

Factors Influencing Mothers’ Health Care-Seeking Behavior for Childhood Illnesses in Woldia Town, Northeast Ethiopia

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ABSTRACT

Background: Early detection and immediate health care seeking practice of care is an important step towards increasing child survival and reducing mortality. Many child deaths are attributed to delay in seeking care and child mortality is still insufficient progress. Despite the great potential of health seeking behavior of mothers for common childhood illness in reducing child morbidity and mortality, its status is not well known in the study area. Therefore, the aim of this study was to assess mothers’/care givers health care seeking behavior and its associated factors for childhood illnesses in Woldia town administrative 2019.

Methods: A community based cross-sectional study design was done on a sample of 662 mothers/caregivers from February 28 to March 28, 2019. simple random sampling method was used for sample selection. Data was entered using Epidata Version 3.1 and transfer to SPSS version 20 software for analyses. Binary logistics regression model was used to identify factors associated with the dependent variable. Adjusted odds ratio with p-value <0.05 and 95% confidence interval was used to show the strength of association.

Result: A total of 662 mothers/caregivers were included in the analysis and response rate was 98.6%. Among these, 399 (60.27%) of mothers were sought health care from health facilities. Currently married women [AOR=1.92, 95% CI (1.14,3.22)], exposure to mass media [AOR=5.56; 95% C I (3.34,9.26)], perceived severity of illness [AOR=4.24, 95% CI (2.80,6.43)], employed mother/care giver [AOR=1.96,95% CI (1.13,3.38)] were more likely to sought health care for their children as compared to their counterparts.

Conclusion: More than half of the mothers/caregivers sought medical care for their children at the time of illness in the study area. Marital status, occupational status, exposure to mass media, perceived severity of illness, type of symptom reported were determinant factors of health care seeking behavior.

Keywords: Mothers/Caregivers; Health care seeking behavior; Common child hood illness; Northeast Ethiopia

ABBREVIATIONS

ARI: Acute Respiratory Infections; AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; WHO: World Health Organization.

BACKGROUND

Annually 5.6 million children under the age of 5 years died worldwide in 2016. This interprets into 15 000 under-five deaths per day. Children in sub-Saharan Africa are more than 15 folds

more likely to die before the age of 5 than children in high income countries [1].

Ethiopia, one of the poorest and second most populous countries in Sub-Saharan Africa faces high under five mortality rates [2]. While under five mortality rates was 67 deaths per 1,000 live births in the country [3], Amhara region has made notable progress over decades with improved health education. Despite these improvements, under five mortality remains one of the main problems in the region due to the high prevalence of malnutrition and childhood diseases such as acute respiratory infections, measles, diarrhea, cough, fever

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and so on. Recent figures show that under five mortality rates in the region have been substantially reduced [4]

Because many child deaths are attributed to delay in seeking care, a timely care seeking practice has a great importance in areas with limited health access. The world health organization estimates that seeking appropriate and on time care by care givers could reduce child death by 20%. Adequate recognition of danger signs is still an important parenting tool in preventing the child from preventable morbidities and mortalities [5].

Global literatures indicate that factors affecting health seeking behavior could be categorized as socio demographic status, economic conditions, attitude to modern treatment, women's autonomy, physical and financial accessibility, disease pattern, and health service issues, but in developing countries, cultural beliefs and practices were the most prevalent [6,7].

Despite some studies in some parts of Ethiopia about health care seeking behavior for childhood illness, still there is a gap in medical care seeking behaviors for treatment of common childhood illness in health facility varies from 41.5% to 72% [8-10]. This shows the need for more studies, more over most of the studies were conducted in rural areas even if it was vital to assess the health care seeking behavior of the urban community too. In addition to this gap the present study involves survey of cases prior to the data collection. On the best of authors knowledge, no study was conducted on this topic in the study area. It is use full to design appropriate intervention for the improvement of child health in the area.

A COMMUNITY BASED CROSS- METHODS AND MATERIALS

Study setting and design

Sectional study design was carried out in Woldia town Administration, Amhara Regional State, Northeast Ethiopia from February 28 to March 28, 2019. The town is found in North Wollo Zone which is located 354 km from the regional state capital, Bahirdar. The town has 10 kebeles and the estimated population size was 71,460 of which 35,016 were males and 36,444 were females respectively. From the total population, 9676 (13.5%) were under five children.

The source population was all mother's/care givers living in Woldia town who have a child of age under five-year having illness in the last four weeks before the study. Mothers/caregivers who have at least one under-five year child having illness and living in woldia town for at least six months prior to data collection time were included in the study.

Sample Size Determination and Sampling Procedure

The sample size was calculated by single population proportion formula by considering the following assumptions: 72.7% proportion of health care seeking behaviors of mother's/care givers for childhood illnesses taken from previous study done in Ethiopia [10], 95% confidence level and 5% margin of error. Adding 10 % for non-response, the final sample size was 671.

By using Multi-stage sampling method, from a total of 10 kebeles 5 kebeles were selected using simple random sampling methods. Complete survey was carried out in all the selected kebeles prior to the actual data collection. By using information from the survey representative sample of household from each selected kebeles

included in the study by using population proportion size. Simple random sampling method was employed to select house hold from each kebeles using house hold number register during the survey by using computer generated system.

Data collection procedure

Prior to actual data collection survey was conducted for four days in five selected kebeles then Questionnaire based interview was under taken by trained interviewer with each under five mother or care giver to obtain information on health care seeking behavior and associated factor. The data was collected through interview using structured Amharic version questionnaires which is adopted from different reviewed literatures.

Variable Measurements

Health care seeking behavior of mothers/care giver was recorded as a dichotomous (yes or no). If the mother/caregiver sought health care from one of the health facilities (hospitals, health centers, private clinics, private hospital or health posts) for her un well child, she had appropriate health seeking behavior [11].

Common childhood illnesses: In this study common childhood illnesses are acute respiratory Infections (ARI), diarrheal diseases, and Fever history of the child four week preceding the study.

Knowledge: in this study refers to care givers understanding on danger signs of child hood illness, cause, prevention and their management, was measured using 7 questions by classifying as having good knowledge if scored above the mean, poor knowledge if scored less than the mean [11].

Acute respiratory infection (ARI): all cases that had cough, problem on breathing and reported by mothers or care givers within four weeks preceding the survey.

Diarrhea: Three or more loose or watery stools per day, or blood in stool as perceived and reported by mothers or care givers within four weeks preceding the survey.

Fever: Increased body temperature or being hot body of the selected child as perceived and reported by mothers or care givers within four weeks preceding the survey [12].

Data analysis

The data were coded and entered in to Epi Data version 3.1 and exported to SPSS version 23 for analysis. The result was presented using texts, frequency, percentage and graph. First bi-variable binary logistic regression analysis was done to see the association between each independent variable and outcome variable and those variables with p value less than 0.2 were entered to multiple logistic regression model to control for all possible confounders and to identify predictors of the outcome variable. Multi-collinearity between independent variables was checked using variance inflation factor as well as standard error. Hosmer- Lemeshow test was used to check for model fitness (0.791). In the final model, those variables with p value ≤ 0.05 were considered as statistically significant. Adjusted odds ratio (AOR) along with 95% confidence interval (CI) was estimated to measure the strength and direction of association.

Ethical consideration

Ethical clearance was obtained from the Ethical Review Committee

of Wollo University, College of Medicine and Health Sciences. Then official letter was written to the Woldia town administration health department to get permission for the study procedures. An informed written consent was obtained from each study subjects after providing brief explanations about the purpose and objectives of the study. To maintain confidentiality, anonymity was maintained throughout the research process. Furthermore, the right to participate or withdraw from the study at any time was respected.

RESULTS

Characteristics of respondents

Out of six hundred seventy-one study subjects six hundred sixty-two participated in the individual questioner interview, which makes the response rate of the study 98.6%. The mean age of study participants was 28.63 year (SD+6.175) with a greater proportion

27.5% of the study subject being in the age group 24-28 years. Five hundred thirty-nine (81.4%) of them were currently married (Table 1).

Knowledge related factors of mothers/caregivers on childhood illness

Among a total of 662 respondents 409 (61.8%) of the mothers/caregiver mentioned at least one general danger signed of child hood illness. Five hundred eight seven (88.7%) Mother/caregivers were taking to the health facility is the right action for treat childhood illness. The overall knowledge status of care givers showed that 352 (52.9%) of respondents have good knowledge and the remaining 310 (47.1%) have poor knowledge.

Exposure to mass media and access to health care

Most of mothers/caregivers 476 (71.9%) were exposed to mass

Table 1: Socio-demographic characteristics of mothers/caregivers, Woldia town Administration, North wollo Zone Ethiopia, 2019.

| Variables | Category | Frequency | Percent |
|---|---------------------------|-----------|---------|
| Age of caregiver | 15-19 years | 18 | 2.7 |
| | 20-24 years | 182 | 27.5 |
| | 25-29 years | 180 | 27.2 |
| | 30-34 years | 126 | 19.0 |
| | ≥35 years | 156 | 23.6 |
| Age of children | 0-11 month | 236 | 35.6 |
| | 12-24 month | 208 | 31.4 |
| | 25-36 month | 103 | 15.6 |
| | 37-59 month | 115 | 17.4 |
| Sex of children | Male | 349 | 52.7 |
| | Female | 313 | 47.3 |
| Marital status | Married | 539 | 81.4 |
| | Not married | 123 | 18.6 |
| Religion of mother/caregiver | Orthodox | 453 | 68.4 |
| | Muslim | 165 | 24.9 |
| | Protestant | 28 | 4.2 |
| | Catholic | 16 | 2.4 |
| | | | |
| Ethnicity | Amhara | 644 | 97.3 |
| | Tgrie | 11 | 1.6 |
| | Oromo | 7 | 1.1 |
| Educational status of mother/caregiver | Un able to read and write | 34 | 5.1 |
| | Able to read and write | 34 | 5.1 |
| | Primery education | 170 | 25.7 |
| | Secondary education | 156 | 23.6 |
| | Collage and above | 268 | 40.5 |
| Occupational status of mother/caregiver | House wife | 207 | 31.3 |
| | Employed | 192 | 29.0 |
| | Daily labour | 58 | 8.8 |
| | Merchant | 186 | 28.1 |
| | Farmer | 19 | 2.9 |
| Monthly income of the family | <3568 | 406 | 61.3 |
| | ≥3568 | 256 | 38.7 |
| Total family size | 2-5 | 622 | 94.0 |
| | >5 | 40 | 6.0 |
| Number of under five children | One | 586 | 88.5 |
| | two or more | 76 | 11.5 |

media the remaining 28.1% were not exposed to mass media. Regarding to source of information, 241 (36.4%), 165 (36.4%), and 77 (11.6%) of the respondents got information from Television, radio and health workers respectively. On the other hand, 157 (23.7%) of the respondents got information from more than one mass media.

Regarding to accessibility of the health facilities, 455 (68.7%) and 207 (31.3%) of mothers'/care givers lived in a distance of ≤ 30 and > 30 minutes walking time to reach the nearest health facility respectively.

Health care seeking behaviors of mother/care giver on common childhood illness

From the total of 662 sick children, 399 (60.2%) of children were taken to health facilities or providers for medical care. Majority of the mothers/caregivers seek care from governmental health care unit 324 (81.2%) followed by private health care unit 75(18.8%).

Mothers/caregivers classified child hood illnesses as sever were 400 (60.4%), and about half of mother's/care givers identified severity of childhood illness when child refused to eat or breast feed were 215 (53.8%) (Table 2).

Out of 662 sick children, the mothers' /care givers reported different kinds of symptoms in the preceding four weeks of the study. Among these, diarrhea accounted 293 (44.3%), followed by fever 226(34.1%) and cough with or without sputum 143 (21.6%).

Regarding to time when health care was sought from health facilities, 242 (60.7%), 101 (25.3%) and 56 (14%) of mothers' /care givers sought health care for their sick child within the first 24 hours, 2 days abd after 3 days of perceived onset of illness respectively.

The reasons of the mothers/caregivers who did not take the child to the health facility for recently observed childhood illness, 91 (34.6%) were thought getting well from symptom without treatment, 38 (14.4%) were due to shortage of money, 53 (20.2%) were due to lack of time, 77 (29.3%) were service was not good, 4 (1.5%) were thought sickness is incurable.

Factors affecting mothers'/caregiver's health care seeking behavior

In multivariate analysis, currently married mothers/care givers

were almost 2 times sought appropriate health care for their sick child than those who were not currently married [AOR=1.92, 95% CI (1.14,3.22)]. Mothers/caregivers who had exposure to mass media were 5.5 times more likely to have used health care service for their children compared to those who had no exposure to mass media [AOR=5.56; 95% C I (3.34,9.26)]. Mothers/care givers who perceived that their child illness was severe were 4 times sought health care than mothers who perceived that the illness was mild [AOR=4.24, 95% CI (2.80,6.43)]. Mothers/caregivers who were employed in occupation were 2 times sought health care for their sick child than mother/care givers who were farmers [AOR=1.96, 95% CI (1.13,3.38)]. Mothers/caregivers who reported that their children were sick with a symptom of fever were 2 folds more likely to seek health care service than those who reported cough [AOR=2.49, 95% CI (1.44,4.31)] (Table 3).

DISCUSSION

The overall prevalence of health care seeking behavior in the study was 60.27%. This is lower than the study conducted in Karachi, Pakistan, Kovalam India and Bahirdar Ethiopia showed 90.1% ,90.82% and 72.7% of mothers or care givers were sought medical care from health facility respectively [10,13,14]. In contrast this study had higher prevalence than the study conducted in mekele, Ethiopia in which 54.3 % were sought medical care [15]. Study conducted in Northeastern Albania has prevalence of 64% which is closer to the current finding [16]. This discrepancy might be due to the variation in economic status, educational status and socio-cultural characteristics of respondents in the study areas.

In this study marital status, occupational status, exposure to mass media, and perceived severity of illness were associated factors which affect the health care seeking behavior of mothers/caregivers.

In this study married mothers'/care givers were 1.92-fold more likely to seek appropriate health care than those who were not currently married. Similarly, the study in 2011 at Jeldu district Oromia region, Ethiopia, also revealed that currently married care giver was 2 times more likely health care seeking behavior than not currently married care giver [17]. Other study supports the current result in shashogo woreda, southern Ethiopia showed currently married women were 3 folds of more likely to seek appropriate health care than not currently married [18]. The possible reason might be married care givers can have support from their partners.

Table 2: Childhood Illness and Care Seeking behaviour of mother/care giver in woldia town, North wollo, Ethiopia, 2019.

| Variables | Category | frequency | Percent |
|--|---|-----------|---------|
| First action taken for the illness (n= 662) | Give home remedies | 86 | 13 |
| | Took her/him to health facility | 399 | 60.2 |
| | Traditional healer | 13 | 2 |
| | purchased medicine without prescription | 164 | 24.8 |
| Type of health facility visited (n= 399) | Health center | 231 | 57.9 |
| | Government Hospital | 87 | 21.8 |
| | Private clinic | 75 | 18.8 |
| | Health Post | 6 | 1.5 |
| Perceived severity of illness (n= 662) | Sever | 400 | 60.4 |
| | Mild | 262 | 39.4 |
| Way of identification for severity of illness (n= 400) | By combined symptom of the disease | 145 | 36.2 |
| | if the child refuse to eat/breast feed | 215 | 53.8 |
| | if the illness continue for long time | 40 | 10 |

Table 3: Bivariable and multivariable logistic regression analysis of health care seeking behavior of mothers/caregivers for common childhood illnesses in woldia town, Ethiopia 2019.

| Variable | Category | Health seeking behaviour | | Odds ratio 95% CI | |
|---|------------------------------|--------------------------|-------------|--------------------|---------------------|
| | | Yes | No | COR | AOR |
| Age of Mother/care giver in years | 15-19 | 12 (3%) | 6 (2.28%) | 3.67 (1.3,10.32) | 1.30 (.32,5.250) |
| | 20-24 | 120 (30%) | 62 (23.5%) | 3.55 (2.27,5.57) | 0.71 (.36,1.4) |
| | 25-29 | 123 (30.8%) | 57 (21.7%) | 3.96 (2.51,6.24) | 1.01(.53,1.93) |
| | 30-34 | 89 (22.3%) | 37 (14.1%) | 4.41 (2.7,7.31) | 1.21(.60,2.40) |
| | >=35 | 55 (13.8%) | 101(38.4%) | 1 | |
| Age of child in month | 0-11 | 163 (40.8%) | 73 (27.6%) | 1 | |
| | 12-24 | 141 (35.3%) | 67 (25.4%) | 0.94 (0.63,1.40) | 1.43 (.87,2.36) |
| | 25-36 | 53 (13.2%) | 50 (19%) | 0.47 (0.29,0.76) | 1.18 (.62,2.238) |
| | 37-59 | 42 (10.5%) | 73 (27.6%) | 0.258 (0.16,0.41) | 0.73 (0.39,1.367) |
| | | | | | |
| Marital status | Married | 347 (87%) | 192 (73%) | 2.46 (1.65,3.67) | 1.92 (1.14,3.22) * |
| | Not married | 52 (13%) | 71 (27%) | 1 | |
| Educational status | Unable to read and write | 4 (1%) | 30 (11.4%) | .038 (.013, 0.11) | .33 (.084,1.34) |
| | Read and write | 15 (3.8%) | 19 (7.2%) | .22 (.10 ,0.460) | .92 (.34,2.46) |
| | Primery education | 68 (17%) | 102 (38.7%) | 0.19 (0.12, 0.287) | .89 (.44,1.8) |
| | Secondary education | 103 (25.8%) | 53 (20.1%) | 0.55 (0.35, 0.85) | .98 (.52,1.84) |
| | Collage and above | 209 (52.3%) | 59 (22.4%) | 1 | |
| occupational status | House wife | 91 (22.8%) | 116 (44.1%) | 1 | |
| | Employed | 156 (39%) | 36 (13.7%) | 5.52 (3.50, 8.70) | 1.96 (1.13,3.38) * |
| | Daily labour | 27 (6.8%) | 31 (11.8%) | 1.11 (0.62,1.99) | 2.04 (0.94,4.44) |
| | Merchant | 117 (29.3%) | 69 (26.2%) | 2.16 (1.44,3.24) | 1.54 (0.92,2.56) |
| | Farmer | 8 (2%) | 11 (4.1%) | 0.92 (0.35,2.40) | 0.81 (0.24,2.77) |
| Monthly income | <3568 Birr | 204 (51.1%) | 202 (76.8%) | 1 | |
| | ≥ 3568 Birr | 195 (48.9%) | 61 (23.2%) | 3.2 (2.23,4.48) | 0.68 (0.42,1.11) |
| Knowledge | poor Knowledge | 182 (45.6%) | 170 (64.6%) | 1 | |
| | good Knowledge | 217 (54.3%) | 93 (35.3%) | 2.18 (1.58,3) | 0.74 (0.47,1.17) |
| Perception of illness | Sever | 314 (78.7%) | 86 (32.7%) | 7.6 (5.35,10.8) | 4.24 (2.80,6.43) ** |
| | Mild | 85 (21.3%) | 177 (67.3%) | 1 | |
| Exposure to Media | Exposed | 363 (91%) | 113 (43%) | 13.38(8.79,20.38) | 5.56 (3.34,9.26) ** |
| | Not exposed | 36 (9%) | 150 (57%) | 1 | |
| Symptom observed | Diarrhea only | 176 (44.1%) | 117 (44.5%) | 1.52 (1.02,2.28) | 1.48 (0.89,2.47) |
| | Fever only | 152 (38.1%) | 74 (28.1%) | 2.08 (1.35,3.20) | 2.49 (1.44,4.31) * |
| | cough with or without sputum | 71 (17.8%) | 72 (27.4%) | 1 | |
| Walking time the nearest health facility (in minutes) | ≤ 30 minutes | 318 (79.7%) | 137 (52.1%) | 3.61 (2.56,5.09) | 1.52 (0.97,2.40) |
| | >30 minutes | 81 (20.3%) | 126 (47.9%) | 1 | |

**P-value <0.001, *P-Value <0.05, AOR: adjusted odds ratio, COR: crude odds ratio

Exposure to mass media was among the Significant determinants of mothers or care givers health care seeking behavior in this study. Mothers who had exposure to mass media were 5.56 times more likely to have health care seeking service for their children compared to those who had no mass media exposure. This finding was similar with Nigeria and tribal community of Gujarata, India exposed to media were 1.18 times and 5 times more likely sought health care seeking service than not exposed to mass media [19,20]. The study done in Darjeeling district, West Bengal also supports this study that means mothers who have exposed to mass media 5 folds more likely significant health care seeking behavior than not exposed to mass media [21]. This might be care givers can have more information about child care from mass media would seek medical treatment for their seek child.

Perception for severity was significantly affecting the health care seeking behaviors of the mothers/caregivers. In this study mothers who perceive child's illness severe were 4.24 times higher likely to seek health care than mothers who perceive the illness mild. Similar study in Esra district, South West, Ethiopia showed perceived severity of illness were 6-fold more likely health care seeking behavior than not perceive sever illness [22]. Other study in Yemen showed the perception of severity of illness were 5 times more likely to seek health care seeking behavior than not perceived sever [23]. And similar study in Dangla town North west Ethiopia support the current study mothers who perceive as their child illness was sever were five times higher to seek modern health care than mothers who perceive the illness was mild [24].

Occupational status of mother/care givers is determinant factor for health care seeking in this study. Mothers who had employed were 1.9 folds more likely to seek health care than counterpart. This is in line with Osun state Nigeria and slum area of Addis Ababa [25,26]. This might be employed mother or care giver had access to information on child care at working area.

In this study mothers/caregivers were more likelihood of seeking health care from health facility for children with fever [AOR= 2.49,95% CI (1.44,4.31)]. A study in Jedilu also support this finding [19]. Whereas, the study conducted in Yemen fever was not significantly association with health care seeking behavior of mother/care giver [23]. This discrepancy might be socio cultural factor and study setting.

CONCLUSION

More than half of the mothers/caregivers sought medical care for their children at the time of illness in the study area. The research identifies marital status, exposure to mass media, perceived severity of illness, occupational status and symptom of illness reported are statistically significant for health seeking behavior of mothers/care givers on childhood illness managements.

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DECLARATIONS

Ethical approval and consent to participate

The research protocol of this study was reviewed and ethical clearance was obtained from the Ethical Review Committee of Wollo University, College of medicine and health sciences. Then official letter was written to the Woldia town administration health department to get permission for the study procedures. An informed written consent was obtained from each study subjects after providing brief explanations about the purpose and objectives of the study. To maintain the confidentiality of collected data, anonymity was maintained throughout the research process. Furthermore, the right to participate or withdraw from the study at any time was respected.

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Competing interests

The authors declare that we, the researchers, have no any form of competing financial and non-financial interest.

Authors' contribution

DD, TY: designed the research, DD, WM: supervised the data collection and ensure the quality of collected data. DD, TY, WM:

analyzed, interpreted the findings, drafted, edited and revised the manuscript and TY the coresponding author submitted the paper for publication.

Consent for publication

Not Applicable

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

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