

ORIGINAL ARTICLE

Awareness of Mother's Regarding Under Five Danger Signs in a Selected Rural Community of West Bengal, India

Baisakhi Sarkar¹, Anima Halder², Nirmal Kumar Mandal³, Md.Gousuddin⁴

¹ Government College Of Nursing, NRS Medical College and Hospital, Kolkata, West Bengal, India

² ID & BG Hospital, Kolkata, West Bengal, India

³ Community Medicine, Malda Medical College and Hospital, West Bengal, India

⁴ Faculty of Pharmacy, Lincoln University College, No. 2, Jalan Stadium, SS 7/15, Kelana Jaya, 47301 Petaling Jaya, Selangor Darul Ehsan, Malaysia

ABSTRACT

Introduction: The first five years of life constitute the foundations of the child's physical, mental growth and development. Mortality and morbidity are high during this age group. Early detection of danger signs is very crucial to prevent this. The objectives were to assess the knowledge of mothers regarding under-five danger signs and explore the association between the effects of knowledge with selected factors. **Method:** A descriptive study was conducted in a rural community of West Bengal from Jan'2018 to Sept'2018. Total study sample was 110 mothers having under five children. Door to door data collection was done through interview and data was analyzed both manually and by computer feeding. **Results:** Out of total study sample, majority (60%) belongs to age group 18-25 years followed by 31% among 26-33 age group, then 16% were more than 33 years. Out of total mothers, majority (40%) belongs to higher educated group, (37%) secondary group, followed by 10% with primary education and 13% were illiterate. Knowledge score was more than 50% among higher educated group (64%). Out of total respondents 61 (55.5%) mothers were not able to identify any danger signs whereas, 35.5 % mothers identified 1-2 danger signs and 9% mothers were able to identify 3-4 danger signs. Knowledge score about danger signs was more who visited antenatal clinic more than 4 times (61%). **Conclusion:** Awareness regarding under five danger signs are more among higher educated mothers. Number of antenatal visits also influences knowledge score.

Keywords: Awareness, Under-five, Danger signs, Mothers

Corresponding Author:

Baisakhi Sarkar, MSc

Email: rumibaisakhi2009@gmail.com

Tel: +919433331101

INTRODUCTION

The first five years constitute the foundations of the child's physical, mental growth and development. The child needs regular health supervision throughout infancy and for several years afterwards. Under five mortality rates is regarded, over and above per capita GNP, to be an appropriate singular determinant of level of development of society and its well-being. This is so because it reflects income, mortality rate of under-five exemplifies income, nutrition, health care and elementary education etc. During 2015 almost 50% of the cumulative deaths of under-five children across the globe, was reported from sub-Saharan Africa and 32% in South Asia. For the same year, almost 40% deaths among children under five years of age was reported to be attributable to infectious diseases like pneumonia, diarrhea, malaria, meningitis, tetanus, HIV and measles. These diseases in most cases are preventable and considered as danger signs. Around

45% of all such deaths happened in the neonatal period. Under-nutrition attributes to more than half of the under-five deaths globally (1).

Pneumonia, diarrhea and malaria cause the maximum number of mortalities within the under-five category. Cumulatively these diseases kill 30% of children less than five years of age. Liu et al. (2016)(2) opined that in 2000 to 2015, there is a substantial reduction in global deaths below 5 years of age group. The reduction amount varies with causative agents. Pneumonia, diarrhea, and malaria collectively contributed almost half of the total reduction. Other major diseases like preterm birth complications is reduced in a slower pace globally (2). Worldwide 11% people (about 325 to 710 million cases) per year are suffering from Acute Otitis Media, among them half the cases are under five children(3). Evidence suggest that severe cases of ear infection leads to impaired hearing which will affect learning, behavioral and social attitude and speaking capacity, this harms the society indirectly (4).

Danger signs imply the existence of clinical denotations indicative of high probability of children morbidity

and mortality. Therefore, there is a necessity of early interventions which are therapeutic in nature. Such danger signs include fever, pneumonia, diarrhea, malnutrition, an anemia, ear problem etc. Any delay in identification of it or initiation of treatment means the child is more prone to get into severe illness. In neonatal period early recognition of neonatal danger signs is very important to improve the chances of survival. A newborn can die any time after birth if danger signs are not recognized and treatment or referral not initiated in time. When the child is at home, if proper identification of danger signs is not taken into consideration, then health facility related delays can contribute to subsequent delays of treatment initiation resulting in newborn deaths. At the family level it is especially fundamental to recognize the critical conditions and illnesses of newborn babies to avoid delays of other circumstances such as starting of proper treatment or transfer to a better resourced hospital. As well as it becomes more appropriate for mothers to be able to identify signs in neonates and under-five which could turn grave if delayed. This explains the necessity of enhancement of maternal awareness regarding under-five danger signs (5).

Of the 27 million children taking birth in India every year, 10% die before they reach 5 years of age. India alone measures for 25% of deaths among under-five children occurring worldwide every year. A study was done to know the modifiable causes of under-five child mortality at Chandigarh on 2012. Among other causes inability to recognize danger signs is one of foremost (6-7).

Thus, the current study has therefore been designed to assess the knowledge of under-five danger signs among mothers of rural community of West Bengal and to explore association between such knowledge with selected socio-demographic factors. It is envisioned that such assessment will help to design and intervene a need-based education program to make mother's aware regarding under-five danger signs.

MATERIALS AND METHODS

A descriptive study was conducted from January 2018-September 2018 among mothers who have under-five children. The study area of field practice was the rural training center of NRS Medical College under Hariharpur Block Primary Health Centre (BPHC). An extensive field survey along with sample selection, post collection data analysis was carried out. In this study mothers of three Sub-centers were interviewed. Out of total 247 mothers 110 were randomly selected from a list obtained from ASHA (Accredited Social Health Activist) and maintained by SC separately. Mothers who have more than one under-five children information of younger child were collected. Ethical approval for this study was obtained from the Ethics Committee of NRS Medical College & Hospital, Kolkata, India (Ref

no. NMC/8161). Consenting mothers were interviewed using a structured questionnaire for knowledge and semi-structured questionnaire for general information. Semi-structured questionnaire includes 21 items to collect demographic details like religion, type of family, parity, types of health care services available etc. Structured questionnaire consisted of 22 knowledge questionnaires on under-five danger signs. Among them one has binary response and one question may get multiple responses. Other 20 items have three alternatives. A score value of one is allotted to each correct answer and zero for incorrect answer. The total score is zero-twenty.

The obtained data were coded, cleaned, recoded and calculated manually using data analysis tool pack in excel. Simple descriptive statistics like charts, tables are used in analyzing the frequency and percentage distribution, mean, median and Standard Deviation. Associations of knowledge score with selected demographic factors were analyzed by frequency and percentage distribution and Chi-square test of association.

RESULTS

Socio demographic characteristics of respondents

Before starting any kind of data analysis based on the study objectives, it is necessary to provide a prior glimpse of socio-economic conditions of the sample households. Table I shows the socio demographic characteristics mainly in a compact way.

Out of total respondent, 63.63% of the mothers were

Table I: Demographic characteristics of respondents, n= 110

Variables	Frequency	Percent (%)
Religion		
Hindu	70	63.63
Muslim	40	36.36
Caste		
General	77	70
Schedule caste	33	30
Type of family		
Nuclear	36	32.7272
Joint	39	35.45
Extended	35	31.1818
No. of under five children		
1	87	79
2	23	21
Present age of mother		
<18	3	2.72
≥18 - 25	60	54.54
26 -33	31	28.1818
>33	16	14.54
Parity		
1	58	53
≥2	52	47

Hindu by religion whereas 36.36% are Muslim. Type of family is almost similar percentage for all three categories namely nuclear, joint and extended. Most (57%) of the mothers were aged between 18-25 years, 15% belongs to 26-33 years age group, 14.54% mothers age is above 33 years and 2.72% are below 18 years. Maximum (79%) mothers have one under five children and 21% mothers have above one under five children. Most (53%) of the mothers have parity one and 47% have above one parity (Table I).

We know that in this study educational attainment is an important factor that can induce a mother's knowledge about danger signs. Hence the Table II is exhibiting the distribution of educational attainment of the mothers of sample households. According to the figure it was found that 40% mothers passed higher secondary and above followed by 37% secondary, 10% primary and 13% were illiterate (Table II).

Occupational status of the mothers and per capita income across sample households is another two major economic characteristics as it implies a kind of economic freedom and empowerment. Study reveals out of 110 mothers 79 have private job, 5 mothers were self-employed and 2 are businesswomen (Table II). Out of all, 40% mothers belong to Social Class IV, followed by 30% in Social Class III and 21.81% in II and only 8.18% fall in Social Class I (Table II). Social Class was decided as per Modified B.G. Prasad Scale (2018).

Uses of Health Care Services

Proper utilization of health care facilities has a crucial role in maintaining health for all. In this study above 50% mothers visit Antenatal clinic less than 4 times,

Table II: Showing Socio-Economic conditions of Mother's n=110

Variables	Frequency	Percent (%)
Mother's educational status		
Higher Secondary	44	40
Secondary	41	37
Primary	11	10
Illiterate	14	13
Mother's occupational status		
Govt. / Private serices	9	8.18
Business	2	1.8181
Labour	15	13.636
Self employed	5	4.54
Housewife	79	71.81
Social -class*		
I(≥ Rs 6574/-)	9	8.18
II (Rs. 3287 – 6573/-)	24	21.81
III(Rs. 1972 - 3286 /-)	33	30
IV (Rs. 986 – 1971/-)	44	40
V (Rs.≤ 985)	00	00

*Social Classes were decided as per Modified B.G.Prasad Scale 2018.

Among all mothers 40% mothers passed higher secondary & above followed by 37% secondary, 10% primary and 13% were illiterate.

Study reveals out of 110 mothers 79 were housewives, 15 mothers were engaged in labor work, 9 mothers had either Govt or private job, 5 mothers were self-employed and 2 are business women

Table 2 depicts out of all 40% mothers belongs to Social Class IV, followed by 30% in Social Class III and 21.81% in II and only 8.18% fall in Social Class I

compared to 49% who visits more than 4 times. Most of the mothers (44.54%) didn't visit post-natal clinic and 42.72% mothers visits post-natal clinic only 1-2 times. Data also showed that majority (75%) of respondents preferred Govt. hospitals for childbirth (Table III).

Table III: Shows Frequency and percentage distribution of utilization of health care services & preferences of places for child birth by respondents n=110

Variables	Frequency	Percent (%)
ANC		
< 4 times	56	50.90
≥ 4 times	54	49
PNC		
Not done	49	44.54
1-2 times	47	42.72
3-4 times	14	12.72
Preferences of places for child birth		
Hospital	82	74.5454
Home	11	10
Nursing home	17	15.45

Above table shows above 50% mothers visits Antenatal clinic less than 4 times in compare of 49% who visits more than 4 times. Most of the mothers (44.54%) didn't visit post natal clinic and 42.72% mothers visits post natal clinic only 1-2 times

Data represented in Table 5 showed that majority (75%) of subjects have preferred institutional delivery

Awareness on under-five danger signs

Danger signs are those which need urgent attention to decrease mortality and morbidity among under-five. Out of total 110 respondent 49 (44.54%) heard about danger signs. Among all danger signs mothers are more aware about dehydration followed by convulsion and breathing difficulty. None of the mother is aware of anemia and ear problem as danger signs for under-five children.

Data reveals that 61 (55.45%) mother's out of 110 were not able to identify any danger signs whereas 39 (35.45%) mothers identified 1-2 danger signs and 10 (9.09%) mothers were able to identify 3-4 under five danger

Table IV: Showing knowledge & number of identified danger signs by respondents n= 110

Variables	Response	Frequency	Percent (%)
Heard about danger signs	Yes	49	44.54
	No	61	55.45
List of danger signs	Lethargy	8	7.27
	Poor feeding	6	5.45
	Breathing difficulty	55	50
	Fever	19	17.27
	Coldness of body (only for 0-2 months)	7	6.36
	Convulsion	57	51.81
	Severe Dehydration	63	57.27
	Malnutrition (only for 2 m -5 yrs)	19	17.27
Anaemia (only for 2 m -5 yrs)	0	0	
Ear problem (only for 2 m -5 yrs)	0	0	
No of enlisted danger signs identified	None	61	55.45
	1-2	39	35.45
	3-4	10	9.09
	>5	00	00

Out of total 110 respondent 49(44.54%) heard about danger signs. Among all danger signs mothers are more aware about dehydration followed by convulsion and breathing difficulty. None of the mother is aware of anemia and ear problem

This table also depicts that 61 (55.45%) mother's out of 110 not able to identify any danger signs whereas 39 (35.45%) mothers identified 1-2 danger signs and 10 (9.09%) mothers able to identified 3-4 under five danger signs.

signs (Table IV). Mean knowledge score of mothers is 6.79, median is 7 and SD is 2.552 (Table V). This study revealed that 90(81.81%) out of 110 mothers perceived cough and cold as danger signs and 76(69.09%) out of 110 mothers think continuous crying is a danger sign for children. Out of 110, 37 thinks 'Not playful', 34 'Don't Laugh' is also danger signs for under-five (Figure 1).

Table V – Shows Mean Knowledge score & SD of respondents n=110

Group	Test	Mean	SD
Mothers	Baseline data	6.79	2.552

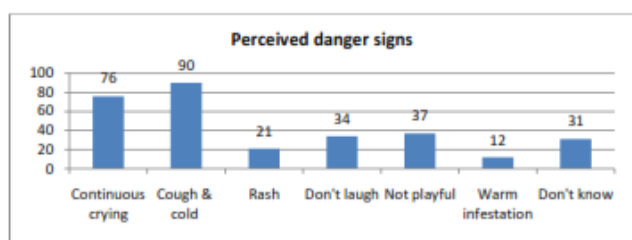


Figure 1: Perceived danger sign identify by respondents, n=110

As discussed earlier that higher education among mothers, regular antenatal and post-natal visits to health facilities can increase knowledge on under-five danger signs. This study revealed that 64% mothers scored >50 among mothers with more educational qualification than who are less qualified and more antenatal and post-natal visits to health facilities have an influence on knowledge score (Table VI).

Table VI: Showing association of Socio- economic characteristics & utilization of health care services with knowledge score of respondents n= 110

Variables	Total Frequency (%)	Knowledge score		Chi square	df	P value
		<50(%)	≥50(%)			
Mother's education						
Higher Secondary and above	44(40)	16(36)	28(64)	9.1387	3	0.027502*
Secondary	41(37)	23(56)	18(44)			
Primary	11(10)	7(64)	4(36)			
Illiterate	14(13)	11(79)	3(21)			
Mother's occupation						
Housewives	79(72)	52(66)	27(34)	0.7191	1	0.396443
Others	31(28)	23(74)	8(26)			
Per capita income/month(Rs.)						
I(≥ Rs 6574/-)	9(8.18)	3(33.3)	6(66.7)	6.0729.	3	0.108116
II (Rs. 3287 – 6573/-)	24(21.81)	13(54.2)	11(45.8)			
III(Rs. 1972 - 3286 /-)	33(30)	24(72.7)	9(27.3)			
IV (Rs. 986 – 1971/-)	44(40)	30(68.2)	14(31.8)			
V (Rs.≤ 985)	00					
ANC Visit done						
<4	56(50.90)	42(75)	14(25)	14.6493.	1	0.000129*
≥ 4	54(49.09)	21(38.9)	33(61.1)			
PNC Visit done						
Not Done	49(45)	43(88)	6(12)	17.2892	2	0.000176*
1-2 Times	47(43)	28(60)	19(40)			
3-4 Times	14(13)	5(36)	9(64)			

Study reveals 64% mothers scored >50 have more educational qualification than who has less qualified. That means education has influence on knowledge score. Study findings shows more antenatal and post natal visits to health institution has a significant effect of knowledge on under five danger signs.

DISCUSSION

This study showed that mothers with higher education level are more aware. Moreover, mothers who visited the ante natal clinic or post-natal clinic are more aware than others. In one study conducted in Nepal, mothers identified danger signs of illness among children as fever (51%), continuous deterioration of health (45.2%) and difficult in drinking (42.5%). Present study reveals 81.81% of mother's perception about danger sign is cough and cold followed by (69.09%) continuous crying, 36.63%'Not playful' and 30.90% 'Don't Laugh'. So, it was seen that total family income, number of symptoms, mothers' education and apparent severity of illness were the predictors of mother's behavior and ability to identify danger signs in their children.

Another study in Bangladesh showed that maternal recognition of neonatal illnesses at home was less in the rural areas. So, there was need to improve maternal recognition, and routine post-natal assessment at home. This is a crucial aspect of community-based newborn care to improve healthcare of the newborn (9).

Other studies show that it is necessary to validate trained community health workers' recognition of signs and symptoms of newborn illnesses and classification of illnesses using a clinical guideline. Proper training and guidelines must be formulated by the community health workers so that can identify severely ill newborns with high perfection (10).

Awareness about danger signs among mothers is very

poor. As the maternal knowledge of danger signs of childhood ailments presently very poor, so there is need for a community-based cohesive management of childhood illness programmes to progress family's care and improve mother's ability to recognize danger signs of childhood illness. Socioeconomic change of the urban poor may help to overcome this situation and help to provide suitable and rapid care during the childhood sickness. Further studies are necessary in this field and to study the associated factor as the small size might have limited the ability to find association with other variables.

CONCLUSION

Various studies show if mothers are aware of under-five danger signs then they could take early initiative to seek proper treatment and help in the reduction of childhood morbidity and mortality. This study revealed that literacy status, antenatal and post-natal visits to health facilities have great influence about knowledge on under-five danger signs. Though neonatal mortality rate has significantly declined worldwide, still it needs urgent attention on prevention. Therefore, it becomes necessary to make mothers aware through various teaching program on regular basis. There is utmost requirement to strengthen the teaching and training of mothers irrespective of their socio-demographic variables on the danger signs, so that appropriate measures are taken when these ailments occur.

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