CHILD HEALTHCARE SERVICE UTILIZATION AND ASSOCIATED FACTOR AMONG MOTHER WHO HAVE CHILDREN UNDERFIVE YEAR IN CASE OF HARARI REGIONAL STATE, EASTERN EHIOPIA: COMMUNITY BASED CROSS SECTIONAL STUDY

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ABSTRACT

Background: Healthcare service utilization of children meanwhile, attempts have been made through different studies to identify the factors that are responsible for the poor utilization of health care services for children influenced by maternal factors. According to UNICEF reported in 2012 Child mortality still remains high in developing countries. In 2011, 6.9 million children died in world, and an estimated 83% of underfive deaths occurred in Sub Saharan Africa and Southern Asia. **Objective**: To asses child healthcare service utilization and associated factor among mothers who have children under five year in Harari regional state from February 11 – June 26, 2018. **Methods**: Community based cross sectional study was employed from February –June 2018 G.C on 384 mothers of children aged under five in Harari regional state. Two stage sampling was used to select study participants. Data were collected from participants using pretested structured questionnaire through face to face interview. Data were entered to Epi data 3.1. and analyzed by SPSS version 21.0. Bivariate and multivariate logistic regression analyses were used to identify significantly associated factors. A P<0.05 and AOR with 95%CI were used to report significance and strength of association, respectively. **Results**: A total of 370 (96.4%) participants were participated. Their median ages and IQR were Three hundred seventy nine (98.7%) participants were participated. About half, 194 (51.2%) of participants were aged 25-34 years and their median age of mothers and youngest child were 30 years (inter-quartile range (IQR)=9) and 9 months (IQR=12 months) respectively. Magnitude of child healthcare service utilization among mothers of children aged underfive years in Harari was about 238(62.8%). In multivariable analysis, maternal illiteracy [AOR=0.37(0.18, 0.80)], primary education [AOR=0.30(0.13, 0.67)], Age of child between 12-59 months [AOR=0.50(0.28, 0.92)] and having one child in their house (AOR=2.53(1.21, 5.27)] were significantly associated with child healthcare services utilization. **Conclusion:** Child healthcare services use was found to be high. Maternal education, number of children and child's age were significantly associated factors for child healthcare services use.

KEYWORDS: Child healthcare, Utilization, Associated factors, Under five Children, Harari Region.

BACKGROUND

Health care service means any medical or remedial care or service, including supplies delivered in connection with the care or service, that is recognized under state law and it means the furnishing of medicine, medical or surgical treatment, nursing, hospital service, dental service, opt metrical service, complementary health service, or any or all of the enumerated services or any other necessary service of like character, whether or not contingent upon sickness or personal injury, as well as the furnishing to any person of any and all other service and goods for the purpose of preventing, alleviating, curing or healing human illness, physical disability or injury.[1]

Health service utilization is an important component of child health promotion. Evidence shows that two-thirds of child deaths in low and middle income countries (LMICs) could be prevented if current interventions were adequately utilized.Utilization of such interventions in high childhood mortality regions remains low.[2]

According to UNICEF reported in 2012 Child mortality still remains high in developing countries. In 2011, 6.9

million children died in the world, and an estimated 83% of under-five year deaths occurred in Sub Saharan Africa and Southern Asia. Acute respiratory infection (ARI) and acute diarrheal disease (ADD) are the major killers of children under five, and both are preventable and treatable by various existing interventions including feeding practices, oral rehydration salts (ORS) and antibiotics.[3]

Moreover, Ethiopia is among the six countries that account for 50% of under-five child mortality globally, with 194, 000 deaths every year.[4]

Postnatal care is the period of both the infants and mothers are exposed for medical complications and an ideal time to provide intervention for them to survive. Every year 4 million infants died in the first one month of delivery. About 75% of them died within the first weeks. From death that occurred in the first week of delivery again two-third of them died within the first 24hours.[5] The death happened at the home regardless of delivery was at home or health institution, and attended by skilled attendants or not.[6] Poor maternal health service utilization is one of the contributing factors to a high level of maternal and newborn mortality in Ethiopia. The factors associated with utilization of services are believed to differ from one context to another.

Most newborns do not receive postnatal care services from a skilled health care provider during the critical first few days after delivery. The coverage for postnatal care still remains low in Ethiopia. According to the EDHS 2011 the national coverage of postnatal care utilization within the first 6 weeks after delivery is 34.4%.[7]

Lack of awareness, Marital status, age, a delivery at heath facilities, place of residence (distance), culture, number of children were major factors affecting utilization of child health care services. About 52.19% mothers got any postnatal care services through health extension workers and community health agents. Most of the time after delivered, mothers come to health institution if they faced some problems and they want motivation to be served.[8]

Ethiopia has accepted universal health coverage as strategies to decrease maternal and child mortality. This is by engaging to capacitate health care providers, accessible health facilities, increasing number of health extension workers (HEWs) and mobilizing the community.[9] Many studies have been showed that the coverage of any health care service among children under five care follow up is too low and the associated factors affect health care service utilization are not well studied.In general, this study will fill gaps in literature by pointing out the associated factor health care service utilization and associated factor among mothers who have under five year children. Moreover, this study will be beneficial to care practitioners, policy maker, and

community by pointing out the associated factor affecting health care utilization of under five year children. Thereby, could serve as a stepping stone to improve health care service utilization among under five year children.

There is policy and strategy based on health care service utilization but not applied properly and there is a little information and less actual practice in factor affecting health care service utilization among under five year children at the ground level in the community. Therefore it is the right time to conduct this study on health care service utilization and associated factors among mothers who have under five year children and the study may going to be base line for other researchers to do on it in order to contribute an input for better planning, implementation of health care service for children and to provide other opportunities, attention and efforts by all concerned sectors to enhance health care service utilization of children and reduce child mortality and to achieve the program of universal health coverage for the country specifically on children health.

METHOD AND MATERIAL

Community based cross-sectional study design was employed from February 11– June 26, 2018, among 384 study participants using Stratified random sampling technique through proportionately allocated from one urban and two rural areas of Harari regional states The study was conducted in Harari regional states in eastern Ethiopian. Harari Region is one of the nine regional states in Ethiopia. That is located 526 km far away from Addis Ababa (the capital city of Ethiopia) to the east. The region is divided into nine districts woreda with three of them are rural and six are urban. The urban districts are subdivided into nineteen kebele (the lowest administrative division in the country), and the rural districts are sub divided into seventeen peasant associations (which is equivalent to kebele in urban case).

The actual sample size for the study was calculated using the formula for single population proportion by assuming the prevalence 50%, 5% marginal error, and 95% confidence level, so the total sample size was 384. Then the sample size was proportionately allocated and we obtained 97 from Jenela woreda, 112 from Dire teyara woreda and 175 from Sofi woreda.

A pre-tested questionnaire was used for collecting the data. Data were collected from February 11 –June 26, 2018 by trained five BSc midwives, using a pretested questionnaire. Before actual data collection, In developing the questionnaire, the researcher's was use pre testing.the Pretest was carried out in Hakim woreda by using 10 % of total sample size. The questionnaires by distributing outside of the target sample population. This was assure the validity and also the pilot survey was made before the actual survey, which was used to know the how issues is sensitivity to participant of their

willingness to answer the questions. This was able to check the consistence (or reliability) of the data from this study to evaluate the clarity and reliability of questions. After this, the questionnaire was ready after necessary corrections and training was given for data collectors for 3 days at the time of data collection. During data collection, the questionnaire was checked for completeness on daily basis by the data collector themselves and the supervisors. The completed questionnaire was also rechecked by the principal investigators to maintain the quality of data.

After data collection, each questionnaire was checked for completeness, then coded and entered into Epi-info version 3.5.1 and exported to SPSS for Windows version 20 for cleaning, editing, and analysis. Binary and multiple logistic regressions were used to observe the association (p-value < 0.2 for binary and p-value < 0.05 for multiple) between independent variables and dependent variable. Odds ratio with 95% Cl was calculated using multiple logistic regression models to control confounders and identify the associated factors of child health care service utilization mothers having under five years children with in the community. The results was presented in the form of tables, figures and text using frequencies and summary statistics such as mean, mode, standard deviation and percentage to describe the study population in relation to relevant variables.

In order to confirm the ethical and legal standard of the investigator, approval was obtained from the ethical review board of Harar health science college. The survey was commence after written consent obtained from Harar health science college.

RESULT

Demographic Characteristics of the study participants

Three hundred seventy nine (98.7%) participants were participated in the study. The majority; 360(95.0%) were mothers of children aged under five years. About half, 194 (51.2%) of participants were aged 25-34 years. Their median age of mothers and youngest child in the family were 30 years (inter-quartile range (IQR)=9) and 9 months (IQR=12 months) respectively. The majority; 331(87.3%) and more than two thirds; 255(67.3%) of participants were married and Muslim mothers respectively. About three fourth, 287(74.9%) and the majority, 306 (79.9%) were Oromo. The median family size of participants were 5 (IQR=3) (Table 1).

Table 1: Sociodemographic characteristics of participants in Harari Region, East Ethiopia, 2018(n=379).

Characteristics		Frequency (no)	Percentage (%)
Age category of respondents	15-24	59	15.6
	25-34	194	51.2
	35-49	126	332.2
Marital status	Married	331	87.3
	Divorced/separated	33	8.7
	Others	15	4.0
Religion	Muslim	255	67.3
	Orthodox	112	29.6
	Others	12	3.2
Highest educational level	Unable to read/write	62	16.4
	Read/write only	24	6.3
	Primary school	111	29.3
	Secondary school	72	19.0
	Diploma level	84	22.2
	Degree and Above	26	6.9
Age category of child in months	0-12 months	241	63.6
	12-59 months	138	36.4
Family Size	≥5	243	64.1
	<5	136	35.9
Number of children in the house	<2	52	13.7
	2-4	206	54.4
	>4	121	31.9

KAP toward Child healthcare service utilization
Magnitude of child healthcare service use among mothers of children aged underfive in Harari Region was 238 (62.8%) (Table 2).

Table 2: Child healthcare services utilization among mothers of children aged underfive in Harari Region, Eastern Ethiopia, 2018.

Characteristics		Overall mothers (n=379)		Service user (n=238)	
		Freq.	%	Freq.	%
Do you think that sufficient professional personnel are available in the health facility in where you attend child health care service?	Adequate	314	82.8	189	79.4
	Inadequate	65	17.2	49	20.6
Are you confident on the professional competency of health personnel who gives your health maternal health care service?	Yes	371	97.9	230	95.0
	No	8	2.1	8	5.0
Do you think health institution where you are attending is equipped adequately with necessary resource such as beds, equipment, drug, etc?	Adequate	293	77.3	175	73.5
	Inadequate	86	22.7	63	26.5
Are you comfortable with Privacy and Confidentiality of the Service?	Yes	366	96.6	234	98.3
	No	13	3.4	4	1.7
Do you think that health personnel's promotes support and encouragement for your utilization of child health care service?	Yes	361	95.3	234	98.3
	No	18	4.7	4	1.7
Have you got child health care service any time your child get sick?	Yes	340	89.7	217	91.2
	No	39	10.3	21	8.8
Have you ever attended child health care service utilization related education?	Yes	333	87.9	206	86.6
	No	46	12.1	32	13.4
Have you got sufficient knowledge and skill on importance of child health care service utilization?	Yes	330	87.1	200	84.0
	No	49	12.9	38	16.0
Over all, how do you rate the quality of services you received from health institution?	Good	235	62.8	161	67.6
	Satisfactory	113	29.8	61	25.9
	Poor	31	8.2	16	6.7

Table 3: Magnitude of child healthcare service utilization among mothers of children aged under five years in Harari Regional region was about 238(62.8%).

Characteristics		Frequency	Percentage (%)
Do you use child healthcare service recently	Yes	238	62.8
	No	141	37.2
If utilize healthcare service, where did you attend/got service (n=238)	Hospital	12	92.0
	Health center	219	2.9
	Health post	7	84.9
Frequency of visiting healthcare service (n=238)	<4	202	15.1
	≥4	36	4.2
If utilize healthcare service, type of healthcare providers (n=238)	Doctors	10	38.2
	Health officer	91	14.3
	Nurses	34	39.1
	Midwifes	93	7.1
Frequency of checking child's health status	Once	17	55.0
	Twice	131	37.8
	Three and above	90	25.6
What is your main reason for using child healthcare service recently (n=238)	For my postnatal checkup	61	56.7
	My child was sick	135	15.5
	To check my child health status	37	2.1
	Others	5	40.8
What is your main reason for not use child healthcare service (n=141)	My child was healthy	97	1.7
	No one attend it here	4	1.3
	My husband prevent me	3	2.9
	Long distance	7	0.8
	no health facility near by	2	1.3
	Bad attitude to attend child health care	3	1.7
	Bad behavior of health workers	4	3.8
	Financial constraints	9	1.7
	Our culture forbidden child healthcare	4	92.0

Factors associated with child healthcare service utilization

In bivariable analysis, mothers educational status was significantly associated with utilization of child healthcare services at P<0.001 while number of under five children and family sizes were significantly associated with utilization of healthcare services at P<0.01 while others were not significantly associated with child healthcare use at P<0.05 but P-value <0.25(Table 4).

Table 4: Bivariable and multivariable logistic regression of factors associated with child healthcare service utilization of mothers in Harari Region, Eastern Ethiopia, 2018 (n=379).

Associated factors		Use of Healthcare service		COR (95%CI)	AOR (95%CI)
		YES: No (%)	NO: No (%)		
Age category of participants	15-24	32(54.2)	27(45.8)	1	1
	25-34	115(59.3)	79(40.7)	2.23(0.68, 2.21)	2.26(0.92, 5.54)
	35-49	91(72.3)	35(27.7)	2.20 (1.15, 4.16)*	0.91 (0.45, 1.86)
Educational status	Illiterate	50(80.6)	12(19.4)	0.38(0.19, 0.79)***	0.37(0.18, 0.80)**
	Primary	83(61.5)	52(38.5)	0.33 (0.16, 0.67)**	0.30(0.13, 0.67)*
	Secondary/above	105(57.7)	77(42.3)	1	1
Family Size	<5	75(55.1)	61(44.9)	1.66 (1.08, 2.55)**	1.52(0.79, 2.90)
	≥5	163(67.1)	80(32.9)	1	1
Number of children	<2	23(44.2)	29(55.8)	2.50(1.35, 4.65)**	2.53(1.21, 5.27)*
	2-4	137(66.2)	69(33.8)	2.29(1.18, 4.43)*	1.40(0.54, 3.60)
	>4	78(64.5)	43(35.5)	1	1
Age category of child in months	0-11 months	153(63.5)	88(36.5)	1	1
	12-23 months	85(65.5)	53(34.5)	0.92(0.60, 1.42)*	0.50(0.28, 0.92)*

Significant at P<0.001=***, at P<0.01=**and at P<0.05=*, COR=Crude OR , AOR = adjusted Odds Ratio and CI= Confidence Interval

In multivariable analysis, compared to secondary and above, illiteracy reduced the odds of child healthcare services use [AOR=0.37(0.18, 0.80)]. Prevalence of child healthcare services utilization were about 70% lower among mothers who were have primary education compared to secondary and above education [AOR=0.30(0.13, 0.67)]. Mothers who have children aged 12-59 months were about 0.50 times significantly less likely to use child healthcare services compared to those aged under 12 months [AOR=0.50(0.28, 0.92)]. Odds of using child healthcare services were 2.53 times significantly higher among mothers who have one child in the family compared to those who have four and above children in their house (AOR=2.53(1.21, 5.27)].

DISCUSSION

Magnitude of child healthcare service utilization among mothers of children aged underfive years in Harari Regional region was found to be high. In multivariable analysis, compared to secondary and above, illiteracy reduced the odds of child healthcare services [AOR=0.37(0.18, 0.80)].

Prevalence of child healthcare services utilization were about 70% lower among mothers who were have primary education compared to secondary and above education [AOR=0.30(0.13, 0.67)].

Mothers who have children aged 12-59 months were about 0.50 times significantly less likely to use child healthcare services compared to those aged under 12 months [AOR=0.50(0.28, 0.92)].

Odds of using child healthcare services were 2.53 times significantly higher among mothers who have one child compared to those who have four and above children in their house (AOR=2.53(1.21, 5.27)].

CONCLUSION

Magnitude of Child healthcare services use was found to be high in the region. Maternal education, number of children and child age were significantly associated factors for child health care service utilization.

RECOMMENDATIONS

- To Harari regional health office to strengthen the health extension program in order to mobilize the community to utilize health facilities for their own as well as for their kids.
- To Harari regional womens affairs work hardly to empower womens for the decision.

List of Acronyms and Abbreviation
ANC: Antenatal Care**, EDHS:** Ethiopia Demographic and Health Survey**, EPI:** Expanded Program of Immunization, **GC:** Gregorian calendar, **HEWs:** Health Extension Workers, **Km:** Kilometer**, MCH:** Maternal and Child Health**, MMR:** Maternal Mortality Rate**, MOH:** Ministry of health**, P/E:** Physical Examination**, PNC:** Postnatal Care, **PPC:** Postpartum Care **SNL:** Saving Newborn's Life, **SVD:** Spontaneous Vaginal Delivery, **WHO:** World Health Organization

Consent for Publication
Not applicable.

Authors' Contribution
ML and MT conceived the study, participated in the design, data analysis and interpretation of the result. ML involved in data acquisition, writing the draft manuscript as well as making all the changes as suggested by the coauthors. MT critically reviewed the manuscript. All authors read and approved the manuscript.

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