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Research Article

Health Care Seeking Behavior Towards Neonatal Danger Signs and Associated Factors Among Mothers in Kamba Zuria District, South Ethiopia

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Abstract

Introduction: Health care seeking behavior is any measure action taken when an individual perceives ill. Delayed health care seeking behaviors for ill neonates contribute to high neonatal and infant mortality rates. Early identification of neonatal danger signs and encouraging giving birth in health facility improve health care seeking behavior of mother for neonatal danger signs.

Objective: To assess health care seeking behavior towards neonatal danger signs and associated factors among mothers in Kamba Zuria District, South Ethiopia, 2020.

Method: A community based cross sectional study design was conducted from February 1 to 30/2020. A total of 588 mothers were selected by using simple random sampling. Epi Data version 3.1 for data entry and SPSS version 24 for data analysis was used. Logistic regression analysis was done. Significant independent variables were interpreted at a p-value of less than 0.05 with 95% CI.

Result: Appropriate health care seeking behavior was 52.2% with [95%CI: 47.0-57.1%]. Mothers who had a number of children from 1-3 were 1.87 times more likely to seek appropriate health care [AOR: 1.87, 95%CI: 1.16, 3.01]. Mothers who had higher decision-making ability were 1.53 times more likely to seek appropriate health care [AOR: 1.53, 95%CI: 1.01, 2.32].

Conclusion: The appropriate health care seeking behavior of the mothers for neonatal danger signs was low. The number of children in the family and decision-making ability of mothers were independent variables that showed significant association. Therefore, health education should be provided concerning early seeking health care from health facility.

Keywords: Health care seeking behavior, Mothers, Neonatal danger sign, Kamba Zuria district

Abbreviations: ANC: Antenatal Care; AOR: Adjusted Odds Ratio; bpm: Breath Per Minute; CI: Confidence Interval; COR: Crud Odds Ratio; EDHS: Ethiopian Demographic and Health Survey; HEWs: Health Extension Workers; MOH: Ministry of Health; PNC: Post Natal Care; SD: Standard Deviation; SPSS: Stastical Package for Social Science; SVD: Spontaneous Vaginal Delivery; UNICEF: United Nations International Children's Emergency Fund; WHO: World Health Organization

Introduction

Health care seeking behavior is a functional motivation and ability of individuals to seek treatment from available health care facilities and other sources [1,2]. Health care seeking behavior for neonatal danger signs is not only treatment of the disease, but perceived seriousness, duration, cultural practices and socio- economic status of mothers [3]. Neonatal period is the most critical period for the newborn to survive its life [4]. Neonatal danger signs are those danger signs that occur in the first four weeks of life since birth [5,6]. About 2.6 million newborns die within the first four weeks of life [7]. Delayed health care seeking behavior for ill neonates contributes to high neonatal and infant mortality rates [8,9]. However, appropriate health care seeking behavior of mothers for neonatal danger signs is backbone in decreasing neonatal mortality [10]. In Ethiopia, traditional beliefs have greater influence over the prevailing attitudes and practices of governmental policies. Nearly half of all deaths in under-five childhood occur in the neonatal period, within the first four weeks of life [11]. According to the 2019 Mini EDHS, neonatal mortality rate is 30 deaths per 1,000 live births [12]. However, it was 29 deaths per 1,000 live births in 2016 EDHS report which needs improvement in health care seeking behavior [13]. Ethiopia has already made great initiatives to empower communities to improve maternal and child health through the Health Extension Workers (HEW) and Health Development Army (HAD) platforms. The Ministry of Health (MOH) of Ethiopia prepared an illustrated booklet called Family Health Card (FHC) through its flagship health extension program. The FHC includes recommended action points and important health messages on maternal, newborn and child health. In it, there are messages on neonatal danger signs to help families to recognize neonatal danger signs and seek prompt treatment [14]. Therefore, this study assessed health care seeking behavior of mothers towards their neonates.

Methods and Materials

Study Area and Period

The study was done in Kamba Zuria district of Gamo Zone, South Nation Nationalities and Peoples' Regional State. Kamba Zuria district is located 559 Km away from Addis Ababa, 390 Km from Hawassa, the capital city of South Nation Nationalities and Peoples Regional State and 105 Km away from Arba Minch, the capital city of Gamo Zone. It has a primary Hospital, five health centers, one clinic, six private clinics and four drug stores. The total population of the district is 137,500 from which 3.46% (4,758) are reproductive age group mothers [15]. The study was conducted from February 1 to 30/2020.

Study Design and Population

A community based cross sectional study design was carried out. All mothers who had infants less than six months of age in the district were included. Severely ill mothers who could not respond during the data collection period were excluded.

Sample Size Determination

The sample size was determined using a single population proportion formula. The assumptions used to calculate the sample size was population proportion 0.413 that was taken from study done in Tenta district of Amhara Region [16] with 95% confidence level and margin of error 5% as follows.

$$n = \left(\frac{\acute{z}}{2}\right)^2 \frac{p(1-p)}{d^2} = (1.96)^2 \frac{(0.413)(0.587)}{(0.05)^2} = 372.5 \approx 373$$

With non-response rate of 5%and design effect of 1.5, the total sample size was 588.

Sampling Procedure

Seven rural kebeles and one semi-urban were included in the study by stratified sampling. Each Kebele was selected by simple random sampling technique. Mothers were identified by proportional allocation considering list of mothers in health post as a sampling frame. Finally, the data collectors visited the home of each mother to interview with the guidance of HEWs.

Terms and Operational Definitions

Neonatal Danger Signs

Danger signs that occur in the first four weeks of life since birth [6]. Included: unable to feed since birth or stopped later, convulsion, fast breathing or respiratory rate greater than or equal to 60 bpm, severe chest in-drowning or difficulty breathing, body temperature greater than or equal to 37.5C^0 or fever, body temperature less than or equal to 35.5C^0 or hypothermia, absence of movement even with stimulation or weakness and lethargy, yellow skin or jaundice and sign of local infections such as reddened eye or pus draining from umbilicus [7].

Health Care Seeking Behavior

Seeking health care for neonatal danger sign that faced neonates. It was measured by calculating all individual responses of question, from where you sought care for danger sign faced and then categorized as appropriate (if mothers visited health facility within 24 hours since onset of the sign) or inappropriate (if mothers visited health facility after 24hours or visited out of health facility for neonatal danger sign) [17].

Decision Making Ability

Is the way a mother reaches a decision by herself or somebody else to seek health care for her sick neonate. It was measured by calculating individual answers to decision-making questions and then categorized as higher (if mother made decision by herself) or lower (if the decision was made by husband or others) [16].

Data Collection Procedure and Quality Assurance

Tool contained semi-structured questionnaires and data was

collected through face-to-face interview of mothers. Five data collectors (graduated diploma nurses) and four supervisors (experienced public health officers) were recruited. Pre-test was made on 5% of the total sample size in non-selected Kebele before actual data collection. Training was given to data collectors. The questionnaire was translated from English to Amharic and then to Gamogna (local language) before and back to English after data collection by language expert to assure consistency.

Data Management and Data Analysis

Data were entered into Epi Data version 3.1 and then exported to SPSS version 24 statistical package for analysis. Data cleaning was performed to check for missed values and then descriptive analysis such as proportions, percentages, median, tables and graphs were used. Multi-collinearity was checked, and logistic regression analysis was done using Hosmer-Lemeshow model goodness fit test. Variables significant in bivariate analysis were entered in multivariate analysis to identify the independent association of variables with health care seeking behavior of mothers towards neonatal danger signs. Finally, significant independent association was interpreted at P-value of less than 0.05 with 95%confidence interval (Tables 1-6).

Table 1: Socio-demographic characteristics of health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
Age in years	< 24	27	4.7
	25-30	186	32.6
	31-35	256	44.9
	>36	101	17.7
Residence	Rural	487	85.4
	Semi-urban	83	14.6
Religion	Orthodox	173	30.4
	Muslim	9	1.6
	Protestant	316	55.4
	Traditional	22	3.9
	Catholic	50	8.8
Marital status	Married	548	96.1
	Single	7	1.2
	Widowed	9	1.6
	Divorced	5	1.1
Educational status of mothers	Cannot read and write	183	32.1
	Primary school	186	32.6
	Secondary school	177	31.1
	Above secondary	24	4.2
Educational status of husbands (n=548)	Cannot read and write	118	21.5
	Primary school	110	20.1
	Secondary school	290	52.9
	Above secondary	30	5.5
Occupation of mothers	Housewife	452	79.3
	Government employee	24	4.2
	Student	18	3.2
	Merchant	76	13.3
Occupation of husbands (n=548)	Farmer	285	52
	Government employee	34	6.2
	Student	22	4
	Merchant	207	37.8

Table 2: Neonatal factors of health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
Sex of neonate	Male	286	50.2
	Female	284	49.8
Current age of neonate in month	1-Feb	198	34.7
	3-May	372	65.3
Type of pregnancy	Single	566	99.3
	Multiple	4	0.7

Table 3: Obstetric factors of health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
PNC visit	Yes	73	12.8
	No	497	87.2
Information about neonatal danger signs during PNC visit(n= 73)	Yes	51	69.9
	No	22	30.1
Gestational age at delivery	Pre term	10	1.8
	Term	560	98.2
Place of delivery	Health facility	221	38.8
	Home	349	61.2
Type of delivery	Spontaneous vaginal	563	98.8
	Instrumental	3	0.5
	Cesarean section	4	0.7
ANC visit	Yes	359	63
	No	211	27
Number of ANC visit (n= 359)	One	44	12.3
	Two	104	29
	Three or above	211	58.8

Table 4: Neonatal danger signs and the mothers' health care seeking behavior towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
Faced neonatal danger signs	Yes	406	71.2
	No	164	28.8
Type of neonatal danger sign (n=406)	Unable to feed since birth/stopped after	36	8.9
	Convulsion/ abnormal body movement	36	8.9
	Fast breathing	31	7.6
	Fever/ hot to touch	97	23.9
	Baby is cold /Cold to touch	24	5.9
	Severe chest indrawing/difficulty breathing	39	9.6
	Unconsciousness/ lost itself	39	9.6
	Yellow skin color	33	8.1
	Signs of local infection (Pus discharge from umbilicus, red eyed)	71	17.9

Place care sought(n=406)	Sought care from health facility within 24 hrs	212	52.2
	Sought care from health facility after 24 hrs	100	24.6
	Gave home remedies	42	10.3
	Sought traditional care	24	5.9
	Called priest/pastor to pry	19	4.7
	Sought from drug seller	9	2.2
Reason for after 24 hour to seek from health facility (n=100)	Did not know that it is a danger sign	35	35
	Wanted to try home remedies first and see the improvement	60	60
	Took to traditional healers	5	5

Table 5: Health system and Cultural factors of health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
Reason to sought care out of health facility (n=94)	Long distance to go health facility	2	2.1
	Cost for care in the health facility is high	5	5.3
	Neonate should not be taken outside of home	3	3.2
	Illness is not suitable for medical care	45	47.9
	Traditional herbs are more effective	39	41.5
Distance from home to health facility	1-2 hour	502	88.1
	3- 4 hour	68	11.9

Table 6: Individual factors of health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=570)	Categories	Frequencies	Percentages
Number of children	1-Mar	284	49.8
	4-Jul	286	50.2
Decision making ability of mothers (n=406)	Higher	255	62.8
	Lower	151	37.2

Results

Socio Demographic Characteristics

Table 7: Bi-variable and multi-variable analysis of factors associated with health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020.

Variables (n=406)	Category	Health care seeking behavior		COR (95%CI)	AOR (95%CI)	P- value
		Appropriate	Inappropriate			
Age of mothers in years	<=24	15(7.1%)	6(3.1%)	3.19(1.13, 9.06)	1.86(0.42, 5.65)	0.27
	25-30	67(31.6%)	66(3%)	1.29(0.75, 2.26)	0.82(0.43, 1.55)	0.54
	31-35	94(44.3%)	76(39.2%)	1.58(0.93, 2.69)	1.39(0.81, 2.38)	0.24
	>=36	36(17%)	46(23.7%)	1	1	
Number of children	1-Mar	116(58.3%)	83(41.7%)	1.62(1.09, 2.39)	1.87(1.16, 3.01)*	0.01
	4-Jul	96(46.4%)	111(53.6%)	1	1	
Decision making	Higher	143(56.1%)	112(43.9%)	1.52(1.01, 2.27)	1.53(1.01, 2.32)*	0.04
	Lower	69(45.7%)	82(54.3%)	1	1	

Note*: Hint: "*" =p<0.05: statistically associated; "1" = reference group

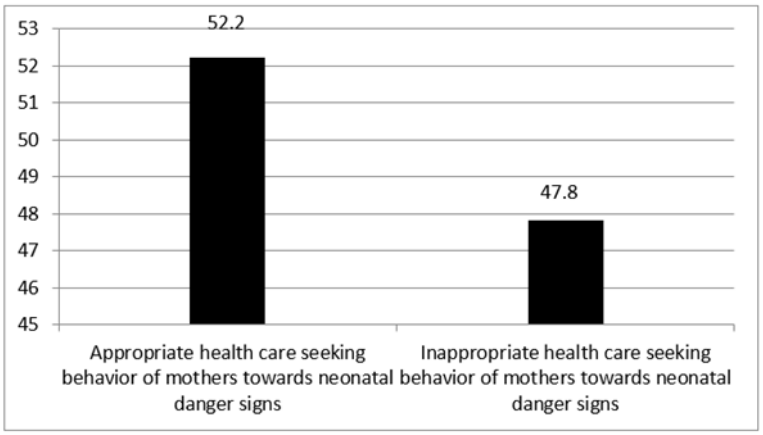

Figure 1: Health care seeking behavior of mothers towards neonatal danger signs, Kamba Zuria District, South Ethiopia, 2020 (n = 406).

Five hundred seventy mothers gave response that made over-all response rate 96.9%. Median age of mothers was 32 with SD±4.012 (Table 7, Figure 1).

Discussion

In this study, the magnitude of appropriate health care seeking behavior for the neonatal danger signs was 52.2% [95%CI: 47.0-57.1%]. This finding was in line with a previous study done in Yemen (51.4%) [2], a study done in Enugu state, Nigeria (47.7%) [18]. However, it was higher than a study conducted in Edo state, Nigeria (35.9%) [19]and Tenta district, Amhara region (41.3%) [16]. In contrast, it was lower than a study conducted in Pakistan (81.1%) [20], Bahir Dar (72.7%) [21] and facility based study conducted in Ambo town, Central Ethiopia, (60.5%) [22]. These discrepancies might be due to social environment that does not encourage health care seeking behavior towards neonatal danger signs, difference in accessibility of health facilities and the time duration in this study was limited to twenty-four hours since the onset of neonatal danger sign. In the same time circumference, in study done in Addis Ababa, Ethiopia, 26.5% of mothers whose neonate faced neonatal danger sign sought health care within first day, [23] which was about half lower than this study. This difference might be a result of improvement in health care seeking behavior and incensed of infra statures from time to time.

Health care seeking behavior of mothers towards neonatal danger signs out of health facility within 24 was 24.6% sought care from health facility after 24 hrs,10.3% gave home remedies, 5.9% sought traditional care, 4.7% called priest/pastor to pry and 2.2% sought from drug seller which was lower than a community based study done in Wolkite town, South Nation Nationalities and Peoples Regional State, Ethiopia that justified 33.8% mothers gave home remedies and 24.2% sought from traditional healer [24]. This variation might be due to improvement of health care seeking behavior from health facility from time to time. Mothers who had number of children from 1-3 were 1.87 times more likely to seek appropriate health care than mothers who had number of children from 4-7 in the family [AOR: 1.87, 95%CI: 1.16, 3.01].This was almost the same as a facility based cross sectional study conducted in Addis Ababa, Ethiopia, in which mothers who have number of children less than or equal to three were four times more likely to seek health care than those having more than three children with 95% CI [23]. Again, it was in agreement with previous study that described number of children born for the family affects the health care seeking behavior of mothers towards neonatal danger signs [25].

Mothers who had higher decision-making ability were 1.53 times more likely to seek appropriate health care than mothers who had lower decision-making ability [AOR: 1.53, 95%CI: 1.01, 2.32]. This was in agreement with previous study done in Tenta District, Amhara Region of Ethiopia, in which mothers who had higher decision-making ability were 11.28 times more likely to seek medical care than mothers who had lower decision-making ability [16].

Conclusion

This study justified that appropriate health care seeking behavior of the mothers for neonatal danger signs was low in the study area. Independent variables that showed significant association in this study were number of children in the family and decision-making ability of mothers.

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Ethical Consideration

A permission letter was provided from Debre Markos University Ethical Review Committee. Again, another permission letter was obtained from Kamba Zuria district Health Office to each selected health posts. Data collectors gave verbal informed consent, asked openness and explained the necessity including the aim and pur-

pose of data collection, confidentiality and privacy was clearly introduced and kept.

Conflict of Interest

The author has declared no conflict of interest.

References

1. Javeed A, Golanda J, Mallikarjun S Kampli M, Jyoti S (2019) HalladHealth Care Seeking for Newborn Danger Signs Among Mothers Journal of Humanities and Applied Social Sciences 2(6): 126-129.
2. Webair H, Bin Gouth A (2013) Factors affecting health care seeking behavior for common childhood ilness in Yemen, patient prefer Adherence. Patient Prefer Adherence7(2): 1129-1138.
3. Zhang K (2018) Theory of Planned Behavior: Origins, Development and Future Direction. International Journal of Humanities and Social Science Invention 7(5): 76-83.
4. Oza S, Cousens S N, Lawn J E (2014) Estimation of daily risk of neonatal death, including the day of birth, in 186 countries in 2013: a vital-registration and modelling-based study Lancet Glob Health 2(11): e635-644.
5. Zohra S Lassi, Philippa F Middleton, Zulfiqar A Bhutta G, Caroline C (2016) Strategies for improving health care seeking for maternal and newborn illnesses in low and middle income countries: A systematic review and Meta analysis. Glob Health Action 9(1): 31408.
6. Barfield W, Anoghn A (2016) Committee on fetus and newborn. Standard Terminology for Fetal, Neonate, Infant, and Perinatal Deaths Pediatrics 137(5): e20160551.
7. United Nations International Children`s Emergency Fund (UNICEF) (2018). UNICEF, Palais des Nations 1211 Genève 10, Switzerland. pp.1-2.
8. Geldsetzer P, Williams T, Kirolos A, Mitchell S, Ratcliffe L, et al. (2014) The recognition and care seeking behavior for childhood illness in developing countries: Systematic Review. PLoS One 9(4): e93427.
9. Sandberg J, Pettersson K, Asp G, Kabakyenga J, Agardh A, et al. (2014) Inadequate knowledge of neonatal danger signs among recently delivered women in southwestern rural Uganda: a community survey. PLoS One 9(5): e97253.
10. Chandwani H, Pandor J (2015) Health care seeking behaviors of mothers regarding their children in a Tribal community of Gujarat, India. Electron Physician 7(1): 990-996.
11. (2018) World Health Organization (WHO), Children: reducing Mortality, World Health Organization.
12. (2019) Ethiopian Public Health Institute (EPHI) [Ethiopia] and ICF. 2019. Ethiopia Mini Demographic and Health Survey 2019; Key indicators. Rockville, Maryland, USA: EPHI and ICF pp.11-12.
13. (2016) Central Statistical Agency (CSA) [Ethiopia] and ICF. Ethiopia Demographic and Health Survey: Key Indicators Report. Addis Ababa, Ethiopia, and Rockville, Maryland, USA. CSA and ICF pp.123-131.
14. (2016) MoH. Family Health Card: Federal Democratic Republic of Ethiopia pp.169-75.
15. (2019) Report of Kamba Zuria district health office, Mothers who have infant less than six months of age 5.
16. Molla G, Gonie A, Belachew T (2017) Health care seeking behaviour on neonatal dangersigns among mothers in Tenta District, NortheastEthiopia: Community based cross- sectional study. International Journal of Nursing and Midwifery 9(7): 85-93.
17. Muluye M , Mezgebu Y, Abebaw A Mulugeta T (2019) Mothers' health care seeking behavior and associated factors for common childhood illnesses, Northwest Ethiopia: community based cross-sectional study. BMC Health Serv Res 19(1): 59.
18. Ekwochi U, Ndu I, Osuorah C, Amadi O, Okeke I, et al. (2015) Knowledge of danger signs in newborns and health seeking practices of mothers and care givers in Enugu state, South-East Nigeria. . Ital J Pediatr 41: 18.
19. Aigbokhaode A Q, Isah E C, Isara A R (2015) Health seeking behaviour among caregivers of under-five children in Edo state, Nigeria. Southeastern Eur. J Public Health 3(1): 1-10.
20. Durrani H M, Kumar R, Durrani S M (2015) Recognizing the Danger Signs and Health Seeking Behaviour of Mothers in Childhood Illness in Karachi, Pakistan. Univ J Public Health 3(2): 49-54.
21. Awoke W (2013) Prevalence of childhood illness and mothers'/ caregivers' care seeking behavior in Bahir Dar, Ethiopia: A descriptive community based cross sectional study. Open J Prev Med 3(2): 155-159.
22. Gizachew A, Daniel B, Berhanu E, Getu Alemu D, Keneni B, et al. (2019) Knowledge of neonatal danger signs, care seeking practice and associated factors among postpartum mothers at public health facilities in Ambo town, Central Ethiopia. BMC Res Notes 12(1): 549.
23. Nebiyat T, Hailemariam B, Gebremedhin G (2019) Mothers` health care seeking behavior towards childhood illness in selected health centers in Addis Abeba, Ethiopia; Facility based cross sectional study. BMC Pediatr 19(1): 220.
24. Anmut W, Fekecha B, Demeke T (2017) mothers` knowledge and practice about neonatal danger signs and associated factors in Wolkite Town, SNNPR, Ethiopia. Journal of Biomedical Science 6 (6): 1-7.
25. Sasalanak C, Rupasinghe M, Senanayake M, Dharmakeerthi B, Silva K, et al. (2019) Factors Associated with Maternal Knowledge and Health Seeking Behaviour on Neonatal Danger Signs among Mothers Attending Child Welfare Clinics in Piliyandala Medical Officer of Health (MOH) Area EC Nursing and Healthcare 1(1): 03-16.