

Knowledge on Neonatal Danger Sign and Associated Factors among Mothers who Give Birth in Arerti General Hospital, Ethiopia from September, 2017- September 2018

Tsegahun Asfaw*

Department of Medical Laboratory Science, College of Medicine, Debre Berhan University, Debre Berhan, Ethiopia

***Corresponding Author:** Tsegahun Asfaw, Department of Medical Laboratory Science, College of Medicine, Debre Berhan University, Debre Berhan, Ethiopia. **Email:** tsegahun.asfaw12@gmail.com

Abstract: Newborn danger signs is a major challenge to negotiate successfully from intra-uterine to extra-uterine life of the new-born. Danger signs in the neonatal period (0-28 days) are nonspecific and can be a manifestation of almost any newborn disease. The Aim of this study was to assess the level of knowledge of neonatal danger signs and associated factors among mothers who give birth. Facility based cross sectional study was conducted and data was collected by using structured questionnaire. A total of 190 mothers were involved and the data was analyzed by using SPSS version 21. P-value less than or equal to 0.05 was considered as statistically significant difference. The response rate was 182 (95.8%). From all 182 mothers interviewed, only 87(47.8%) of respondents were knowledgeable about Newborn danger sign. The most common source of information was health professionals (92%) at the health facility. The most common danger sign recognized by mothers were persistent vomiting 136(74.7%), Lethargy/unconsciousness 134 (73.6%), Poor sucking/Unable to feed 127(69.8%), but 53(29.1%) of mothers did not heard about all of the neonatal danger signs. The odds of diploma/degree holders postnatal mothers were 57.75 times knowledgeable than as compared with those who were not literate. In general the magnitude of the knowledge of the postnatal mothers was good and majority of the health professionals had commitment to provide information on the neonatal dangers signs for mothers.

Keywords: Knowledge, Mothers, Neonatal Danger Sign

1. INTRODUCTION

In human life, the period from birth to 28 days of age is known as neonatal period [1]. Birth is a major challenge to the new-born to negotiate successfully from intra-uterine to extra-uterine life [2]. Newborn danger signs refer to presence of clinical signs that would indicate high risk of neonatal morbidity and mortality and the need for early therapeutic intervention.

Neonatal mortality remains high despite a declining proportion of deaths among children less than five years of age. Globally, every year, nearly 44% of all deaths in children under- five are among newborn infants. Near to 50% of the newborns die in their first day of life and 75% by seven days. According to 2012 report an estimated of 2.9 million neonates die annually in the first 4 weeks of life globally. Almost all (99%) of these neonatal deaths occurred in low income and middle income countries with the highest rates occurring in sub-Saharan Africa (34 deaths per 1000 live births) accounts for 38

percent of global neonatal deaths [3]. In Ethiopia Mother's unprompted knowledge of newborn danger signs was low, with 29.3% of respondents able to name 3 or more danger signs out of a list of danger signs. There is very limited information about newborn care practices in Ethiopia because many key indicators are not currently measured by routine surveys like the Demographic and Health Survey [4]. Around 120,000 newborns die every year and the neonatal mortality rate is 37 per 1000 live births in Ethiopia, which is highest in the world [5]. Mothers are the primary caregivers of the newborn. Thus the knowledge of the mothers regarding newborn danger signs has a great influence on the health of the newborn [6]. Mothers need to know the danger signs of sick newborn. They can explain these signs to others or family member in a simple language so as to enable them to identify the danger signs and to seek early and prompt medical help. Hence, this study was carried out to assess mothers' knowledge and health care seeking behavior about neonatal danger sign.

2. METHODS AND MATERIALS

2.1. Study Area

The study was conducted at Arerti general hospital, Minjar Shenkora woreda. The hospital gives the services for all population in the district and neighboring woreda like Berihet district.

2.2. Study Design and Period

Facility based cross sectional study design was conducted from September, 2017- September 2018.

2.3. Inclusion and Exclusion Criteria

Mothers who were attending at Arerti general hospital and willing to participate were included while seriously ill and mothers with have mental problem were excluded. Based on this a total of 190 mothers were included.

2.4. Operational Definition

Neonatal Period: refers to the first 28 days of life

Early Neonatal Period: is the life of first 7 days

Late Neonatal Period: is the life of days 8-28.

Neonatal Danger Signs: refer to the presence of clinical signs that would indicate high risk of neonatal morbidity and the need for early therapeutic intervention.

New Born Danger Sign: WHO definition were categorized as follows: i) Not feeding since birth or stopped feeding; ii) Convulsion; iii) Respiratory rate of 60 or more (fast breathing); iv) Severe chest in drawing (difficulty in breathing); v) Temperature of ≥ 37.5 degree centigrade (hyperthermia); vi) Temperature ≤ 35.5 degree centigrade (hypothermia); vii) Only moves when stimulated or not even when stimulated (weakness or lethargy); viii) Yellow soles (sign of jaundice); ix) Umbilicus redness or draining pus, skin boils, or eyes draining pus (sign of local infection) and x) Vomiting.

Knowledge: Factual information that the respondent knows regarding the newborn danger sign.

Knowledgeable on New born danger signs; a woman was considered as knowledgeable on newborn danger signs if she spontaneously mentioned three or more WHO newborn danger signs.

Not knowledgeable on New born danger signs; a woman was considered as Not knowledgeable on newborn danger signs if she spontaneously mentioned less than three WHO newborn danger signs.

2.5. Data Collection Methods and Analysis

Structured questionnaire was developed with local language. Data was collected trained nurse through interviewing. Data was analyzed using SPSS version 21 and the prevalence of mothers' knowledge on each danger signs of neonates was determined and presented by using tables, reports and graphs.

2.6. Ethical Clearance

Ethical approval was obtained by Minjar Shenkora worda administrative office and official permission was obtained from head department of Arerti general hospital.

3. RESULT

3.1. Sociodemographic Characteristics of the Respondents

A total of 182 (95.8%) mothers were volunteer and interviewed for the assessment of their knowledge on neonatal danger signs. 73(40.11%) mothers were between the age of 25-29 years and 130 (71.4%) lives in the rural area. From all respondents 170(93.4%) were orthodox Christian, 168 (92.3%) were also ethnically Amhara and most of them are not literate. From 182 study subjects 24(13.2%) were Employed, 29(15.9%) were diploma/degree holders but 61(33.5%) were complete secondary school. Only 159(87.4%) of postnatal mothers were had a history of pregnancy more than one (Table 1).

Table1. Sociodemographic characteristics of the respondents on the knowledge assessment on neonatal danger signs at Arerti general hospital, (N=182)

Sociodemographic variables	Frequency (N=182)	
Age	18-24	27(14.84%)
	25-29	73(40.11%)
	30-34	67(36.81%)
	≥ 35 years	15(8.24%)
Residency	Urban	52 (28.6%)
	Rural	130 (71.4%)
Religion	Orthodox	170 (93.4%)
	Other	12 (6.6%)
Ethnicity	Amhara	168 (92.3%)

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	Other	14(7.7%)
Educational level of mothers	literate (up to 8 grade)	37(20.3%)
	complete secondary school	83(45.6%)
	Diploma/Degree holder	39(21.4%)
	Illiterate	23(12.7%)
Husbands level of education	literate (up to 8 grade)	71(39.0%)
	complete secondary school	61(33.5%)
	Diploma/Degree holder	29(15.9%)
	not literate(can't read and write)	21(11.5%)
Mothers occupation	Employed(governmental or private)	24(13.2%)
	Student	12(6.6%)
	Merchant and (private work)	32(17.9%)
	Farmer	86(47.2%)
	House wife	28(15.4%)
Family size	<=3	58(31.9%)
	>=4	124(68.1%)
Gravidity	Primigravida	23(12.6%)
	Multigravida	159(87.4%)
Parity of the mother	1-3 children	89(48.9%)
	>3 children	67(36.8%)

Out of 182 post natal mothers majority of them were married(40.1%) and 14.3% of them were not married (Figure 1).

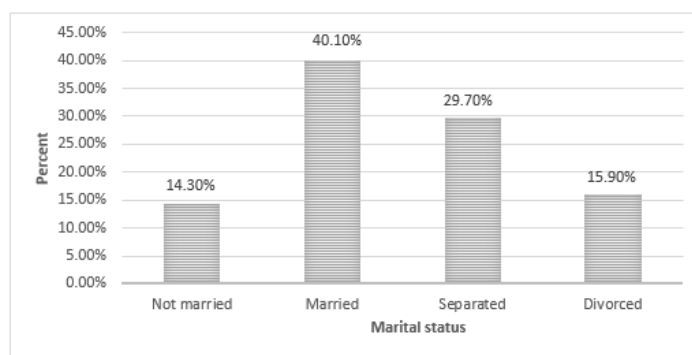


Figure1. Marital status of postnatal mothers in Arerti general hospital (N=182)

Out of the 182 respondents 33% of the mothers had an estimated monthly income of <500 birr per month and 17% of them had got 500-1000 birr per month (Figure 2).

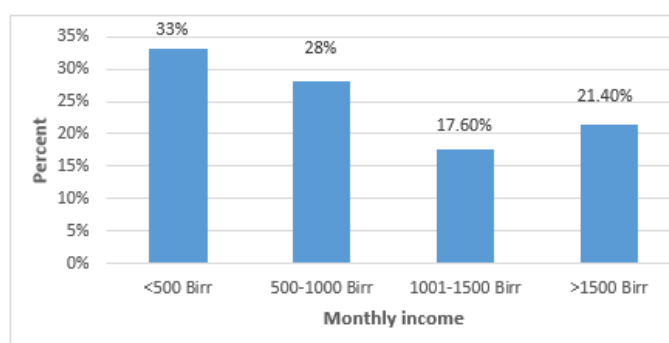


Figure2. Estimated monthly incomes of postnatal mothers at Arerti general hospital

3.2. Results of Maternal Health Service Utilizations

Among 182 mothers 53(28.6%) of the pregnant mothers had an access to hospital, 67(36.8%) had access to health center 34(18.7%), 28(15.4%) had an access to health posts and private clinics respectively. All of the mothers (100%) were

vaccinated tetanus toxin vaccine during their ANC visits. During ANC follow up in the health institution 153(84.1%) of the mothers were got advise (counseling on the neonatal danger signs) and the remaining 29(15.9%) of mothers were not got counseling or not remember. Among 182 mothers, 43% had 1-2 visits to the health institution (Figure 3).

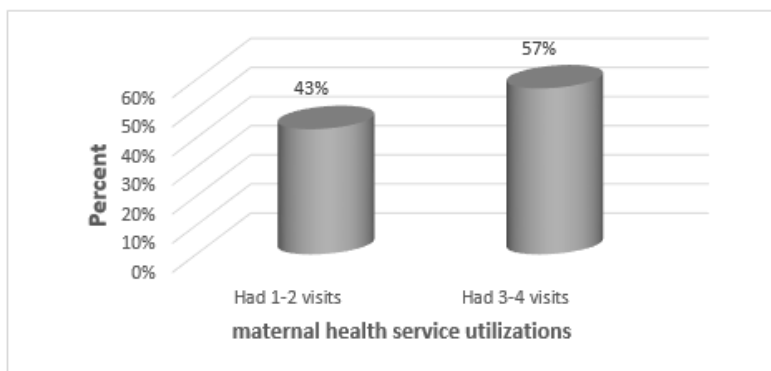


Figure3. Previous ANC visits of postnatal mothers at Areti general hospital

From 182 mothers 14% of them were borne the last neonate at the health institution through instrumental assisted delivery while 81% were

give birth through Spontaneous vaginal delivery (Figure 4)

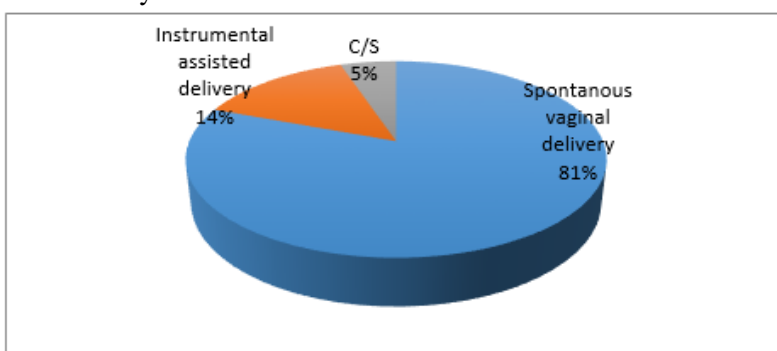


Figure4. Mode of delivery of postnatal mothers at Arerti general hospital

3.3. Source of Information for Postnatal Mothers about Neonatal Danger Signs

health professionals but only 5% had got information from radio/TV. (Figure 5).

Among 182 postnatal mothers 92% had got information about neonatal danger sign from

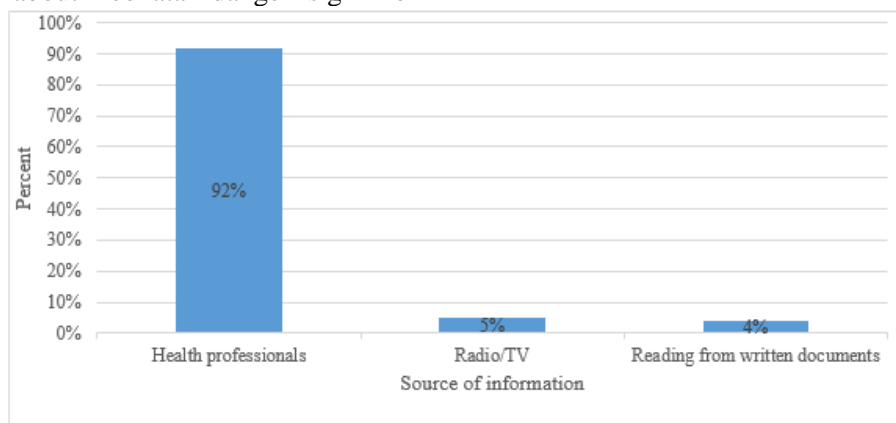


Figure5. Assessment of the source of information on the neonatal danger sign by postnatal mothers at Arerti general hospital

Among 182 postnatal mothers 29 (15.9%) had not heard and the other remaining 153 (84.1%) had heard about neonatal danger signs.

mothers were persistent vomiting 136 (74.7%), Lethargy/unconsciousness 134 (73.6%), Poor sucking/Unable to feed 127(69.8%), but 53 (29.1%) of mothers did not heard about all of the neonatal danger signs. The most common source of information was health professionals (92%) through health extension program (Figure 6).

However, only 87 (47.8%) of respondents were knowledgeable about Newborn danger sign. The most common danger sign recognized by

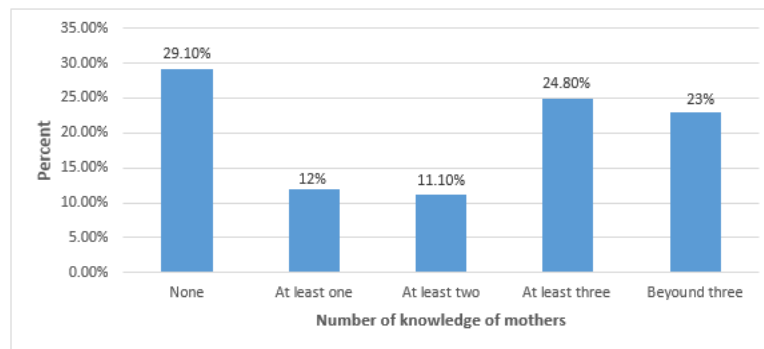


Figure 6. Assessment of the knowledge of postnatal mothers that they mentioned about neonatal danger signs at Arerti general hospital

From the study subjects interviewed 110 (60.4%) of postnatal mothers did not recognize Jaundice as a neonatal danger sign and 98 (53.8%) of them also did not recognize hypothermia as neonatal danger signs (Table 2).

Table 2. Knowledge postnatal mothers on the neonatal danger signs at Arerti general hospital

Variable		Frequency(N=182)
Poor sucking/Unable to feed	Yes	127(69.8%)
	No	55(30.2%)
convulsion	Yes	95(52.2%)
	No	87(47.8%)
Fast breathing(difficulty of breathing	Yes	113(62.1%)
	No	69(37.9%)
Chest in drawing	Yes	67(36.8%)
	No	115(63.2%)
Lethargy/unconsciousness	Yes	134(73.6%)
	No	48(26.4%)
Hypothermia	Yes	84(46.2%)
	No	98(53.8%)
Fever	Yes	93(51.1%)
	No	89(48.9%)
Persistent vomiting	Yes	136(74.7%)
	No	46(25.3%)
Jaundice	Yes	72(39.6%)
	No	110(60.4%)
Not recognize all of the above		53(29.1%)

3.4. Association of the Access of Information and Knowledge of Mothers on Neonatal Danger Signs

The odds of knowledge of postnatal mothers on the neonatal danger sign were 4.3125 times knowledgeable as compared with those postnatal mothers who had no information. The odds of being living in urban area was 2.7076 times knowledgeable than from those postnatal mothers living in rural areas.

The odds of the knowledge of postnatal mothers who complete secondary school were 10.7561

times knowledgeable than as compared with those who were not literate.

The odds of diploma/degree holders postnatal mothers were 57.75 times knowledgeable than as compared with those who were not literate. The odds of postnatal mothers who complete up to grade 8 were 3.8889 times knowledgeable than as compared with those who were not literate. The odds of the mothers who had 1-3 children were 1.9707 times knowledgeable as compared with the postnatal mothers who had three or more than three children (Table 3).

Table 3. Associations of the postnatal mothers with different independent variables at Arerti general hospital

		Knowledgeable	Not knowledgeable	OR	95% CI	
					Lower limit	Upper limit
Heard about neonatal dangers signs from different sources	Yes	81	72	4.3125	1.6629	11.1836
	No	6	23			
Residency	Urban	47	7	2.7076	1.3681	5.3588

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	Rural	54	76			
Age	18-24	15	12	0.3125	0.0715	1.3665
	25-29	29	44	0.1648	0.0427	0.6351
	30-34	31	36	0.2153	0.0556	0.8331
	>=35 years	12	3			
Educational level of mothers	literate (up to 8 grade)	36	1	3.8889	0.7682	19.6859
	complete secondary school	42	41	10.7561	2.3692	48.8319
	Diploma/Degree holder	33	6	57.75	10.6424	313.3744
	Illiterate	2	21			
Gravid	Primigravida	8	15	0.5401	0.2168	1.3453
	Multigravida	79	80			
Parity	1-3 had 1-3 children	56	33	1.9707	1.0342	3.755
	>=3 children	31	36			

4. DISCUSSION

In this study the level of knowledge of postnatal mothers on the neonatal danger signs that mentioned three or above problems among nine were 87(47.8%), which is greater than study conducted in Uganda where only 14.8% can name at least two signs. The most recognized neonatal danger sign in this study was persistent vomiting 136 (74.7%), Lethargy/ unconsciousness 134 (73.6%), Poor sucking /Unable to feed 127 (69.8%), but 53 (29.1%) of mothers did not heard about all of the neonatal danger signs. This might be due the commitment of the health professionals [7].

Majority of mothers 136 (74.7%) recognize persistent vomiting as a neonatal danger sign which is different from study conducted in Peri-urban Wardha, India where 55(76.4%) mothers identified fever as newborn danger signs. This study also revealed that 113 (73.6%), 127 (69.8%) and 134 (73.6%) mothers identified difficulty in breathing, poor sucking and lethargy/unconsciousness as newborn danger signs respectively; which was greater than the study conducted at Peri-urban Wardha, India, where 29 (40.3%), 16 (22.2%) and 10 (13.9%) mothers identified difficulty in breathing, poor sucking and lethargy/unconsciousness respectively. This difference might be due to accessibility of information and previous history of ANC follow up [8].

In this study the knowledge of the post-natal mothers on neonatal danger sign was 87(47.8%) which was lower than the study conducted in Mangalore, India where 43 (62%) had good knowledge. This might be due to health professional's competency to provide information related to neonatal danger signs during ANC and PNC follow up to mothers [9].

And also lower than the study conducted at randomly selected 16 governmental health centers of Addis Ababa, Ethiopia. However, most of the respondents 59.8% were a moderately knowledgeable of neonatal danger signs while 24.2% were highly knowledgeable, and 16% were poorly knowledgeable and 280 (77.1 %) mothers knew at least one neonatal danger sign. The most commonly recognized neonatal danger signs was persistent vomiting 136 (74.7%), Lethargy/unconsciousness 134 (73.6%), Poor sucking/Unable to feed 127 (69.8%), which was different from the most common mentioned neonatal danger signs Diarrhea 58.9%, Persistent vomiting, 43.9%, and Fever, 32.9% in the study conducted at 16 selected hospitals in Addis Ababa. This difference might be study area that increases the probability of getting knowledgeable mothers [10].

The result of this study showed 87(47.8%) mothers mentioned three and above neonatal dangers sign which was greater than study conducted in Ethiopia where mothers (18.2%) who had knowledge of three or more neonatal danger signs (good knowledge). This difference might be the accessibility of information to mothers on the neonatal danger signs [11]. The postnatal mothers level of knowledge (47.8%) was lower than from Community based cross sectional study conducted in Chencha District, Southern Ethiopia where 50.3% of mothers had good level of knowledge who knows three or more neonatal danger signs. This might be due to the research study design difference [12].

5. CONCLUSION AND RECOMMENDATION

The knowledge of the mothers about the neonatal dangers signs was good and majority of the

health professionals had commitment to provide them information while they give antenatal and postnatal care services. Majority of the mothers had antenatal care follow up during pregnancy and all of them were vaccinated for tetanus toxin. However, intensive counseling and information services on newborn danger sign should give emphasis for those mothers having low income and urban residence, who attend health facility for antenatal care, delivery and postnatal care service. Mather to mother education should also strengthen among the society.

AUTHORS' CONTRIBUTIONS

TA-collect and analyzed the data. TA- wrote and approve the manuscript.

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