

ORIGINAL RESEARCH

A cross-sectional study to determine the knowledge of danger signs of pregnancy and baby danger signs among the postnatal mothers in rural Gwalior

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ABSTRACT

Introduction: To decrease the maternal and neonatal mortality and morbidity, early detection of the baby danger sign and danger sign of pregnancy by the mothers. The study was planned with the objective to assess the knowledge of postnatal mothers for the danger signs of pregnancy and baby danger signs in the rural area of Gwalior. **Material and Methods:** Present cross-sectional study was conducted among 375 postnatal mothers between the period of July 2022 to December 2023 in Gwalior District of Northern India. The collected data were entered into an Excel spreadsheet for easy calculation. Frequency, percentage was calculated. Bar diagram was presented to show the graphical presentation of the data. **Results:** In the present study 375 post-natal (PN) mothers, most of the participants i.e., 225 (60%) were in the age group 19-25 years followed by 126 (33.6%) were in the 25-30 years and 24 (6.4%) in the >30 years. It was observed that 260 (69.33%) mothers were aware about Bleeding from vagina before 37 weeks, 244 (65.07%) mothers were aware about severe pain in abdomen, 159 (42.40%) mothers aware about the high fever, 158 (42.13%) mothers aware about the Swelling in face or body. For the knowledge of PN mothers on baby danger signs, most common baby danger sign reported was fever (64%) followed by severe vomiting (58.93%), difficulty in breathing (50.93%), vomiting/unconsciousness (44.0%). **Conclusion:** Least aware danger sign of pregnancy was observed as Fits with severe pain in abdomen, Breast problem, Severe sadness, Slow progress of labour more than 12 h and High fever with blurring of vision below than 10% mothers were aware regarding these signs. Least aware baby danger sign was Yellowness of soles, Yellowness of palms, Eye problems, Yellowness of eyes.

Key Words: Convulsion, Fever, Mothers, Maternal danger sign.

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INTRODUCTION

Knowledge and its implementation for the baby danger signs is not only treatment of the disease, but perceived seriousness, duration, cultural practices and socio-economic status of mothers [1]. Neonatal period is the most critical period for the new-born to survive its life [2]. Delayed health care seeking behaviour for ill neonates contributes to high neonatal and infant mortality rates. Proper knowledge of the mothers for the baby danger signs is backbone in decreasing neonatal mortality. Mother is nearest person and highly attached with the baby to identify, present, and manage the baby problem, which ensures that baby can lead a healthy life. If mothers know

appropriate manifestations of the causes of death in new-borns (neonatal/ baby danger signs), it is possible to avert related neonatal/ baby mortality.[3] Since mothers' attitude is highly relies on the knowledge of knowledge of postnatal mothers for the danger signs of pregnancy and baby danger signs [4]. So, present study was conducted to assess the knowledge of postnatal mothers for the danger signs of pregnancy and baby danger signs in the rural area of Gwalior.

MATERIAL AND METHOD

The study was a cross-sectional study conducted from July 2022 to December 2023 in Gwalior District of Northern India. The study subjects were the postnatal

mothers. Study sites were community based rural areas at Gwalior. A questionnaire based on an extensive literature review using search engines such as Google scholar, Science Direct, PubMed/Medline and Scopus was framed. The questionnaire included questions that sought to gain information about the the danger signs of pregnancy and baby danger signs.

Study conducted by Beraki GG et al (2020) observed that Percentage distribution of knowledge of PN mothers on baby danger signs as 58% for the fever [5]. At 5% level of significance and 5% absolute precision sample size calculated using the formula $3.84 * p * q / d^2$. Calculated sample size was 374.17 which round off to 375.

Ethical clearance of the study was obtained from the institutional human ethical committee. A study-specific informed consent form was taken from the study participates. The collected data were entered into an Excel spreadsheet for easy calculation. Frequency, percentage was calculated. Bar diagram was presented to show the graphical presentation of the data.

RESULTS

In the present study 375 mothers as the participants were included. Table (1) showing that most of the

participants i.e., 225 (60%) were in the age group 19-25 years followed by 126 (33.6%) were in the 25-30 years and 24 (6.4%) in the >30 years. Mostly participants were the follower of Hindu religion (95.7%) while only 16 were followers of Muslim religion. A total of 297 (79.2%) were the general caste, 37 (9.9%) was the OBC and 41 (10.9%) were the SC caste category. A total of 227 (60.5%) mothers were illiterate and 148 (39.5%) mothers were the literate. Present study showing that 116 (30.9%) fathers were educated up to high school followed by 74 (19.7%) fathers were educated up to intermediate. While 64 (17.1%) were illiterate fathers and educated up to middle. Only 27 (7.2%) fathers were having higher qualification and educated up to graduate or more. Table (1) shown that 99 (26.4%) mothers were working while 276 (73.6%) mothers were housewife. A total of 212 (56.5%) mothers were belonged to the lower class, 124 (33.1%) mothers belonged to the lower middle class, 21 (5.6%) mothers belonged to upper middle class while 18 (4.8%) mothers were belonged to middle class. The majority of the respondents (74.4 %) were found to be living in joint family system followed by nuclear family system (25.6%).

Table 1: Socio-demographic Distribution of the patients

Socio-Demographic Distribution		Frequency (n=300)	Percentage
Age group	19-25 Years	225	60.0
	25-30 Years	126	33.6
	>30 Years	24	6.4
Caste	General	297	79.2
	OBC	37	9.9
	SC	41	10.9
Religion	Hindu	359	95.7
	Muslims	16	4.3
Literacy status of mothers	Illiterate	227	60.5
	Literate	148	39.5
Literacy status of Husband	Illiterate	64	17.1
	Primary	30	8.0
	Middle School	64	17.1
	Highschool	116	30.9
	Intermediate	74	19.7
	Graduate and above	27	7.2
Main Occupation status of mothers	Housewife	276	73.6
	Working	99	26.4
Type of family	Joint	279	74.4
	Nuclear	96	25.6
Socio-economic class	Upper Middle Class	21	5.6
	Middle Class	18	4.8
	Lower Middle class	124	33.1
	Lower Class	212	56.5

Table (2) shown the Awareness of danger signs of pregnancy among mothers. Total 260 (69.33%) mothers were aware about Bleeding from vagina before 37 weeks, 244 (65.07%) mothers were aware about severe pain in abdomen, 159 (42.40%) mothers aware about the high fever, 158 (42.13%) mothers aware about the Swelling in face or body. Least mothers were ware about the High fever with blurring of vision (1.07%). [Table 2]

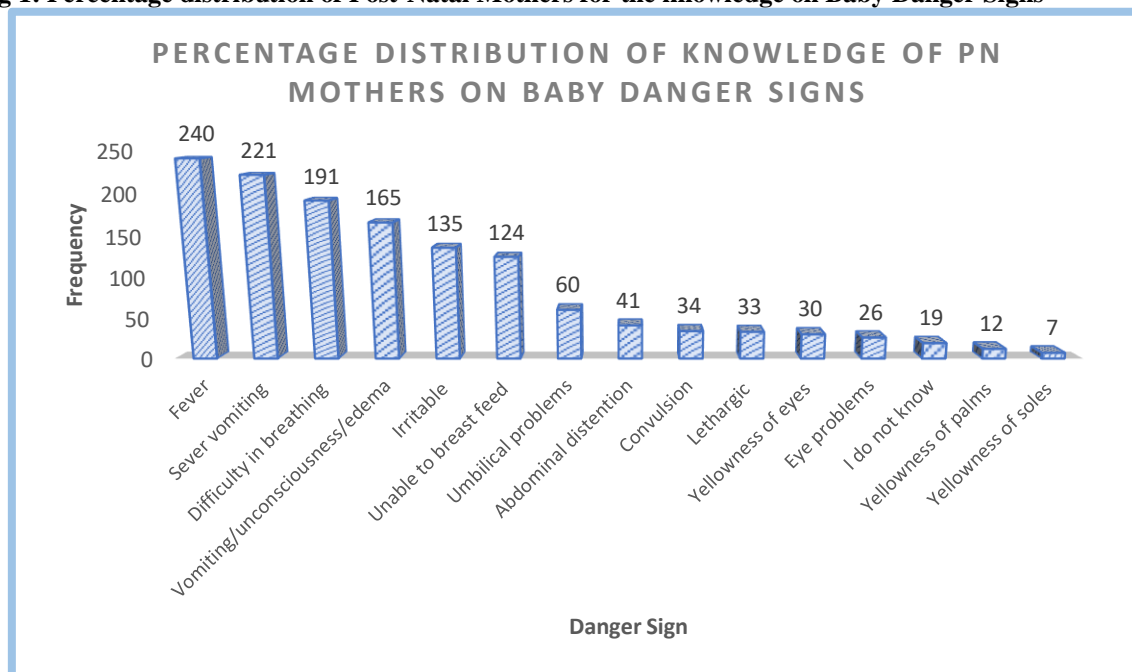
Table 2: Knowledge of danger signs of pregnancy among mothers

Danger signs of pregnancy	n	%
Bleeding from vagina before 37 weeks	260	69.33
Severe pain in abdomen	244	65.07
High fever	159	42.40
Swelling in face or body	158	42.13
Severe Head Ache	132	35.20
Reduced foetal movements	129	34.40
Foul Smelling Discharge	128	34.13
Breathlessness	107	28.53
High blood pressure	87	23.20
Early rupture of bag of water	84	22.40
Blurred vision	71	18.93
Convulsion	52	13.87
Excessive bleeding from vagina	44	11.73
Fits with severe pain in abdomen	35	9.33
Don't know	34	9.07
Breast problem	22	5.87
Severe sadness	19	5.07
Slow progress of labour more than 12 h	15	4.00
Malpresentation	14	3.73
High fever with blurring of vision	4	1.07

In the below table (3) knowledge of PN mothers on baby danger signs were observed and it was found that most common baby danger sign reported was fever (64%) followed by severe vomiting (58.93%), difficulty in breathing (50.93%), vomiting/unconsciousness (44.0%). Least aware danger sign was Yellowness of soles (1.87%), Yellowness of palms (3.20%), Eye problems (6.93%), Yellowness of eyes (8.00%). [Table 3 & Fig 1]

Table 3: Distribution of knowledge of Post Natal mothers on baby danger signs

Baby danger signs	n	%
Fever	240	64.00
Sever vomiting	221	58.93
Difficulty in breathing	191	50.93
Vomiting/unconsciousness/edema	165	44.00
Irritable	135	36.00
Unable to breast feed	124	33.07
Umbilical problems	60	16.00
Abdominal distention	41	10.93
Convulsion	34	9.07
Lethargic	33	8.80
Yellowness of eyes	30	8.00
Eye problems	26	6.93
I do not know	19	5.07
Yellowness of palms	12	3.20
Yellowness of soles	7	1.87

Fig 1: Percentage distribution of Post-Natal Mothers for the knowledge on Baby Danger Signs

DISCUSSION

Early detection of child illness is an important step towards improving newborn survival. If mothers know appropriate manifestations of baby danger signs and mothers' danger sign, it is possible to avert related neonatal mortality and maternal mortality, because the health-seeking behaviour of mothers highly relies on their knowledge of these danger signs. In present study Awareness of danger signs of pregnancy among mothers recorded and found that 69.33% mothers were aware about Bleeding from vagina before 37 weeks, 65.07% mothers were aware about severe pain in abdomen, 42.40% mothers aware about the high fever, 42.13% mothers aware about the Swelling in face or body. Least mothers (1%) were aware about the High fever with blurring of vision. Study conducted in the Asmara revealed the similar results showing that most common most recognized maternal danger signs were heavy vaginal bleeding (83.2%), severe head ache (38.4%), lower abdominal pain (32.0%), foul smelling discharge (23.2%), high blood pressure (21.6%), blurred vision (19.2%), fever (18.4%), convulsion (13.6%), breast problem (7.2%), severe sadness (2.0%), faecal incontinence (1.2%) others including vomiting, unconsciousness and oedema as 16.4%. Kibaru et al reported majority of mothers 350 (84.5%) had low level of knowledge. [6] A study conducted in India regarding awareness of danger signs of pregnancy among study participants reported the similar findings with the present study. The most common danger sign for which they were aware were bleeding from vagina before 37 weeks (73.7%) and severe pain in the abdomen (69%), Breathlessness (29.7%), swelling in face or body (40%), reduced foetal movement (34.3%), high fever 45.0%), malpresentation (3.7%), slow progress of

labour more than 12 h (3%), excessive bleeding from vagina (11.7%), fits with severe pain in abdomen (9.3%), early rupture of bag of water (22.3%). None of the participants were aware that fever with blurring of vision was a danger sign during pregnancy. The awareness regarding danger signs like slow progress of labour >12 hours and fits with severe pain in abdomen were found to be very low. To assess the pregnancy complication readiness this study is necessary. [7] A study conducted in the Gwalior of Madhya Pradesh state of India observed awareness of danger signs of pregnancy among post-natal mothers and found that Bleeding from vagina before 37 weeks (68.9%), severe pain in abdomen (72%), breathlessness (12%), swelling in face or body (16.0%), reduced foetal movements (82%), high fever (88.9%), malpresentation (8.0%), slow progress of labour more than 12 h (11.1%), excessive bleeding from vagina (92.0%), high fever with blurring vision (2.0%), fits with severe pain in abdomen (10.0%), early rupture of bag of water (90.3%). [8]

In present study knowledge of PN mothers on baby danger signs were observed and it was found that most common baby danger sign reported was fever (64%) followed by severe vomiting (58.93%), difficulty in breathing (50.93%), vomiting/unconsciousness (44.0%). Least aware danger sign was Yellowness of soles (1.87%), Yellowness of palms (3.20%), Eye problems (6.93%), Yellowness of eyes (8.00%). Another study on knowledge of PN mothers on baby danger signs reported that more than half of the respondents mentioned fever (58.8%), severe vomiting (53.2%), and difficulty in breathing (50.8%) as baby danger signs. Almost one third of the women were able to identify the inability to breast feed (32.8%) and

irritability (33.2%). Less than one fourth of the respondents cited umbilical problems (14.0%), abdominal distention (9.2%), convulsion (8.4%), lethargy (7.6%), yellowness of eyes (7.6%), eye problem (6.8%), yellowness of palms (2.8%), and yellowness of sole (1.6%). However, 19 (7.6%) of the respondents mentioned "I don't know" and 101 (40.4%) responded vomiting/unconsciousness/ edema. [5] While study by Kibaru EG et al observed awareness of neonatal danger sign among the mothers and stated that Hotness of the body (fever) was the most common danger sign by 310 (74.9%) postnatal mothers while 193 (46.6%), 166 (40.1%) and 24 (5.8%) identified difficulty in breathing, poor sucking and lethargy/unconsciousness as new born danger signs respectively. Only 46 (11.1%) and 40 (9.7%) of mothers identified convulsion and hypothermia as new born danger signs respectively. [6] Kebede ZT et al reported most commonly baby danger signs were; baby feels hot 106 (66.3%), fast breathing 67 (41.9%), and difficulty of breathing 61 (38.1%). [9] Kebede AA et al observed mother's knowledge of neonatal danger sign was 36.5% (95% CI; 33, 40). Mother observed most common baby danger sign as Fever (53.9%), diarrhoea (43.7%), failure to suck (37%), umbilical redness/pus draining (27.2%), yellowish discoloration (20.2%), severe chest indrawing (14.8%), convulsion (13%), unconsciousness (12%), fast breathing (10.6%), moves only when stimulated (10%), low body temperature (6.9%) and eyes drying pus (6%). [10] Present study having similarly with another study conducted in India by Dongre AR and Deshmukh PR [11] who observed that 76.4% of mothers identified fever as the new born danger sign with 40.3%, 22.2% and 3.9% identified difficulty in breathing, poor sucking and lethargy/unconsciousness as new born danger signs respectively. [11] Discordances with the findings from the some studies may be possible because it could be attributed to the difference in the type of populations and the difference in level of education. Our study indicated good knowledge in the major maternal and baby danger sign this could be due to health education provision by health workers at the health facilities and through the mass media.

CONCLUSION

Least aware danger sign of pregnancy was observed as Fits with severe pain in abdomen, Breast problem, Severe sadness, Slow progress of labour more than 12 h and High fever with blurring of vision below than 10% mothers were aware regarding these signs. Least aware baby danger sign was Yellowness of soles, Yellowness of palms, Eye problems, Yellowness of eyes.

The proportion of mothers with good knowledge of maternal and baby danger signs though for some signs it was remarkably low. Since the problem is a public health importance which determines future generations, great efforts are needed to create

awareness for mothers on the importance of the early identification of maternal and baby danger signs to avert the high magnitude of neonatal mortality and morbidity. Accordingly, all concerned stakeholders should work to increase the husband involvement in neonatal and children's health, mother's decision-making power and education to build up knowledge of neonatal danger signs and health-seeking practices.

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