities.

3. RESEARCH METHODOLOGY

3.1 Population and sample: The population included all the antenatal women attending the clinic. Convenient sampling technique was used to select the required sample which included antenatal women willing to participate and were present at the time of data collection. Sample size was 150 antenatal women.

3.2 Data and Sources of data: Self-structured interview schedule was used to collect data from antenatal women regarding identification of alarming signs leading to obstetrical emergencies.The tool consisted of following parts: **Part 1:** Socio-demographic characteristics of antenatal women (7 Items).**Part 2:** Obstetrical characteristics of antenatal women (5 Items).**Part 3:** Asessment of risk factors related to alarming Signs leading to obstetrical emergencies (Interview Schedule and record analysis) (6 Sections consisting of 20 items) **Part 4:** Knowledge assessment among antenatal women regarding identification of alarming Signs leading to obstetrical emergencies (31 Items)

3.3 Variables

Research variable: Knowledge of antenatal women regarding identification of Alarming signs leading to obstetrical emergencies.

Demographic variables: Age (in years), weight, Occupation, Educational status, Place of Residence, Availing use of social media for maternity information, Type of family.

Obstetric variables: Gravida, Parity, Gestational age, Mode of last delivery , if multiparous, number of live children.

3.4 **Statistical tools:** Descriptive statistics has been used to find the maximum and minimum score, range, mean, mode, standard deviation and normal distribution of the data of all variables under the study. Chi square test has been used to find the association of knowledge score with demographic and obstetric variables.

4. RESULTS AND DISCUSSION

SECTION I: Description of demographic profile

Table 1: **Frequency and percentage distribution of subjects according to the demographic variables**

N=150

DEMOGRAPHIC VARIABLES		Frequency %age	Frequency
Age (in Years)	<20 Years	14.7%	22
	20-29 Years	40.7%	61
	≥ 30 Years	44.7%	67
Weight (in Kg)	<60 Kg	33.3%	50
	60-70 Kg	30.0%	45
	>70 Kg	36.7%	55
Occupation	Home maker	66.7%	100
	Health Professional	0.7%	1
	Non-health Professional	32.7%	49
Educational status	No formal education	32.7%	49
	Primary	16.0%	24
	Sr. Secondary	36.0%	54
	Graduate and above	15.3%	23
Place of residence	Rural	48.7%	73
	Urban	51.3%	77
Availing use of social media for information about maternity care	Yes	46.7%	70
	No	53.3%	80
Type of family	Nuclear	38.0%	57
	Joint	62.0%	93

Table 1 reveals that majority of subjects 67(44.7%) were in the age group of ≥ 30 yrs, majority of subjects 55(36.7%) had weight ≥ 70 kg, the maximum number of the subjects 100(66.7%) were homemakers, the highest number of the subjects 54(36.0%) had Sr. secondary educational status, higher proportion of the subjects 77(51.3%) belonged to urban area, larger percentage of the subjects 80(53.3%) did not avail use of social media for information about maternity care, majority of the subjects 93(62.0%) had Joint type of family.

SECTION II: Description of Obstetric characteristics

Table 2: **Frequency and percentage distribution of subjects according to the obstetric characteristics**

N =150

OBSTETRIC CHARACTERISTICS OF ANTENATAL WOMEN		Frequency %age	Frequency (f)
Gravida	One	12.0%	18
	≥Two	88.0%	132
Parity	Zero	12.7%	19
	One	62.0%	93
	≥Two	25.3%	38
Gestational Age	<12 weeks	24.0%	36
	12-28 weeks	44.7%	67
	>28 weeks	31.3%	47
Mode of last delivery, if multiparous	Spontaneous vaginal delivery	5.0%	6
	Assisted vaginal delivery	23.5%	28
	Caesarean delivery	71.4%	85
Number of live children	One	63.9%	76
	≥Two	36.1%	43

Table 2 reveals that maximum number of the subjects 132(88.0%) had ≥ two gravida, highest number of the subjects 93(62.0%) had one parity, higher proportion of the subjects 67(44.7%) had 12-28 weeks of gestational age , larger percentage of the subjects 85(71.4%) had caesarean delivery, majority of the subjects 76(63.9%) had one number of live children.

SECTION III: Risk factors related to alarming signs leading to obstetrical emergencies among antenatal women in experimental group and control group

Table 3: **Frequency and percentage distribution of risk factors related to alarming signs.**

RISK FACTORS RELATED TO ALARMING SIGNS		Frequency %age	Frequency (f)
Previous history of Pre-eclampsia or eclampsia)	No	88.7%	133
	Yes	11.3%	17
Previous history of Gestational diabetes	No	81.3%	122
	Yes	18.7%	28
Previous history of IUGR-SGA	No	87.3%	131
	Yes	12.7%	19
Previous History of Abortion/DNC or still birth	No	84.0%	126
	Yes	16.0%	24
Previous History of abruption in previous pregnancy	No	98.0%	147
	Yes	2.0%	3
Present history of PIH	No	69.3%	104

	Yes	30.7%	46
Present history of GDM	No	54.7%	82
	Yes	45.3%	68
Present history of Placenta Previa	No	52.7%	79
	Yes	47.3%	71
Present history of CPD	No	100.0%	150
	Yes	0.0%	0
Present history of Polyhydramnios	No	56.0%	84
	Yes	44.0%	66
Present medical condition (Co-morbidities)	No	34.7%	52
	Yes	65.3%	98
Present medical condition (Blood coagulation disorder)	No	98.7%	148
	Yes	1.3%	2
Family history of Diabetes Mellitus	No	0.0%	0
	Yes	100.0%	150
Family history of Cardiac or renal disease	No	22.0%	33
	Yes	78.0%	117
Gynaecological Disease (Uterine fibroids)	No	100.0%	150
	Yes	0.0%	0
Gynaecological Disease (Leiomyoma)	No	100.0%	150
	Yes	0.0%	0
Gynaecological Disease (Congenital malformation of the uterus)	No	84.0%	126
	Yes	16.0%	24
Nutritional Deficiency (Severe Anaemia (<7gm/dl)	No	92.7%	139
	Yes	7.3%	11
Nutritional Deficiency (Folic acid deficiency)	No	100.0%	150
	Yes	0.0%	0

Table 3 reveals that risk factors found in majority of the subjects were family history of Diabetes Mellitus 150(100%) and family history of cardiac or renal disease 117(78.0%) followed by present medical co-morbidity 98(65.3%).

SECTION IV

This section deals with the findings related to the association of knowledge score of subjects with the selected demographic variables and obstetric characteristics.

Table 4: Association between Knowledge score and selected demographic variables of antenatal women

DEMOGRAPHIC VARIABLES		ASSOCIATION OF KNOWLEDGE SCORE WITH DEMOGRAPHIC VARIABLES (EXPERIMENTAL GROUP)							
Variables	**Opts**	**GOOD KNOWLEDGE**	**FAIR KNOWLEDGE**	**POOR KNOWLEDGE**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Age (in Years)	<20 Years	0	0	22	2.568	0.277	2	5.991	Not Significant
	20-29 Years	0	3	58					
	≥ 30 Years	0	6	61					
Weight (in Kg)	<60 Kg	0	1	49	2.242	0.326	2	5.991	Not Significant
	60-70 Kg	0	4	41					
	>70 Kg	0	4	51					
Occupation	Home maker	0	4	96	16.782	0.000	2	5.991	Significant
	Employed								
	Health Professional	0	1	0					
	Non-health Professional	0	4	45					
Educational status	No formal education	0	4	45	2.254	0.521	3	7.815	Not Significant
	Primary	0	0	24					
	Sr. Secondary	0	3	51					
	Graduate and above	0	2	21					
Place of residence	Rural	0	5	68	0.182	0.670	1	3.841	Not Significant
	Urban	0	4	73					
Availing use of social media for information about maternity care	Yes	0	2	68	2.299	0.129	1	3.841	Not Significant
	No	0	7	73					
Type of family	Nuclear	0	4	53	0.169	0.681	1	3.841	Not Significant
	Joint	0	5	88					

Table 4 depicts that the knowledge score was significantly associated with Occupation (X^2=16.782, p=0.000). Hence for this variable, **research hypothesis H_1 is accepted** whereas, for other variables Age(X^2=2.568, p=0.277), weight (X2=2.242), p=0.326), educational status(X^2=2.254, p=0.521), place of residence(X^2=0.182, p=0.670) , availing use of social media for information about maternity care(X^2=2.299, p=0.129) and type of family (X^2=0.1688, p=0.6) found non-significant, **hence for these variables the research hypothesis H_1 rejected.**

Table 5: Association between knowledge score and obstetric characteristics of antenatal women.

OBSTETRIC CHARACTERISTICS OF ANTENATAL WOMEN		ASSOCIATION OF KNOWLEDGE SCORE WITH OBSTETRIC CHARACTERISTICS OF ANTENATAL WOMEN							
Variables	**Opts**	**GOOD KNOWLEDGE**	**FAIR KNOWLEDGE**	**POOR KNOWLEDGE**	**Chi Test**	**P Value**	**df**	**Table Value**	**Result**
Gravida	One	0	1	17	0.007	0.933	1	3.841	Not Significant
	≥Two	0	8	124					
Parity	Zero	0	1	18	0.324	0.850	2	5.991	Not Significant
	One	0	5	88					
	≥Two	0	3	35					
Gestational Age	<12 weeks	0	1	35	0.929	0.628	2	5.991	Not Significant
	12-28 weeks	0	5	62					
	>28 weeks	0	3	44					
Mode of last delivery, if multiparous	Spontaneous vaginal delivery	0	1	5	1.050	0.592	2	5.991	Not Significant
	Assisted vaginal delivery	0	2	26					
	Caesarean delivery	0	5	80					
Number of live children	One	0	4	72	0.714	0.398	1	3.841	Not Significant
	≥Two	0	4	39					

Table 5 depicts that the knowledge score was found significantly not associated with obstetric characteristics of antenatal women, gravida (X^2=0.007, p=0.933), parity (X^2=0.324, p=0.850), gestational age (X^2=0.929, p=0.628), mode of last delivery (X^2=1.050, p=0.592) and number of live children (X^2=0.714, p=0.398) at 0.05 level of significance **hence the research hypothesis H_2 is rejected.**

5. DISCUSSION

The findings of the present study revealed that none of the subjects had `Good Knowledge` score, while a small proportion 9(6%) had fair knowledge. The majority, 141(94%), of the subjects scored within the Poor knowledge range.

The results of the study further depict that, the mean percentage of knowledge was 43.46% with median score of 14, mean score was 13.47, S.D of 2.097. The results of the present study also revealed that knowledge score was significantly associated with Occupation (X^2=16.782, p=0.000), whereas, for other variables Age(X^2=2.568, p=0.277), weight (X2=2.242), p=0.326), educational status(X^2=2.254, p=0.521), place of residence(X^2=0.182, p=0.670) , availing use of social media for information about maternity care(X^2=2.299, p=0.129) and type of family (X^2=0.1688, p=0.6). found non-significant. It was also seen that the knowledge score was found significantly not associated with obstetric characteristics of antenatal women, Gravida (X^2=0.007, p=0.933), Parity (X^2=0.324, p=0.850), Gestational age (X^2=0.929, p=0.628), Mode of last delivery (X^2=1.050, p=0.592) and number of live children (X^2=0.714, p=0.398) at 0.05 level of significance **.**

These findings are supported by a study conducted by Amoura Saad Eldeen Zaki, Shaimaa Fouad, Nahed Fikry Hassan khedr in 2021 to assess knowledge and practices of 242 pregnant women toward danger signs of pregnancy at Obstetrics and Gynecology Department and Clinics at Mansoura General Hospital. The findings revealed that knowledge score of danger signs was poor in 57.9% of subjects while fair in 29.3% and good in less than 12.8% of them. During pregnancy the most commonly identified danger signs were vaginal bleeding (69.8%) followed by severe abdominal pain (56.20%) and sever vomiting (55.4%). No

significant association was found between women's general characteristics and their knowledge about pregnancy danger signs ($p < 0.001$). More than two thirds (65.3%) of pregnant women had inadequate practices regarding danger signs of pregnancy.

Similarly, **Kabakyenga et al. (2011)** found that knowledge of obstetric danger signs was not significantly associated with age, education, or type of family in their study population, but occupation was a significant factor, with health professionals and employed women demonstrating higher knowledge scores than homemakers. **Tura et al. (2014)** also observed that occupation was significantly associated with knowledge of obstetric danger signs, while other demographic characteristics such as age, education, and residence were not significant predictors. **Kabakyenga et al. (2011)** found no significant association between knowledge of obstetric danger signs and obstetric factors such as parity, gravida, or number of live children among women in rural Uganda. Their results showed that knowledge levels were generally low and did not vary significantly with these obstetric variables. Similarly, **Hailu et al. (2010)** reported that knowledge of obstetric danger signs was not significantly associated with gravida, parity, gestational age, or mode of last delivery among Ethiopian women.

NURSING IMPLICATIONS:

Nursing practice

Educational programmes conducted by nursing personnel both in the hospital and community areas helps in improving knowledge of antenatal women towards identification of alarming signs leading to obstetrical emergencies. Health information regarding healthy pregnancy can be imparted through various methods like lectures, mass media, pamphlets, Information booklet, structured teaching programme etc. Hence educational programmes with effective teaching strategies will motivate pregnant women to follow healthy practice during pregnancy to prevent obstetrical emergencies.

Nursing education

The student's teaching experience should emphasize on teaching pregnant women on various preventive and promotive health practices.

Nursing curriculum should provide an opportunity to plan and conduct teaching programmes in variety of settings Viz family, community, industry, hospital, schools etc. Several in-service programme, conferences, workshops and seminars can be conducted to keep nurses updated with newer teaching strategies, and newer research findings which are useful regarding prevention of obstetrical emergencies.

Nursing research : Nurses being the largest groups in the health care delivery system and being more close to the people should take an initiative to conduct further research regarding prevention of obstetrical emergencies. The present study revealed that there was inadequate practice of pregnant women towards identification of alarming signs leading to obstetrical emergencies, so nurses especially who are working in community should take an initiative in conducting research studies in the community. An educational programme can be conducted in the community to educate the people.

Nursing administration

The nurse administrator should take interest in providing information regarding prevention of obstetrical emergencies to the public or to the community. The nurse as an administrator should plan and organize educational programmes for nursing personnel and motivate them to conduct programmes beneficial to the pregnant women. Planning and organization of such programmes require efficient teamwork, planning for manpower, money, material and methods and minutes to conduct successful educational programmes, both at the hospital & community level. Health education material such as leaflets and pamphlets should be made available to the public. She should also encourage and depute nurses to participate in such programmes conducted by any other voluntary organizations.

Further a nurse administrator should provide horizontal stimulation, as well as vertical enhancement opportunities that produce competent midwives/ nurses. Nurse administrator should grant funds for conducting various educational campaigns. The nurse administrator also in collaboration with various government and nongovernmental organizations encourage nurses to take an active part at primary level of community for prevention of obstetrical emergencies so as to reduce maternal and fetal mortality and morbidity.

LIMITATIONS:

The limitations recognized in the study were:

1. Sample was selected only from one hospital at Srinagar district of Jammu and Kashmir; hence generalization may be limited.
2. Antenatal women with complications were excluded from data collection.
3. Data was collected only from the sample available at the time of data collection.

RECOMMENDATIONS:

- The study recommended developing antenatal classes for all pregnant women about obstetric danger signs and about the proper time to seek medical care. In addition, the mass media should be utilized and community organizations mobilized to disseminate correct and relevant information about danger signs of obstetric complications to women, families and communities.
- Establishment of in-service training programs and continuous supervision in rural areas to a raise women knowledge and practice regarding obstetric danger signs.
- In addition, increase the mass media to disseminate correct and relevant information about danger signs of pregnancy to pregnant women, families and communities.

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