HARAMAYA UNIVERSITY SCHOOL OF GRADUATE STUDIE

UTILIZATION OF ZINC SUPPLEMENT AND ITS ASSOCIATED FACTORS AMONG UNDER-FIVE CHILDREN WITH DIARRHEA IN CHIRO TOWN, WEST HARARGHE ZONE, EASTERN ETHIOPIA

MPH THESIS

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Utilization of Zinc Supplement and its Associated Factors among Under Five Children with Diarrhea in Chiro Town, West Hararghe Zone, Eastern Ethiopia

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In Partial Fulfillment of The Requirements for The Degree of Masters of Public Health in General Public Health

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I dedicated this thesis to my beloved family and friends for their unlimited efforts in making my research successful.

STATEMENT OF THE AUTHOR

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ABBREVIATIONS AND ACRONYMS

AOR	Adjusted Odds Ratio
CSA	Central Statistics Agency
CI	Confidence Interval
COR	Crude Odds Ratio
EDHS	Ethiopian Demographic and Health Survey
ETB	Ethiopian Birr
ICCM	Integrated Community Case Management
IMNCI	Integrated Management of Newborn and Childhood Illness
ORS	Oral Rehydration Solution
SPSS	Statistical Package for Social Sciences
SD	Standard Deviation
U5CH	Under Five Children
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

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ABSTRACT

Background: Diarrhea is a leading cause of under-five mortality globally, especially in low-resource settings. Zinc supplementation is recommended to reduce the duration and severity of diarrheal episodes, yet utilization remains inconsistent across regions and is affected by many factors.

Objective: The aim of this study was to assess the utilization of zinc among under-five children with diarrhea and associated factors in Chiro town, West Hararghe Zone, Eastern Ethiopia from August 11 to 30, 2024.

Methods: a community-based cross-sectional study was conducted with 421 caregivers of under-five children with diarrhea, selected through systematic sampling. Data were collected using a structured pre-tested questionnaire, focusing on zinc use during diarrhea. The data were cleaned, coded, and entered Epi-data 3.1 then transferred and analyzed using SPSS v20. Multivariable logistic regression analysis was performed, reporting crude and adjusted odds ratios with 95% CI, with statistical significance at $p < 0.05$.

Results: A total of 417 mothers of under five children participated in the study, yielding a response rate of 99%. The study found that only 42.4% (n=177) of under-five children with diarrhea received zinc supplementation (95% CI: 38.2%-46.9%). Multivariable logistic regression identified several factors associated with zinc utilization: Mothers withhold food and fluids (AOR=0.173, 95% CI: 0.09-0.36), those with primary education (AOR=2.88, 95% CI: 1.52-5.46), attend at least secondary education (AOR=5.43, 95% CI: 2.75-10.70), and those with prior zinc experience (AOR=2.28, 95% CI: 1.35-3.84).

Conclusion: while zinc supplementation is essential for all children with diarrheal episodes, its utilization remains low and influenced by withholding food and fluid, maternal education, and prior zinc use. Enhancing health education and improving its access could improve utilization rates.

Key-Words: Zinc utilization, under-five children, Chiro town, Eastern Ethiopia

1. INTRODUCTION

1.1. Background

The World Health Organization (WHO) defines diarrhea as the passage of three or more loose or watery stools in 24 hours. It can be an increase in daily stool fluidity, frequency, or volume from what is normal for an individual (UNICEF/WHO, 2009; Oliphant and Egbe Wale, 2017). Globally, diarrhea remains a leading cause of under-five mortality and morbidity, especially in low- and middle-income countries (Santo's Ham et al, 2010; Walker et al, 2013; Ghimire et al, 2018). According to the UNICEF 2020 report, there is an estimated 1.7 billion diarrhea episodes occur yearly among children under five years of age worldwide (UNICEF, 2020). The 2015 global burden of disease study estimated that nearly half a million under-five deaths were due to diarrhea from which 2.5 million child deaths are in developing countries every year including South Asia and sub-Saharan Africa with the greatest number of under-five children due to poor knowledge and practice in diarrhea disease management (Ghimire et al, 2018).

The preventive steps that can decrease morbidity and mortality caused by diarrhea in under five children are primary prevention (proper hand washing, clean water for drinking, exclusive breastfeeding, immunization, and good hygienic practices) while secondary prevention is earlier recognition and treatment of dehydration by oral rehydration solution, frequent feeding, and zinc administration (Amare et al, 2014; Rokkappanavar et al, 2016; Riaz et al, 2019). The WHO and UNICEF recommended oral rehydration therapy in the year 1970 and Zinc as the only treatment to be coupled with ORS in all diarrheal episodes since 2004(Kung'u et al,2015; Olatona et al,2016; Pisudde al,2019).

Zinc is among the micronutrients lost during diarrhea episodes (Damte and Debela, 2008). A study finding indicated that more than 50.0% of mortality related to diarrhea can be reversed by the successful utilization of zinc as a treatment for childhood diarrhea. Zinc is essential for protein synthesis, cell differentiation, and immune function (Charles et al, 2008; Olatona et al 2016). Moreover, the use of zinc can reduce the duration and severity of diarrhea. Thus, it can also decrease the incidence of diarrhea for about 2-3 months (Omuemu et al, 2012; Pisudde et al, 2019).

The WHO and UNICEF recommend 20 mg zinc for young age children and 10 mg zinc for infants under six months of age to be given for 10–14 days for diarrhea treatment (WHO and UNICEF, 2004). Feeding should be continued along with increasing the quantity of fluid to reduce dehydration and other health problems (WHO and UNICEF, 2004). Based on the guidelines of WHO/UNICEF diarrhea management, numerous developing countries including Ethiopia adopted zinc supplements to their national policy on diarrhea treatment. Thus, the Ethiopian Federal Ministry of Health Ethiopia employed an effective strategy that included the administration of zinc together with ORS to treat children suffering from diarrhea since 2013 (Ogunrinde et al., 2011; Uchendu et al., 2011; Hassen et al, 2018). However, the consumption and utilization of zinc could not be uniform across regions due to various factors that should be investigated systematically.

1.2. Statement of the Problem

Diarrhea is a major leading cause of illness and death among under-five years children in low- and middle-income countries; it accounts for an estimated 17.5–21% of all deaths in children under the age of five years (Mokomane et al,2018; Kotloff et al, 2019). Annually,1.7 billion diarrhea episodes occur among children under five years worldwide (UNICEF, 2019). Most of the morbidity and mortality occurred in South Asia and sub-Saharan African countries, 88% of which were attributable to unsafe water, inadequate sanitation, and insufficient hygiene (WHO, 2017). It was estimated that 60-70 percent of diarrhea-related mortality is caused by dehydration leads to loss of water and electrolytes (Olson et al, 2011).

Diarrhea is the major cause of death in under-five children in Ethiopia. According to the Ethiopian Demographic Health Survey (EDHS) 2019, it affects about 13.2% of under-five children. Even though improvement was made in reducing childhood mortality from 67 under-five deaths per 1,000 live births in 2016 to 59 under-five deaths per 1,000 live births in 2019, an 8% decrease; children in the country still suffer from diarrhea, which can easily be averted with early and proper treatment of children during the episodes of diarrhea (EDHS,2019).

Zinc utilization for the home management of child diarrhea can decrease the severity, morbidity, and mortality due to diarrhea. Zinc can resist subsequent episodes of diarrhea for up to two to three months and decrease 23% mortality due to diarrhea (DKT/E., 2013). Caregivers play a vital role in the appropriate management of acute diarrhea in children with a responsibility to decide, to manage

at home or health facility if their child faces acute diarrhea. However, most of them do not successfully manage acute diarrhea adequately at home and utilization of Zinc tablets in under five children with diarrhea was reported to be low (Bhutta et al, 2000; Wambui, 2014).

Utilization of Zinc remains low and even declined in numerous countries. One study from Sudan in 2014 indicated that only 14.8% of the children had utilized zinc supplements, (Mohamed et al, 2020). In Ethiopia, there was a report of a high magnitude of diarrhea. In response to this, the Federal Ministry of Health used a strategy that included the administration of zinc as a prescription drug with ORS to treat children who suffered from diarrhea since 2013. In Ethiopia, only about 19% and 17% of children under five ages with diarrhea received recommended zinc during the episodes of diarrhea due to failure to replace zinc supplements effectively (EDHS, 2016).

Despite the important benefits, utilizing zinc remains a challenge in low-resource settings (Ambler and Castle, 2019). The magnitude of zinc utilization was variable as reported in studies conducted in different parts of the world; which was 62% in rural Bangladesh ((Ahmed et al, 2013),11% in India (Pathak et al, 2019), 64% in Zambia (ZMOH and ZDHS, 2014; USAID, 2015), 51.9% in North-Western Nigeria (Gwarzo, 2018).

The magnitude of zinc utilization was variable as reported in studies conducted in different parts of Ethiopia which were 29.1% in Kebri Dear Town, Somali Region, Ethiopia (Ebud et al, 2020), and 67.1% in Addis Ababa (Hassen,2016). However; it was 33% at the national level (EDHS,2016). Even though zinc is available at public and private health services and recommended with ORS, utilization of ORS is higher than Zinc at the national level and in the study area. These could be further aggravated by poor access, availability, knowledge, or attitude toward comprehensive diarrhea management especially in rural and semi-urban areas.

Caregivers play a vital role in the appropriate management of acute gastroenteritis in children under five years as they are the ones who decide if a child's episode of gastroenteritis requires a visit to a health facility or if they can manage the episode at home (Wambui, 2014). Most of the caregivers do not manage acute gastroenteritis appropriately at home and the use of zinc treatment in children with diarrhea is reported to be low in addition to the inappropriate use of antibiotics (Hassen and Haidar,2018). Despite the government and other stakeholders adopting to use of zinc as a treatment

for diarrhea to improve under-five children morbidity and mortality caused by diarrhea; However, there is limited information on the utilization of zinc and its associated factors among under five children with diarrhea in Chiro Town, West Hararghe Zone, Eastern Ethiopia. Therefore, Understanding the utilization of zinc among children with diarrhea is important in determining how to improve their utilization of zinc in the locality.

1.3. Significance of the Study

This study's findings can help the West Hararghe Zone health department and Chiro town health office to plan certain measures or strategies that may contribute to the increment of zinc utilization by targeting the identified predisposing factors. Furthermore, this study might be utilized by partners and stakeholders working at zonal and districts of West Hararghe to strengthen and implement the overall utilization of zinc for diarrhea disease. Attempted to assess the proportion as well as factors responsible for the utilization of zinc might be essential to guide program planning, implementation, monitoring, and evaluation of feasible interventions. It might also help other researchers who want to conduct further research.

1.4. Objectives

1.4.1. General objective

• To assess the magnitude of the utilization of zinc supplements and its associated factors among under-five children with diarrhea in Chiro town, West Hararghe Zone, Eastern Ethiopia from August 11 to 30, 2024.

1.4.2. Specific Objectives

To determine the magnitude of the utilization of zinc supplements among under-five children with diarrhea in Chiro town, West Hararghe Zone.

To identify factors associated with the utilization of zinc supplements among under-five children with diarrhea in Chiro Town, West Hararghe Zone.

2. LITERATURE REVIEW

2.1. Magnitude of Zinc Utilization

Various studies have been conducted in different parts of the country and the globe. According to a community-based cross-sectional study done at the Department of Pediatrics, Cantonment General Hospital, Rawalpindi, from August 2017 to January 2018 among 400 caretakers of under five-year children revealed that children who use zinc, daily administration and duration of administration (10-14 days) were 38.8%,20.5% and 17.3% respectively (Riaz et al,2019), while a related study conducted in Nepal in 2008 to examine zinc utilization behavior, knowledge, and beliefs of caregivers of children aged less than five years found that among 289 caregivers only 15.4% were treated their children with zinc tablet(Wang et al,2011).

A community-based cross-sectional study was conducted on drug utilization research to improve childhood diarrhea case management in Ujjain, India: from June to August 2017 among 1181 sampled caretakers revealed that Only 130 (11%) caretakers were found to be adequate utilization of zinc (Pathak et al, 2019) while a similar community-based study on the acceptability and compliance to a 10-day regimen of zinc treatment in under five diarrhea among 635 children aged 6 - 59 months, from January to December 2011 in rural Bangladesh indicated that only 394 (62%) of the children completed full dose of zinc treatment (Ahmed et al, 2013).

A cross-sectional descriptive survey was carried out in November 2016 on knowledge, attitude, and practice of home management of childhood diarrhea among 4386 caregivers of under-five children with diarrheal disease in Northwestern Nigeria revealed that only 32% of caregivers were aware of the use of zinc in the management of diarrheal disease, while adherence to 10-day zinc supplementation was encouraging at 75.5% (Olufemi et al,2012). Another related study surveyed 212 caretakers of children aged under five years who brought their children to a tertiary health center between September and December 2016 in Kano, Nigeria revealed that about 110 (51.9%) gave zinc to their children (Gwarzo,2018).

A community-based cross-sectional study conducted among 422 caregivers of children aged 0– 59 months in Akaki Kality sub-city, Addis Ababa, Ethiopia from February 15, 2016, to March 15, 2016, indicated that 283 (67.1%) caregivers were administered zinc (Hassen et al, 2018);

which is higher than institutional study findings carried out among caregivers of children aged 0–59 months in health centers of Addis Ababa City Administration, Ethiopia which was 47.5 % zinc prevalent (Tsige GA,2020)

2.2. Factors Associated with the Utilization of Zinc Supplement

2.2.1. Socio-demographic factors

Studies indicated that the educational status of the mother, occupation of household head, residence of household, age of mother, family size, and wealth index of household head were found to be associated with zinc utilization. According to a cross-sectional study done in Cantonment General Hospital of Rawalpindi from August 2017 to January 2018 among 400 caregivers of under-five- year children revealed that 41.8% of mothers who were educated secondary and tertiary level utilized zinc at ($P < 0.05$) compared to their counterpart (Riaz et al, 2019). Likewise, a comparative cross-sectional study done on knowledge and acceptability of zinc tablets among 154 caregivers of under five years aged children in urban communities of Kano State, Nigeria from May to August 2018 indicated that caregivers whose partner has formal education were 1.5 times more likely to have good acceptability of zinc (AOR = 1.53, 95% CI = 0.34–1.89) compared to caregivers whose partner has informal education (Jalo, et al, 2020).

A cross Sectional study conducted among under-five children with diarrhea in Ethiopia found that mothers of five and above household size had 43% lower odds of zinc utilization compared to their counterparts (AOR = 1.53, 95% CI = 0.34–1.89) (Teshale et al,2020). However; a community-based cross-sectional study conducted in East Wollega Zone, Western Ethiopia indicated that the odds of utilizing zinc were 4.11 times (AOR 4.11, 95% CI 1.73, 8.12) higher among respondents who were merchants compared to the farmers (Terefa et al,2023).

The study conducted among under-five children with diarrhea in East Africa indicated that the prevalence of zinc utilization among children with a high wealth index was 1.12 times higher than those children with a low wealth index (AOR = 1.12, 95% CI = 1.01–1.24) (Yeshaw Y et al,2020). while a study conducted in East Wollega Zone, indicated that the odds of utilizing zinc were 5 times [AOR and 95% CI = 5.72 (2.93,11.15)] higher among respondents whose family size was less than five members per household (Terefa and Shama,2023).

A cross-sectional study conducted in a rural sub-district of south-eastern Bangladesh revealed that mothers aged 20 years or less were willing to pay 1.4 times more zinc treatment per diarrhea episode for 10 days compared to mothers aged above 20 years (Akhter and Charles, 2009). However; related studies conducted in the Ojodu community of Lagos State indicated that mothers aged 32 – 41years had the highest practice of zinc supplementation compared to the rest age of mothers aged less than 21years and mothers aged group 22-31years at (p=0.0002) (Olatona et al, 2016).

A cross-sectional study carried out in Enugu State, Nigeria among 386 caregivers of under five children revealed that utilization of zinc supplements was 24 (12%) higher among the residents of urban compared to the rural 15 (8%) at(p=0.001) (Ugwu et al,2020). A related descriptive cross-sectional study conducted in Kano, North-Western Nigeria among 212 mothers revealed urban residents were 94(58.75%) had a higher rate of zinc utilization at (p=0.00) compared to rural residents16 (30.77%) (Gwarzo,2018).

2.2.2. Health facility-related factors

Studies indicated that distance to health facilities, members of community-based health insurance, zinc treatment, and diarrhea duration were found to be associated with zinc utilization. A community-based survey done on the utilization of zinc tablets among 283 caregivers of under five children with acute diarrhea between February 15, 2016, to March 15, 2016, in Akaki Kality sub-city, Addis Ababa, Ethiopia indicated that caregivers who had given full zinc treatment duration were 31% less likely (AOR= 0.069; 95%CI: 0.006-0.790) to utilize zinc properly for diarrhea treatment as compared to those caregivers who said only till diarrhea stops (Hassen et al., 2016).

Moreover, a community-based cross-sectional study conducted among 422 caregivers of under-five-children with diarrhea in Akaki sub city 2016 indicated that caregivers' whose child's diarrhea stopped after taking zinc for six days durations were 91% less likely to give their children the zinc compared to caregivers' whose child diarrhea stopped after taking zinc three days durations (AOR=0.09; 95% CI=0.02-0.45)(Hassen et al, 2018).similarly; caregivers who bought from private pharmacies were 9 times more likely (AOR=9.301; 95%CI: 1.009-85.709) Utilized zinc for diarrheal treatment in under

five children with diarrhea compared to those who bought zinc from private clinics (Hassen et al, 2018).

A community-based cross-sectional study conducted in East Wollega Zone, Western Ethiopia indicated that being a community-based health insurance non-member was 2.28 times [AOR,95% CI = 2.28 (1.34, 6.90)] higher among respondents who were membered of community-based health insurance (Terefa and Shama,2023).

2.2.3. Knowledge and attitude-related factors

Studies indicated that media exposure, diarrheal information, and previous use of zinc were found to be associated with zinc utilization. The Bangladesh Demographic and Health Survey (BDHS) conducted from July to December 2011 among 346 mothers of under five children indicated that caregivers who listened to the radio were 2.5 times more likely to provide zinc syrup or tablets (AOR =2.50, 95% CI 1.19–5.23) during a diarrheal episode compared to caregivers who did not listen to the radio (Alam et al, 2019). However, a related cross-sectional study conducted between March 1, 2016, and April 22, 2016, on home-based management of diarrhea among 378 children attending an under-five clinic in Fagita Lekoma district, northwest Ethiopia indicated that caregivers who had no information about diarrhea were 80% times (AOR: 0.197, 95% CI: 0.057, 0.685) less likely practiced the home management of diarrhea compared to caregivers who had information about diarrhea (Desta et al, 2017). However; a study conducted at public health facilities in Addis Ababa, Ethiopia revealed that previous use of zinc was 2.3 times higher utilize zinc than compared counterpart (AOR = 2.3; 95% CI: 1.34-4.01) (Woldegebriel et al,2021).

In general, the educational status of the mother, age of the mother, the residence of the household with the child, family size, wealth index of household head, diarrhea duration, treatment duration, media exposure, information about diarrhea, distance from health facilities and community- based health insurance membership were some of the factors affecting utilization of zinc among under-five children with diarrheal diseases studied (Hassen et al, 2018; Jalo, et al, 2020; Woldegebriel et al,2021; Terefa et al,2023). Although these studies showed some variations, there were gaps in identifying sociodemographic, health facility-related factors, knowledge, and attitude-related factors in this area specifically because these factors are more vital in assessing the utilization of zinc. Moreover, to the best of the authors' knowledge, no prior studies have been conducted on

The sociodemographic, health facility-related factors, knowledge, and attitude-related factors on the utilization of zinc among under-five children with diarrheal diseases in the Chiro town, west Hararghe zone, Eastern Ethiopia. Therefore, to fill these gaps, this study aimed to assess the sociodemographic factors, health facility-related factors, knowledge and attitude-related factors affecting the utilization of zinc among under-five children with diarrhea diseases in the Chiro town, west Hararghe zone, Eastern Ethiopia, in 2024.

2.3. Conceptual Framework

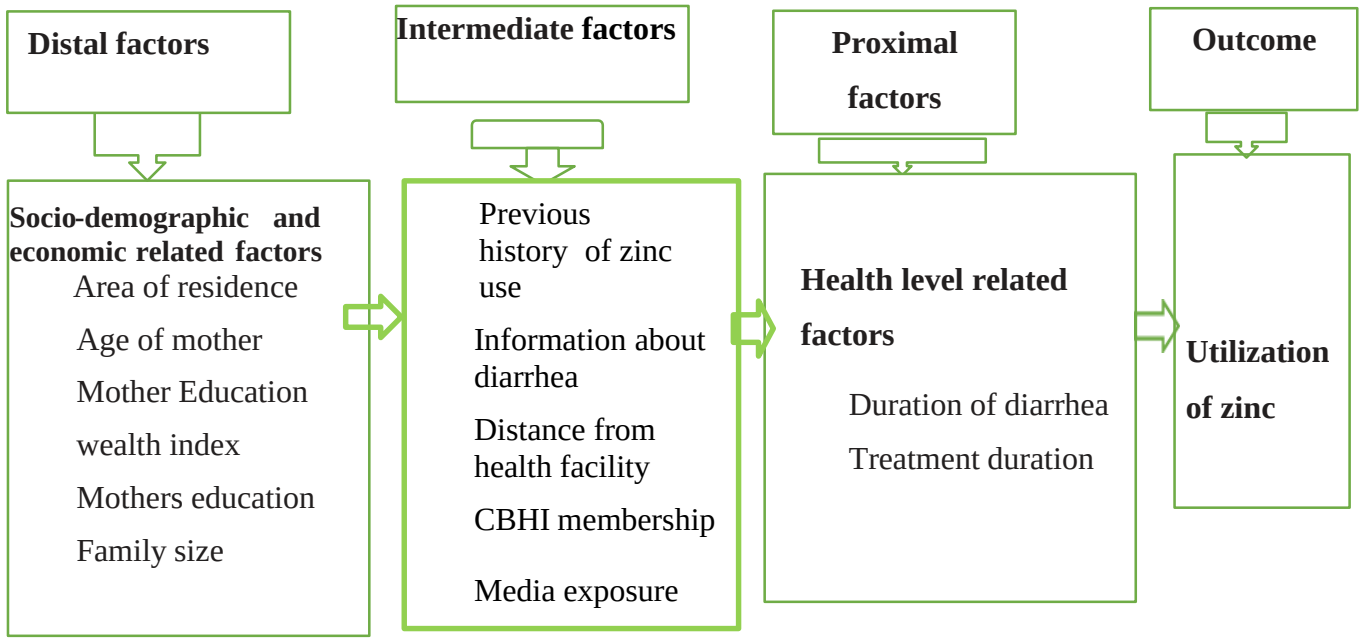

Figure 1. The conceptual framework of the utilization of zinc and its associated factors among under-five children with diarrhea in Chiro town, West Hararghe Zone, Eastern Ethiopia

Source: Adapted from different literatures

3. METHODS AND MATERIALS

3.1. Study Area and Period

The study was conducted in Chiro town, West Hararghe Zone, Eastern Ethiopia from August 11 to 30, 2024. Chiro was the administrative town of West Hararghe Zone which was located 326 km East of Addis Ababa, the capital city of Ethiopia. There were three Kebeles in the administrative town. The town had a public general hospital and a health center, one private health center, five private clinics, three health posts, and fifteen private pharmacy outlets (10 drug stores and 5 pharmacies).

Based on the Chiro town health administration office report, the current population of the town was 103,450 of whom 46, 553 are men, 56,897 are women. From the total population, 14,011 were children under 5 years old. In the study area, all the households had latrines in their dwellings. The majority 45.0% (189/420) of the households had traditional pit latrines and 61.9% (260/420) disposed of the solid waste by private vendors. The majority 80.2% (337/420) dispose of children's feces in the toilet. A further 57.6% (242/420) dispose of household waste in the seepage pits and 80.2% (337/420) of households get their water from a pipe (Chiro Town Health Administration Office Report, 2024).

3.2. Study Design

A community-based cross-sectional study design was employed for this study.

3.3. Source Population

All under-five children with acute diarrhea diseases two weeks before the study in Chiro administrative town.

3.4. Study Population

Those randomly selected under-five children with acute diarrhea diseases two weeks before the study in Chiro administrative town with their mother or caregivers were studied.

3.5. Inclusion and Exclusion Criteria

3.5.1. Inclusion criteria

All under-five children with acute diarrhea diseases two weeks before the study in Chiro administrative town.

3.5.2. Exclusion criteria

Caregivers who couldn't be able to give information due to disability, mental disorder, and serious illness where other potential sources of information were lacking.

3.6. Sample Size Determination

Specific objectives: 1

The sample size for the first objective (utilization of zinc) was calculated using a single population proportion formula with the following assumptions:

$n = \frac{(Z_{\alpha/2})^2 p (1- P)}{}$

With a 95%CI (confidence interval), Z=1.96, D=Standard Error or Precision=0.05; n= sample size;

p= estimated proportion of zinc for caregivers.

Table 1: The sample size calculation for single population proportion for zinc utilization

No	Sample size calculation	Proportion(P) of zinc	References
1	$n= \frac{(1.96)^2 0.671(1-0.671)}{(0.05)^2} =339$	P=67.1%	(Hassen *et al*, 2018)
2	$n= \frac{(1.96)^2 0.291(1-0.291)}{(0.05)^2} =317$	P=29.1%	(Ayele *et al*,2017)
3	$n= \frac{(1.96)^2 0.475(1-0.475)}{(0.05)^2} =383$	P=47.5%	(Tsige GA *et al*, 2020)
4	$n= \frac{(1.96)^2 0.119(1-0.119)}{(0.05)^2} =161$	P=11.9%	(Adane *et al*,2017)

Hence, from the above tables, the maximum sample size for the first objective was determined to be 383 and with a 10 % non-response rate, the final sample size for the first objective was 421.

Specific objectives: 2

The sample size for factors associated with utilization of zinc was calculated using Epi-info software version 7(stat Calc) with the assumptions of 80% power of the studies, 1:1 unexposed to exposed ratio, and 95% CI.

Table 2: The sample size calculation for the double population proportion of factors associated with utilization of zinc.

Factors		**Zinc use**		**AOR**	**Sample size**	**Reference**
		Yes	**No**			
Educational level	No education	17.49%	82.51%	1.91(1.52-2.40)	236	(Yeshaw Y et, *al*,2020)
	Higher education	34.24%	65.76%			
Diarrhea stopped	yes	4.4%	95.6%	10.29(2.52-42.05)	12	(Hassen *et al*, 2018)
	no	95.9%	4.4%			
Information about diarrhea	Yes	6.4%	93.6%	0.197 (0.057, 0.685)	54	(Desta, et, *al*,2017)
	No	42.1%	57.9%			

A sample size of 383 which was the largest one was selected for associated factors with utilization of zinc and a 10% non-response rate was added. Therefore, by comparing the calculated sample size for both objectives, the author decided to take the final sample size that had the highest value. Thus, the sample size determined for the first objective was higher than the sample size determined for the second objective. Finally, after adding a non-response rate of 10% the final sample size became 421.

3.7. Sampling Procedure and Technique

A prepared list of under five years of age children treated for acute diarrhea in the last two weeks before the study from Chiro town public health Facilities (Hospital, Health Center, and Health posts) were used as the sampling frame. These were retrieved from Registration Records of Integrated Management of Newborn and Childhood Illness (IMNCI) for Hospital and Health Centers and Integrated Community Care Management (ICCM) Registration Records for Health Posts. Then Review the Records of all under five years age of children from registration with the necessary full address information of their kebeles including the father's full name of children treated for acute diarrhea in the last two weeks before the study to identify the households included in the study unit. Both From IMNCI and ICCM registration of three public health facilities were found that 950 under five children treated for diarrhea within a given period. Therefore, since the sample size was calculated as 421; the number of households from each kebele was allocated proportionately to serve as a study unit.

Then by using simple random sampling methods the mothers and caregivers of children were recruited from each of the chosen Kebeles until the allocated sample size was satisfied. (Figure 2). When a household had multiple study children (two or more) under five years age of children treated for diarrhea within the last two weeks, a single participant was chosen using the basic simple random selection technique. Finally, caregivers who were not available during the interview after 2-3 times of home visits were considered as non-respondents.

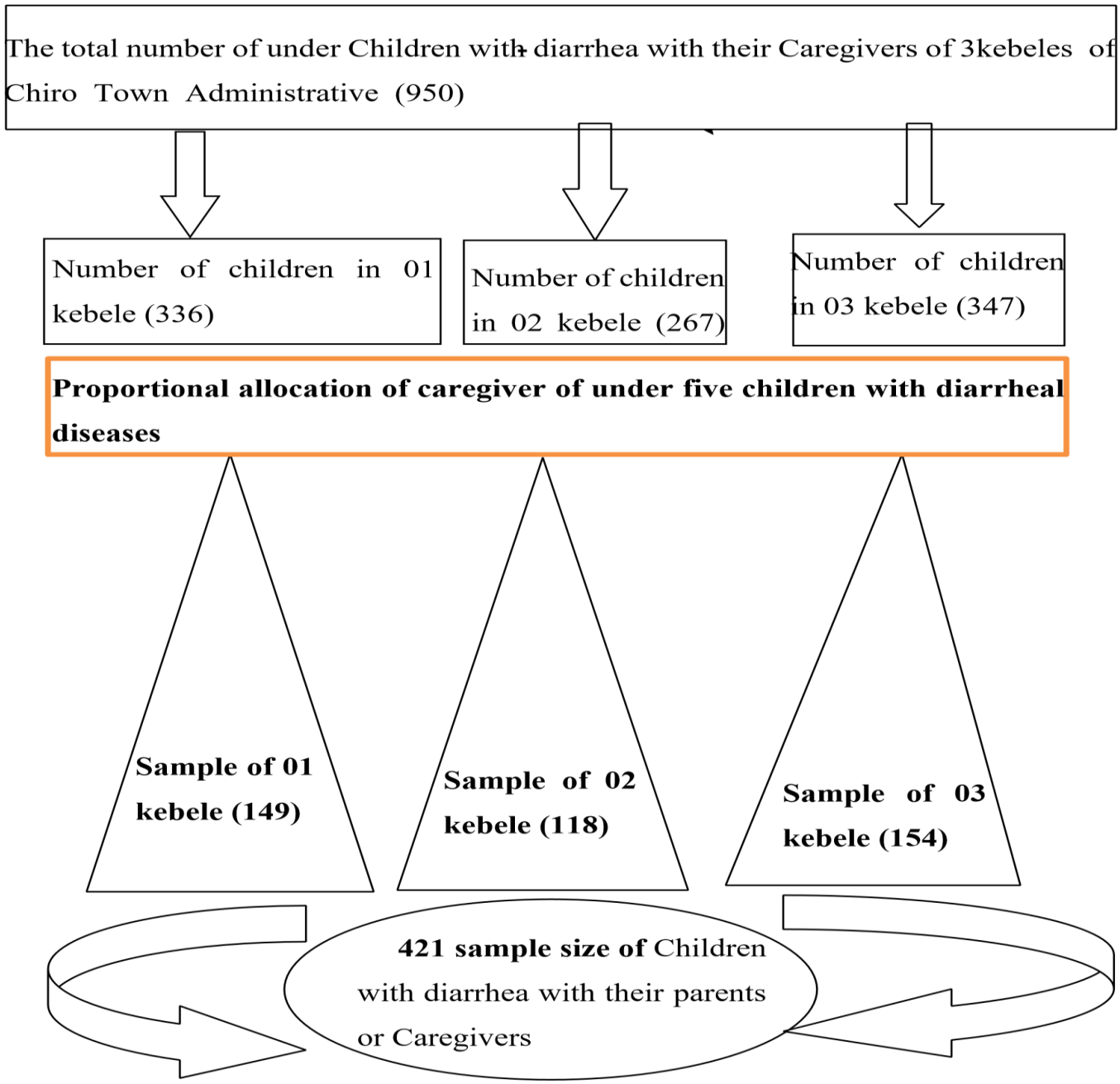

Figure 2: Schematic presentation of sampling procedure, Chiro town, Eastern Ethiopia

3.8. Data collection Tools and Methods

3.8. 1. Data collection Tools

The data were collected using pre-tested questionnaires. A semi-structured questionnaire was adapted and developed from different literature reviews (Eshete A, 2015; Hassen et al, 2018; Fuca et al, 2019). The questionnaires may include questions that helped gather information on socio-demographic and economic-related characteristics (area of residence, age of mother, wealth index, mothers' education, and family size), previous history of zinc use (Information about diarrhea, distance from health facility, CBHI membership and mass media exposure) and health level related factors (duration of diarrhea and treatment).

3.8.2. Data collectors

Three data collectors were BSc nursing graduates, and one supervisor was recruited with a qualification of BSc in health officer and all had previous experiences in data collection. Data collectors were responsible for interviewing the mothers/caregivers, while the supervisor oversaw the overall process. All data collectors introduced themselves and explained the aim of the studies to all caregivers after obtaining consent forms from them based on the data collection tool.

3.9. Study Variables

3.9.1. Dependent variable

Zinc supplement utilization among children with diarrhea

3.9.2. Independent variables

Socio-demographic and economic-related characteristics (area of residence, age of mother, mothers' education, wealth index, Husband education, and family size), distance from the health facility, CBHI membership, and health level-related factors like duration of diarrhea and treatment duration), previous history of zinc use, mass media exposure and Information about diarrhea.

3.10. Operational Definitions

Zinc supplement utilization: Under five children with diarrhea who take 20 mg zinc for young age children, and 10 mg zinc for infants under six months of age to be given for 10–14 days for diarrhea treatment (WHO,2004).

A caregiver who provided a full dose of zinc to their children for the management of diarrhea was a binary outcome variable coded as 0 for No (caregivers who didn't provide zinc to their child for the treatment of acute diarrhea) and 1 for Yes (caregivers who provided zinc to their child for the treatment of acute diarrhea (Teshale et al, 2020).

A child having diarrhea: This is defined as the passage of three or more loose or watery stools in 24 hours. It can be an increase in daily stool fluidity, frequency, or volume from what is normal for an individual (UNICEF/WHO, 2009; Olopha and Egbe Ale, 2017).

3.11. Data Quality Assurance

All the data collectors and the supervisor were trained for two days on the objective of the studies and data collection technique. The Supervision was done by using a checklist during the data collection period. The principal investigator supervised and reviewed every questionnaire for completeness and accuracy. The selected data collectors had previous experience in data collection and knew the local language perfectly. Before the actual data collection period, a questionnaire was pre-tested on 5% of the sample size (21 mothers/ caregivers) from out of the actual study participants at the Chiro district of Yabdo Bobasa kebele. Double data entry was done by two individuals on 20% of the sample size to minimize errors. After data collection, each questionnaire was given a unique code by the principal investigator.

3.12. Data Processing and Analysis

After the data were collected, the filled questionnaire was checked for completeness and consistency of data manually. Then it was entered into Epi data version 3.1 and exported to SPSS version 20 for analysis. Frequency distribution, mean, median, and standard deviation were used to describe the data. The zinc utilization variable was dichotomized as category 1 for those who provided zinc to their children and 0 for those who didn't provide zinc to their children (Teshale et al, 2020). The utilization of zinc was calculated as the proportion of diarrheic children who utilized it.

Bivariable and multivariable binary logistic regression models were used to investigate factors associated with the utilization of zinc supplements. Variables with a p-value less than 0.25 in the bivariable analysis, important predictors in the previous literature, and/or biologically plausible factors were entered into a multivariable binary logistic regression. Multicollinearity was checked using a variance inflation factor below 10. In multivariable regression analysis, those variable p values less than 0.05 were used to declare the significance. Crude and adjusted odds ratios with a 95% confidence interval were reported.

3.13. Ethical Considerations

Ethical clearance was obtained from Haramaya University, the College of Health and Medical Sciences, Institutional Health Research Ethics Review Committee (IHRERC). A permission letter obtained from the School of Graduate Studies was submitted to the Chiro Town health office to get permission for the study from each hierarchy of the case department team. Each study participant was adequately informed about the purpose, method, and anticipated benefit of the study by their data collectors. Informed, voluntarily written and signed consent was obtained from the study participants for protecting anonymity and ensuring confidentiality. They had the right to refuse or withdraw from participating in the research without any explanation and they had the right to ask any question at any time during the data collection period. Additionally, the name of the study participant was not included in the questionnaire which addressed the concern of the study participant and only authorized persons got access to raw data collected from them if the need arises.

3.14. Dissemination of the Findings

The results of this study were disseminated to Haramaya University College of Health and Medical Sciences, School of Public Health. The report was also submitted to concerned bodies including the chiro town administrative and health office. Efforts were made to publish the findings in a reputable journal.

4. RESULTS

4.1. Socio-demographic characteristics of the respondents

Out of the 421 eligible participants, 417 mothers of children under five participated in the study, yielding a response rate of 99%. The caregivers' average age was 29 years (SD ± 4.9), with a mean household monthly income of 3,179.58 ETB (SD ± 1,616.0). Approximately 21.1% (n=88) of households earned over 3,000 ETB per month. Most mothers (92.8%, n=387) were married, and 84.4% (n=352) had families with more than five members. Regarding educational levels, 30.7% (n=128) of mothers had at least a secondary education, while 81.1% (n=338) of their husbands had similar educational attainment.

In terms of occupation, 43.2% (n=180) of mothers were stay-at-home spouses, and 27.1% (n=113) of their husbands were merchants. Among the children studied, 49.4% (n=206) were male, and the mean age was 19 months (SD ± 12.8). Most mothers (60.9%, n=254) were Muslim, and a significant proportion (79.6%, n=332) identified as Oromo. (Table 3).

Table 3. Socio-demographic characteristics of mothers with children less than five years of age in Chiro town, West Hararghe Zone, Eastern Ethiopia 2024, (n=417)

Respondent characteristics	Categories	Frequency	Percent (%)
Relation with child	All mothers	417	100%
Mothers age in years	20-24	77	18.5
	25-29	172	41.2
	30-34	101	24.2
	≥35	67	16.1
Religion	Muslim	254	60.9
	Orthodox	130	31.2
	Protestant	33	7.9
Ethnicity	Oromo	332	79.6
	Amhara	45	10.8
	Others (Gurage, Silte and Argoba)	40	9.6
Marital status	Married	387	92.8
	Divorced	30	7.2
Mother education	No formal education	93	22.3

	Primary (1-8)	196	47.0
	Secondary (9-12) and above	128	30.7
Mothers' occupation	House wife Merchant	180	43.2
		99	23.7
	Government employee	70	16.8
	Farmer	68	16.3
Husband education	No formal education	32	7.7
	Primary (1-8)	47	11.3
	Secondary (9-12) and above	338	81.1
Husband occupation	Government employee	100	24.0
	Private employee	87	20.9
	Merchants	113	27.1
	Daily Laborer	70	16.8
	Others (Student, house wife, NGO employee)	47	11.3
Family size	<5	352	84.4
	≥5	65	15.6
Child sex	Male	206	49.4
	Female	211	50.6
	6-11	70	16.8
Child age in months	12-23	89	21.3
	24-35	121	29.0
	36-47	75	18.0
	48-59	62	14.9
Household monthly income	1000-2000	147	35.3
	2001-3000	182	43.6
	>3000	88	21.1

4.2. Information for diarrhea and its management practice

Regarding the frequency of diarrhea, 91.4% (n=381) of mothers reported fewer than two episodes in the past two weeks. The majority (87.1%, n=363) experienced acute diarrhea lasting less than 14 days. Most mothers (81.1%, n=338) did not withhold food or fluids during their child's diarrheal episode, while 86.6% (n=361) reported watery stools. However, 70.7% (n=295) did not seek treatment or advice from health facilities. (Table 4).

Table 4. Information for diarrhea and its management practice of mothers with children less than five years of age in Chiro town, West Hararghe Zone, Eastern Ethiopia, 2024, (N=417)

Respondent characteristics	Categories	Frequency	Percent (%)
Episodes ofdiarrhea within last two weeks	<2 times	381	91.4
	≥2times	36	8.6
Diarrhea duration	Acute <14 days	363	87.1
	Persistent ≥14 days	54	12.9
Characteristic of stool	Watery	361	86.6
	Bloody	56	13.4
Seeking advice or treatment from health facility	Yes	122	29.3
	No	295	70.7
Mothers withhold food and fluid during diarrhea	Yes	79	18.9
	No	338	81.1
Experience of zinc used any past time(N=417)	Yes	310	74.3
	No	107	25.7

4.3. Magnitude of Zinc utilization among children with diarrhea

The study found that only 42.4% (n=177) of under-five children with diarrhea received zinc supplementation (95% CI: 38.2%-46.9%). Health professionals were the main source of information (70.1%, n=162) about zinc. Among those who administered zinc, 57.1% (n=101) continued using it until diarrhea ceased. The main reasons for not utilizing zinc included lack of prescription (46.8%, n=195) and uncertainty about where to obtain it (7.9%, n=33). (Table 5).

Table 5: Magnitude of the utilization of zinc among Caregivers of under-five children with diarrhea, Chiro Town, West Hararghe Zone, Eastern Ethiopia,2024, (N=417)

Respondent characteristics	Categories	Frequency	Percent (%)
Caregivers heard about zinc (n = 417)	Yes	231	55.4
	No	186	44.6
Source of information about zinc(N=231)	Health profession	162	70.1
	Family member	39	16.9
	Mass media	30	13.0
Mothers got zinc from (N=177)	Government Hospital Government	92	52
	health center	58	32.8
	Health Posts	27	15.2
Mothers diluted zinc tablet wit(N=177)	Dilute with water	100	56.5
	Dilute with ORS	77	43.5
Duration of zinc administered(N=177)	Until diarrhea stops	101	57.1
	For 7 days	44	24.9
	10-14days	32	18.0
Reasons for why not zinc utilized(N=240)	Where not prescribed	195	46.8
	Did not know where to obtain	33	7.9
	Unsure about how to administered	12	2.9
Reasons for why administered full dose of prescribed zinc(N=177)	Diarrhea stopped Vomiting	82	46.3
		39	22.0
	The child not take Unpleasant test	37	20.9
		19	10.7
Day of diarrhea subsided following zinc administration((N=177)	≤3 days	89	21.3
	4-6days	57	13.7
	Above 6days	31	7.4

4.4. Factors Associated with Zinc Utilization

In this study out of all independent variables entered bivariate logistic regression, the mother's and husband's educational level, a mother who withholds food and fluid, marital status, having usage of zinc experience, and mother and child age were found to be a candidate for multivariable logistic regression. Variables with a p-value less than 0.25 in the bivariate analysis were entered into a multivariate logistic regression. (Table 6).

Table 6: Bivariate logistic regression of factors associated with Zinc Utilization among study participants, Chiro Town, West Hararghe Zone, Eastern Ethiopia 2024, (N=417)

Variable	Categories	Zinc utilization		COR (95%CI)	P- value
		Yes (%)	No (%)		
Age of mothers in years	20-24	31(40.3)	46(59.7)	1.29(0.65,2.54)	0.004
	25-29	78(45.3)	94(54.7)	1.59(0.88,2.86)	
	30-34	45(44.6)	56(55.4)	1.54(0.81,2.91)	
	>35	23(34.3)	44(65.7)	1	
Child age in month	6-11	21(30.0)	49(70.0)	0.49(0.24,1.00)	
	12-23	34(38.2)	55(61.8)	0.70(0.37,1.36)	
	23-35	60(49.6)	61(50.4)	1.12(0.61,2.07)	
	36-47	33(44.0)	42(56.0)	0.89(0.46,1.76)	
	48-59	29(46.8)	33(53.2)	1	0.09
Marital status	Married	170(43.9)	217(56.1)	2.57(1.08,6.14) *	0.033
	Divorced	7(23.3)	23(76.7)	1	
Family size in number	<5	149(42.3)	203(57.7)	0.97(0.57,1.66)	0.911
	≥5	28(43.1)	37(56.9)	1	
monthly income in ETB	1000-2000	64(43.5)	83(56.5)	1.23(0.71,2.10)	0.718

	2001-3000	79(43.4)	103(56.6)	1.22(0.72,2.05)	
	>3000	34(38.6)	54(61.4)	1	
Zinc experience	No	57(53.3)	50(46.7)	1.81(1.16,2.81) **	
	Yes	120(38.7)	190(61.3)		0.009
Mother education	No formal education	20(21.5)	73(78.5)	1	0.000
	Primary (1-8)	77(39.3)	119(60.7)	2.36(1.33,4.18) **	
	Secondary (9-12) and above	80(62.5)	48(37.5)	6.08(3.30,11.20) ***	
Husband education	Nonformal education	10(31.2)	22(68.8	0.58(0.27,1.27)	0.380
	Primary (1-8)	19(40.4)	28(59.6	0.87(0.47,1.62)	
	Secondary (912) and above	90 (56.2)	148 (43.8)	1	
Mother withhold food or fluid	Yes	57(72.2)	22(27.8	4.70(2.70, 8.33)7) ***	0.0001
	No	120(35.5)	218(64.5)	1	
Information of caregivers about zinc	Yes	168(72.7)	63(27.3)	52.4(25.28,108.79) ***	0.000
	No	9(4.8)	177 (95.2)	1	

Multivariable logistic regression analysis identified Mother withhold food or fluid, Maternal Educational and Previous Zinc Experience are significant at p value < 0.05.

Mother withholding food and fluid had a positive association with zinc utilization. The odds of zinc utilization were 82.7% times [AOR=0.173, 95%CI=0.09, 0.36] lower among mothers who had not had food and fluid as compared to their counterparts.

Maternal Educational status was significantly associated with zinc utilization. Mothers who had primary (1-8) education were 2.88 times [AOR=2.88, 95% CI= 1.52, 5.46] more likely to utilize zinc compared with those who had no formal education. Likewise, mothers who had secondary (9-12) and above education were 5.43 times [AOR=5.43, 95% CI= 2.75, 10.70] more likely to utilize zinc compared with those who had no formal education.

Previous Zinc Experience was significantly associated with zinc utilization. The odds of zinc utilization were 2.28 times (AOR= 2.28, 95% CI= 1.35, 3.84) higher among mothers who had experience of zinc use compared to their counterparts (Table 7).

Table 7: Multivariable logistic regression of factors associated with the Utilization of Zinc among study participants, Chiro Town, West Hararghe Zone, Eastern Ethiopia 2024, (N=417)

		Zinc utilization			
Variable	**Categories**	Yes (%)	No (%)	AOR **(95%CI)**	**P-value**
Age of mothers in years	20-24	31(40.3)	46(59.7)	1.54(0.82,2.88)	
	25-29	78(45.3)	94(54.7)	1.66(0.82,3.35)	0.505
	30-34	45(44.6)	56(55.4)	1.55(0.70,3.43)	
	≥35	23(34.3)	44(65.7)	1	
Child age in month	6-11	21(30.0)	49(70.0)	0.44(0.20,1.0)	0.060
	12-23	34(38.2)	55(61.8)	0.97(0.46,2.08)	
	24-35	60(49.6)	61(50.4)	1.80(0.89,3.64)	
	36-47	33(44.0)	42(56.0)	0.94(0.45,2.00)	
	48-59	29(46.8)	33(53.2)	1	
Marital status	Married	170(43.9)	217(56.1)	2.68(0.96,7.44)	0.590

	Divorced	7(23.3)	23(76.7)	1	
Previous zinc experience	No	57(53.3)	50(46.7)	2.28(1.35,3.84) **	0.020
	Yes	120(38.7)	190(61.3)	1	
Mother education		20(21.5)	73(78.5)	1	0.0001
	No formal education	77(39.3)	119(60.7)	2.88(1.52,5.46) **	
	Primary (1-8)	80(62.5)	48(37.5)	5.43(2.75,10.70) ***	
	Secondary and above				
Husband education	No formal education	10(31.2)	22(68.8	0.76(0.29,1.95)	0.635
	Primary (1-8)	19(40.4)	28(59.6	0.74(0.36,1.52)	
	Secondary and above	148(43.8)	190(56.2	1	
Mother withholds food and fluid.	Yes	57(72.2)	22(27.8	0.173(0.09,0.32) ***	0.000
	No	120(35.5)	218(64.5)	1	

Statistically significant at P<0.001=***, **=P<0.01 and at P<0.05=*, AOR=Adjusted OR and CI= Confidence Interval

5. DISCUSSION

This study revealed that the utilization of zinc supplements among children with diarrhea in Chiro Town is relatively low, with only 42.4% of caregivers adhering to the recommended practice. Despite evidence supporting the benefits of zinc in reducing the duration and severity of diarrhea, the uptake remains suboptimal.

The findings align with prior studies in regions such as Kebri Daher Town, where zinc utilization was similarly low at 29.1% (Ayele et al, 2020) and higher than the study finding in Abeokuta, Nigeria (22.1%) (Ajayi et al, 2019). However, this finding is lower than the study done in Addis Ababa, Ethiopia (47.5%) (Tsige et al,2020); Bale Zone, South East, Ethiopia (66%) (Bekele and Desalegn, 2015), Akaki sub city of Addis Ababa, Ethiopia (67.1%) (Hassen et al., 2018) and in Western Kenya which was 67% (Otieno et al, 2013). The discrepancy might be due to differing socioeconomic status like education and information access of mothers on management of under-five children with diarrhea by using zinc.

The study showed that withholding food and fluids while their child had acute diarrhea has a significant association with the utilization of zinc. Mothers who were withholding food and fluids while their child had acute diarrhea were 82.7% [AOR=0.173, 95%CI=0.09, 0.36] less likely Compared to mothers who do not withhold food and fluids during diarrhea to utilize zinc tablets for their children than those who are not withholding fluid and food during diarrhea. This study is supported by a study done in Kebri-dear Town, Somali Region, Ethiopia (Ayele et al, 2020), Low- and middle-income countries (Carter et al,2015), and India (Choubey et al, 2014). This could be because of mothers' decision nothing to give due to fear of aggravating acute diarrhea (Ayele et al, 2020). However, the study was inconsistent with the study done in Kenya (Simpson et al, 2013). This difference could be due to the health education access of mothers.

Mothers who had primary (1-8) [AOR=2.88, 95% CI= 1.52, 5.46] and secondary (9-12) and above education [AOR=5.43, 95% CI= 2.75, 10.70] were 2.88 times and 5.43 times more likely to utilize zinc compared with those who had no formal education respectively. This study is supported by findings from previous studies done in Ethiopia (CSA and ICF, 2016), Kenya (Njeru and Muriatic, 2013), Nigeria (Okah and Alex-Hart, 2014), and India (Choubey et al, 2014). This might be due to

educated mothers having awareness of the management of acute diarrhea and can better search mean towards the treatment because of access to information they have (Ayele et al, 2020) and it could be because well-educated women may be proactive in taking their sick children to the closest medical institution. This could then present a chance for mothers to consult with medical experts and provide their ill child with the recommended or prescribed treatment, which may include zinc.

Children with caretakers who had used zinc before were 2.28 times more likely to utilize zinc for diarrhea than their counterparts (AOR= 2.28, 95% CI= 1.35, 3.84). This study is supported by the findings from a previous study done in public health facilities of Addis Ababa, Ethiopia (Woldegebriel et al, 2021) and the study conducted in Bale Zone, South East, Ethiopia (Bekele, 2015) This may be due to previous zinc usage and exposure about the use of zinc as a treatment for diarrhea, socio-economic variation, and the type of health facilities the participants visited.

LIMITATIONS AND STRENGTH OF THE STUDY

Strengths: The study addresses an essential public health issue, particularly in low-resource settings where diarrhea significantly contributes to child morbidity and mortality. Data collected were cross-checked, entered, and analyzed with appropriate analysis techniques; therefore, bias was minimized.

Limitations: Mother's recall bias. Since mothers were asked to remember "whether she gave zinc while her child got diarrhea" there may be a lapse of memory or recall bias.

Moreover, due to the cross-sectional nature of the data, a clear temporality (cause-and-effect relationship) was not established between the dependent and independent variables.

7. CONCLUSION AND RECOMMENDATION

7.1. Conclusion

while zinc supplementation is essential for all children with diarrheal episodes, its utilization remains low. It is associated with withholding food and fluid, education status, and having previous zinc experience. Enhancing health education and improving its access could improve utilization rates.

7.2. Recommendation

Based on the findings of this study, the following recommendation was drawn.

- Health Education Initiatives: Health workers should actively educate mothers on the benefits of zinc supplementation during diarrheal episodes. They should give Special attention to mothers with low or no formal education to increase their awareness and utilization of zinc supplements, focusing on continuing feeding and providing extra fluids during diarrheal episodes.
- Community Outreach Programs: Chiro town health authorities, should enhance community health programs to dispel misconceptions about zinc utilization, especially regarding withholding food and fluids during diarrhea.
- Strengthening Health Systems: Efforts should be made to ensure that health facilities consistently stock zinc supplements and provide proper counseling during child healthcare visits.
- Further Research: Encourage Researchers to Conduct longitudinal studies to explore causal relationships and assess the long-term impact of zinc supplementation education programs on child health outcomes.

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9. ANNEXES

9.1. Information Sheet and Informed Consent Form of Caregiver of participants with Age of ≥18 Years (English Version)

Good morning/afternoon!

My name is _____, I am working as a data collector in a study conducted by Mrs.

Tesfa Azene, who is studying for his Master's degree at Haramaya University, the college of Health and medical sciences. I kindly request you to lend me your attention to explain you about the study and being select your child as the study participant.

The study /project title-To assess utilization of zinc supplement and associated factor among caregivers of under- five children with diarrhea in Chiro town, West Hararghe, Eastern Ethiopia, from August 11 to 30/2024.

Purpose/aim of the study: - The study will be expected to identify the level of utilization of zinc supplement and associated factor among caregivers of under- five children with diarrhea in Chiro town, West Hararghe, Eastern Ethiopia. This will help the town health office to formulate viable Programmed option that will guide interventions at various levels in the town. It will also help the town to reduce burden of under-five diarrhea through increasing zinc supplement utilization. It will also help the institution Health officer and health professionals at different levels to realize and conceptualize factors associated with zinc utilization. More over the aim of this study will be for the partial requirement for the fulfillment of a Master's program in public health to the principal investigator.

Procedure and Duration:

I will be interviewing you using questionnaire to provide me with pertinent data that is help full for the study. There are 37 questions to answer where I fill questionnaire by interviewing you. The interview will take about 30-35min, so I kindly request you to spare me this time for the interview.

Risk and benefit:

The risk of being participating in this study is very minimal but only taking few minutes from your daughter's time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

Confidentiality:

The information you and your daughter will provide us will be confidential. There will be no information that will identify your daughter. The findings of the study will be general for the study community and will not reflect any thing particular of individual persons or housing. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research

Rights

Participation for this study is fully voluntary. You have the right to declare your daughter to participate or not in this study. If you decide she to participate, your child has the right to withdraw from the study at any time and this will not label your child for any loss of benefits which your child otherwise is entitled. You or your child do not have to answer any question that your child does not want to answer.

Contact Address

There are any questions or concerns at any time about the study, you can contact the concerned bodies with the following address given below: mobile number 0923193502, azenetesfa@gmail.com and Health Research Ethics Review Committee (IHRERC) at office phone +251254662011 or P.O. Box 235, Harare).

Declaration of Informed Voluntary Consent

I have read/was read to me the participant information sheet. I have understood the purposes of study procedures, risks, and benefits of participating in the study, issue of confidentiality, rights and contact address of the queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that; child has the right to withdraw from the study at any time or not to answer any question that she has not want. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

Signature of caregiver _____; _____

Name and Signature of Data collector_____; _____

9.2. Information Sheet and Informed Consent Form of Caregiver of Participants with Age of <18 Years (English Version)

Good morning/afternoon!

My name is _____, I am working as a data collector in a study conducted by Mrs.

Tesfa Azene, who is studying for his Master's degree at Haramaya University, the college of Health and medical sciences. I kindly request you to lend me your attention to explain you about the study and being select your child as the study participant.

The study /project title-To assess utilization of zinc supplement and associated factor among caregivers of under- five children with diarrhea in Chiro town, West Hararghe, Eastern Ethiopia, from August 11 to 30/2024.

Purpose/aim of the study: - The study will be expected to identify the level of utilization of zinc supplement and associated factor among caregivers of under- five children with diarrhea in Chiro town, West Hararghe, Eastern Ethiopia. This will help the town health office to formulate viable Programmed option that will guide interventions at various levels in the town. It will also help the town to reduce burden of under-five diarrhea through increasing zinc supplement utilization. It will also help the institution Health officer and health professionals at different levels to realize and conceptualize factors associated with zinc supplement utilization. More over the aim of this study will be for the partial requirement for the fulfillment of a Master's program in public health to the principal investigator.

Procedure and Duration

I will be interviewing you using questionnaire to provide me with pertinent data that is help full for the study. There are 37 questions to answer where I fill questionnaire by interviewing you. The interview will take about 30-35min, so I kindly request you to spare me this time for the interview.

Risk and benefit

The risk of being participating in this study is very minimal but only taking few minutes from your daughter's time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

Confidentiality

The information you and your daughter will provide us will be confidential. There will be no information that will identify your daughter. The findings of the study will be general for the study community and will not reflect any thing particular of individual persons or housing. The questionnaire will be coded to exclude showing names. No reference will be made in oral or written reports that could link participants to the research.

Rights

Participation for this study is fully voluntary. You have the right to declare your daughter to participate or not in this study. If You decide she to participate, your child has the right to withdraw from the study at any time and this will not label your child for any loss of benefits which your child otherwise is entitled. You or your child do not have to answer any question that you or your child does not want to answer.

Contact Address

If there are any questions or concerns at any time about the study, you can contact the concerned bodies with the following address given below: mobile number 0923193502, azenetesfa@gmail.com and Health Research Ethics Review Committee (IHRERC) at office phone +251254662011 or P.O. Box 235, Harare).

Declaration of Informed Voluntary Consent I have read/was read to me the participant information sheet. I have understood the purposes of study procedures, risks, and benefits of participating in the study, issue of confidentiality, rights and contact address of the queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that; child has the right to withdraw from the study at any time or not to answer any question that she has not want. Therefore, I declare voluntary my child consent to participate in this study with my signature as indicated below.

Signature of caregiver _____; _____

Name and Signature of Data collector_____; _____

9.3. English Version Data Collection Instrument

Questionnaires ID NO: _____Name of Kebeles_____

Interviewer's Name _____Date of data collection_____/____/____

Record time when you started_____ _____

Part I. Questionnaire for caregiver socio- demographic characteristics

Code	Variables/questions	Response	Skip
0101	What is your relation to the child?	1.Mother 2. Care giver 3. Other specify_____	
0102	How old are you? probe: how old were you at your Last birthday?	age (in completed years) __ __	
0103	What is the gender of care giver?	1.Female 2. Male	
0104	How old is (NAME)? *probe*: how old was (name) at his / her Last birthday?	Age (in month) __ __	
0105	What is the sex of [NAME]?	1. Male 2. Female	
0106	What is your Religion?	1. Muslim 2. Orthodox 3. Protestant 4. Catholic 5. Other (specify)_____	
0107	What is your Ethnicity?	1.Oromo 2.Amhara 3.Gurage 4.Others	
0108	What is your current marital status?	1.single, no partner	

	read the response options	2.single, non-regular partner 3.single with regular partner 4.married 5.widowed 6.divorced/separated	
0109	What is your Occupation?	1. Farmer 2. House wife 3. Merchant 4. Daily Laborer 5. Student 6. Other (specify)_____	
0110	What is your educational status?	1. unable to read and write 2. able to read and write 3.Primary school (1-8) 4.Secondary School (9-12) 5.Collage level and above	
0111	What is father's educational status?	1. unable to read and write 2. able to read and write 3.Primary school (1-8) 4.Secondary School (9-12) 5.Collage level and above	
0112	What is your husband's occupation?	1.Government employee 2.Private employee 3. Merchant 4. Daily laborer 5. Other (specify)	
0113	What is the number of children in your house?	_____(no.)	

Part 2. Questionnaires of Wealth index, Household properties (assets)

	Asset type	**Response**		
	Domestic animals			

201	Ox cattle (ox, cow)	Yes (1)		No (0)	
202	Caw	Yes (1)		No (0)	
203	Calf	Yes (1)		No (0)	
204	Hen and cock	Yes (1)		No (0)	
205	Goat	Yes (1)		No (0)	
206	Sheep	Yes (1)		No (0)	
207	Horse	Yes (1)	No (0)		
208	Donkey	Yes (1)	No (0)		
209	Mules	Yes (1)	No (0)		
	Durable asset				
210	Television	Yes (1)	No (0)		
211	Watch/clock	Yes (1)	No (0)		
212	Electricity	Yes (1)	No (0)		
213	Refrigerator	Yes (1)	No (0)		
214	Non-mobile telephone	Yes (1)	No (0)		
215	Mobile phone	Yes (1)	No (0)		
216	Car	Yes (1)	No (0)		
217	Motorcycle	Yes (1)	No (0)		
218	Cycle	Yes (1)	No (0)		
219	Cart	Yes (1)	No (0)		
220	Table	Yes (1)	No (0)		
221	Chair	Yes (1)	No (0)		
222	Bed	Yes (1)	No (0)		
223	Electric “Mated”	Yes (1)	No (0)		
24	Own living house	Yes (1)	No (0)		
225	Own Agricultural land	Yes (1)	No (0)		
226	Stove	Yes (1)	No (0)		
	Productive asset				

227	Plough plow	Yes (1)	No (0)	
228	Axe	Yes (1)	No (0)	
229	Modern Beehive	Yes (1)	No (0)	
230	Traditional Beehive	Yes (1)	No (0)	
231	Hoe	Yes (1)	No (0)	
232	Shovel	Yes (1)	No (0)	
233	Sickle	Yes (1)	No (0)	
234	Water source	Pipe (1)	Non-pipe (0)	
235	Type of floor	Cement/wood (1)	Earth (0)	
236	Type of wall	Cement (1)	Mud (0)	
237	Type of roof	Concrete (1)	Iron sheet (0)	
238	Toilet facility	Ventilated improved pit latrine (1)	Traditional latrine (0) pit	

Part III. Questionnaire for caregiver about child diarrhea& feeding

Code	**Variable/question**	**Response**	**Skip**
0301	How many episodes of diarrhea has the (NAME) had for the last	_____(times)	
	two weeks? Probe: diarrhea that is three or more loose or Watery stools in a day?		

0302	How many days ago did the (NAME) diarrhea start? Probe: for exact number of days and record in the box. If same day then record 0 if more than two weeks then move to the nearest door.	_____Days	
0303	What types of diarrheas do you understand?	1. Frequent passing of watery stool (3 or more times), no blood in stool 2. Profuse watery diarrhea with severe dehydration during cholera outbreak. 3. Blood mixed with stools 4. Diarrhea lasting >14 days 5. Recent course of antibiotics 6. Blood mixed with stool, Abdominal mass, attacks of crying with pallor. 7. Other, specify……	
0304	How many days after the? diarrhea began did you first seek	1._____days 2. Do not know	
	treatment for (NAME)?	3.No got any treatment	

0305	From where did you seek advice or treatment? Probe**:** anywhere else? Write the name of the facility/place**.** _____ (name of place)	_____ (name of facility/ place)	

0306	What was given to (NAME) to treat the diarrhea? do not read the possible responses Probe for anything else circle all mentioned.	1.nothing 2. ORS 3.Zink and ORS co-pack 4.zinc 5.home-made fluid (ort fluid) 6.pill or syrup 7.injection 8.(iv) intravenous 9.herbal medicines 10.other (specify)	
0307	During the time (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat food?	1.much less 2.somewhat less 3.about the same 4.more 5.stopped food 6.never gave food 7.don't knows	
0308	I would like to know how much (NAME) was given to drink during the diarrhea (Including breastmilk). When you compare before diarrhea started?	1.More, 2. Same as usual 3.Somewhat less 4. Much less 5.Noting to feed ,6. Don't know/ missing	

0309	Are you withholding food and drink during diarrhea?	1? Yes 2. No	

Part IV. Questionnaire for caregiver on Utilization of zinc tablet

Code	Variables/question	Response	Skip
0401	Have you ever heard about zinc?	1. Yes 2. No	
0402	Where did you hear about zinc?	1.Radio/ Television 2.HEW 3. Health care provider 4. Friend 5. Neighbors6. Other specify	
0403	Have you ever used zinc tablet?	1.Yes ,2. No ,3. Do not know	
0404	Do you give Zinc tablet to your child during the last diarrhea?	1. Yes 2. No	
0405	When answer"0403" No, why you are not giving zinc?	1.did not know where it obtained 2.not prescribed by health profession 3.I am not shore how it administered 4.Expensive ,5. other, specify_____	
0406	Where did you obtain the zinc product?	_____list out	
0407	Do you give ORS solution along with zinc product to your child?	1. Yes 2. No	
0408	How do you mix zinc tablet?	1. Dilute with water 2. Dilute with ORS	

		3. Mix with breast milk 4. Others	
0409	How long you provide zinc to diarrheic child without interruption	----------days	
0410	When answer "0407" less than 10 days What was the reason not giving full dose of zinc to your child at home?	1. Unpleasant taste 2. The child not to take 3.Vomiting ,4. The diarrhea stopped ,5. Don't know	
0411	When was the diarrhea stopped after the caretaker used zinc for their children?	----------days	

Part V: Environmental and Hygiene Condition

NO	QUESTIONS	RESPONSE	Code
0501	Is latrine available in your home?	Yes	1
		No	2
0502	What kind of toilet facility do members of household usually use?	Flush connected to municipal sewer line	1
		Flush connected to septic tank	2
		Ventilated improved pit latrine	3
		Pit latrine made from concrete slab	4
		Shared latrine	5
0503	How do you dispose household solid wastes or refuse?	In a privately prepared pit – hole	1
		In refuse pit collected by municipality	2
		Dumped in street/open space	3
		Burn	4
		Garbage can	5
		Collected by private establishment	6
0504	Where do you dispose your household liquid waste?	In septic tank/latrine pit	1
		In seepage pit	2
		Anywhere in open space	3
0505	What is your source of water for drinking?	Pipe	1
		protected wall spring	2
		unprotected wall spring	3

0506	Distance of water source to home	……. minutes/meter	
0507	Is there any hand washing facility beside the toilet?	Yes	1
		No	2
0508	Where do you dispose you under five child wastes?	In the toilet	1
		Left it open everywhere	2
		covered by soil	3

Record the time when you completed_____, _____

The End of the Questions

I thank you very much for your time and cooperation

9.4. Information Sheet and Informed Consent Form of Caregiver of Participants with Age of ≥18years (Afnan Oromo Version)

Akka sultan/Akka outland!

Ani, maqam Koo …….... jedhama. Yeroo amma kana qorannoo Obboo Tasfa Azana yunivarsitii Haramayaa kolleejjii saayinsii fayyaa fi meedikaalaa irraa dhufanii arradaa kana keessatti qorannoo gaggeessan irratti akka ragaa sassaabatti dalagaa jira. Kanaafuu kaayyoo qorannoo kanaafi akkaataa isin itti filatamtan akkan isiniif ibsuuf xiyyeeffannaa akka naïf kenning Karajan isin gaafadha.

Mata dureeqorannoo: -Haala ittifayyadama qoricha zinki jedhamu dhukkuba gear demise half, akkasumas you itti fayyadamu baattan wanton akka him fayyadamne taasisan daa'imman wage shanti gad turban lamina dares dhukkuba garret yaasutiin qabaman, magaalaa Ciroo, Godin Hararghe lira, nannie oromiyaa keessatti jiranii sakatta'uudha.

Kaayyoo qorannoo: -Bu'aan qorannoo kanaafi rakkoowwan gama itti fayyaddama zinkii'n jiru addaan baasuu dhaan Waajjirra Degums Fayyaa magaalaatif tarkaanfi barbaachissaa akka fudhatuuf kakaa'uumsa umudhan hawaasa maagaalicha caalati fayyadama taasisudha. Irracaalatti kaayyoo qorannoo kanaafi barreeffama gahuumsa eebba digrii lamaffaa qopheessuudha. dabbalatanis rakkolle gamma kanna jiran iffati addabaasudha.

Adeemsaa fi yeroo turtii

Gaaffiwwan qorannoo kanaafi milkeessuuf gargaaran gaafannoo kana fayyadamne isin gaafadha. Qorannoo Kenya adeemsisuudhaaf gaaffilee 37 daqiiqaa 30-35tti fudhachuu danda'u. Kanaaf hanga gaaffii xumurutti yeroo akka naïf kenning Karajan isin gaafadha.

Miidhaa fi Bu'aa qorannoo

Qorannoo kana keessatti Qooda fudhachuu keetif miidhaan sirra gahu baay'ee xiqqaadha, kunis yeroo kee aarsaa gootu qofa. Hirmaannaa keetif kaffaltaan siif kennamu him jiru, garuu bu'aan qorannoo kanaafi qaama karoora qopheessuf odeeffannoo kennuu nidanda'a

Iccitii

Ragaan isin nuuf kenning hundi icciitii dhaan qabaman, dido icciitii olkaayama. Maqaan keetif take mania fi mate kee want add baasuu gaafannoo kana irratti him Barra's. Bu'aan qorannoo kanaafi hawaasa male Name dhuunfaa akka him beau.

Mira

Hirmaannaa kee fedhiiirratti Kan hundaa'eedha. Mira hirmaachuu fi dhiisuu akkasumas gaaffii sitti him mijoofne you jiraate deebisuu dhiisuu mirga qaama.

Tasso Qaama qorannoo

Qorannoo kana ilaalchisee gaaffii fi yaada you qabaatte, qaama dime liable teaspoon armaan gadiitin qunnamuu Ni dandeessan. **Qorataa -**Maqaa-Tasfaa Azana Dagafaa

Tasso- Aanaa Ciroo

Bilbila -0923193502; azenetesfa @gmail.com

Tasso" IHRERC"- Yunivarsitii Haramayaa Lakkoofsa poostaa-235, Harar Yunivarsitii

Haramayaa Kolleejjii saayinnsi fayyaa fi meedikaalaa lakoofsa bilbila +251254662011 **Unkaa Fedhii qorannoo keessattii qoodafudhachuu Hirmaattootaa**

Ani kaayyoo, adeemsa qorannoo, miidhaa fi bu'aa hirmaachuun qabu, dhimma iccitii, mirga hirmaannaa fi teaspoon qorataa fi dhaabbata qorannoo kana hooggannu dubbisse/naïf dubbiffame hubadheen jira. akkasumas yeroon barbaadetti qorannoo keessaa bahuu akkan danda'uu fi gaaffii deebisuu naïf him mijoofne dhiisuu mirga akkan qabu hubadheen jira. Kanaafuu Fedhii qorannoo keessatti hirmaachuu qabaachuu kiyya labsaa akkaataa gadiitti mallattoo kiyyaan mirkaneessaa.

Maqaan Gaafatamaa_____Mallattoo_____ Maqaan Ragaa funaanaa_____Mallattoo_____

Galatoomaa

9.5. Information Sheet and Informed Consent Form of Caregiver of Participants with Age of <18years (Afan Oromo Version)

Akkam bultan/Akkam ooltan!

Ani, maqaan Koo …….... jedhama. Yeroo amma kana qorannoo Obboo Tasfa Azana yunivarsitii Haramayaa kolleejjii saayinsii fayyaa fi meedikaalaa irraa dhufanii arradaa kana keessatti qorannoo gaggeessan irratti akka ragaa sassaabatti dalagaa jira. Kanaafuu kaayyoo qorannoo kanaafi akkaataa isin itti filatamtan akkan isiniif ibsuuf xiyyeeffannaa akka naïf kenning Karajan isin gaafadha.

Mata dureeqorannoo: -Haala ittifayyadama qoricha zinki jedhamu dhukkuba gear demise half, akkasumas you itti fayyadamu baattan wanton akka him fayyadamne taasisan daa'imman wage shanti gad turban lamina dares dhukkuba garret yaasutiin qabaman, magaalaa Ciroo, Godin Hararghe lira, nannie oromiyaa keessatti jiranii sakatta'uudha.

Kaayyoo qorannoo: -Bu'aan qorannoo kanaafi rakkoowwan gama itti fayyaddama zinkii'n jiru addaan baasuu dhaan Waajjirra Degums Fayyaa magaalaatif tarkaanfi barbaachissaa akka fudhatuuf kakaa'uumsa umudhan hawaasa maagaalicha caalati fayyadama taasisudha. Irracaalatti kaayyoo qorannoo kanaafi barreeffama gahuumsa eebba digrii lamaffaa qopheessuudha. dabbalatanis rakkolle gamma kanna jiran iffati addabaasudha.

Adeemsaa fi yeroo turtii

Gaaffiwwan qorannoo kanaafi milkeessuuf gargaaran gaafannoo kana fayyadamne isin gaafadha. Qorannoo Kenya adeemsisuudhaaf gaaffilee 37 daqiiqaa 30-35tti fudhachuu danda'u. Kanaaf hanga gaaffii xumurutti yeroo akka naïf kenning Karajan isin gaafadha.

Miidhaa fi Bu'aa qorannoo

Qorannoo kana keessatti Qooda fudhachuu keetif miidhaan sirra gahu baay'ee xiqqaadha, kunis yeroo kee aarsaa gootu qofa. Hirmaannaa keetif kaffaltaan siif kennamu him jiru, garuu bu'aan qorannoo kanaafi qaama karoora qopheessuf odeeffannoo kennuu nidanda'a

Iccitii

Ragaan isin nuuf kenning hundi icciitii dhaan qabaman, dido icciitii olkaayama. Maqaan keetif take mania fi mate kee want add baasuu gaafannoo kana irratti him Barra's. Bu'aan qorannoo kanaafi hawaasa male Name dhuunfaa akka him beau.

Mira

Hirmaannaa kee fedhiiirratti Kan hundaa'eedha. Mira hirmaachuu fi dhiisuu akkasumas gaaffii sitti him mijoofne you jiraate deebisuu dhiisuu mirga qaama.

Tasso Qaama qorannoo

Qorannoo kana ilaalchisee gaaffii fi yaada you qabaatte, qaama dime liable teaspoon armaan gadiitin qunnamuu Ni dandeessan. **Qorataa -**Maqaa-Tasfaa Azana Dagafaa
Tasso- Aanaa Ciroo

Bilbila -0923193502; azenetesfa @gmail.com

Tasso" IHRERC"- Yunivarsitii Haramayaa Lakkoofsa poostaa-235, Harar Yunivarsitii

Haramayaa Kolleejjii saayinnsi fayyaa fi meedikaalaa lakoofsa bilbila +251254662011

Unkaa Fedhii qorannoo keessattii qoodafudhachuu Hirmaattootaa

Ani kaayyoo, adeemsa qorannoo, miidhaa fi bu'aa hirmaachuun qabu, dhimma iccitii, mirga hirmaannaa fi teaspoon qorataa fi dhaabbata qorannoo kana hooggannu dubbisse/naïf dubbiffame hubadheen jira. akkasumas yeroon barbaadetti qorannoo keessaa bahuu akkan danda'uu fi gaaffii deebisuu naïf him mijoofne dhiisuu mirga akkan qabu hubadheen jira. Kanaafuu Fedhii qorannoo keessatti hirmaachuu qabaachuu kiyya labsaa akkaataa gadiitti mallattoo kiyyaan mirkaneessaa.

Maqaan Gaafatamaa_____Mallattoo_____ Maqaan Ragaa funaanaa_____Mallattoo_____

Galatoomaa

9.6. Afaan Oromo Version Waraqaa Gaafanoo Odeeffannoon itti Walitti Qabamu/sasaabamu

Lakkofsa Koori gaafannoo---------- Maqaan Arradaa----------

Maqaan Gaafatamaa----------. Guyana Ragaan funaanaa --------/------/----

Saatchi itti eaglet galmeesii_____ _____

Kata I. Ragaa Qorannoo Haala Hawaasummaa Fi Dinagdee Hirmaaattoota

Koori	**Gaaffiilee**	**Deebii**	**Gara gaafii itti aanutti darbaa**
0101	Walitti dhufeenyi daa'ima kanaafi waliin qabdu maali?	1.Haadha 2. Guddiftuu 3.. Kan biroo_____	
0102	Umriin kee meeqa?	Umrii (waggaadhaan) _____	
0103	Saala gudiftu/guise bareness.	1. Duarte 2. Thira	
0104	Umriin daa'ima keetif jira meeqa?	Jiran_____	
0105	Saala Daa'ima maali?	1.dhiiira 2. dahlia	
0106	Amanita kami hordoftan?	1. Muslima 2. Ortodoksi 3. Protestaanti 4. Kaaatolikii 5.kan biraa--------	
0107	Sabni keessan maali?	1. Oromo 2. Amhara 3.Somaalee 4. Kan biraa (haa ibsuuf)	
0108	Yeroo amma maali gavial /bultan keessan Akamai?	1. kophaaa, jalalee kan him qabne 2. kophaaa, jalalee dhaabata hintane waliin	

	Milano dubissiif	3.Kophaa jailable dhaabata waliin 4. kan bultan God hate 5.kan bu'aan dabbed/Dhabi 6.kan wall hiking/addaan bayan	
0109	Hoisin keessan maali?	1. Quote bu'aa 2. Chadha mania 3. Dalagaa 4. Shujaat Guyana 6. Baraita 7. Kan biraa---	
0110	Hali Sadara bariums keessan hood akami?	1. Kan him borane 2. Barresi fi deebisuu 3. Kata 1- 8 4. Kata 9-12 5. Kolleejjii fi Sani old	
0111	Hali Sadara bariums Ababa mania keessan hood akami?	1. Kan him borane 2. Barresi fi deebisuu 3. Kata 1- 8 4. Kata 9-12 5. Kolleejjii fi Sani old	
0112	Hojjin Abbaa warra keessanii maali?	1.Hojjataa mootummaa 2.hojjataa miti mootummaa 3.Daldalaa 4.Hojjataa guyyaa 5. kan biro haa ibsuuf----	
0113	Baay'ini Maatii keessanii waligala meeqa?	baay'ina maatii lakkoofsan kaa'ii------	

Kutaa II. Gaaffiilee Indeeksii Qabeenyaa, (Qabeenya manaa)

	Akaakuu Qabeenya	Deebii	
	Bineensoota mana keessaa		
201 irratti	Sangaa (Qotiyoo)	Eeyyee (1).	Lakki (0).
202 irratti	Sa'a	Eeyyee (1).	Lakki (0).
203 irratti	Jabbii	Eeyyee (1).	Lakki (0).
204 irratti	Lukku	Eeyyee (1).	Lakki (0).
205 irratti	Re'ee	Eeyyee (1).	Lakki (0).
206. 206.	Hoolaa	Eeyyee (1).	Lakki (0).
207 irratti	Farda	Eeyyee (1).	Lakki (0).
208 irratti	Harree	Eeyyee (1).	Lakki (0).
209 irratti	Gaangee	Eeyyee (1).	Lakki (0).
	Qabeenya Yeroo dheeraaf		
210 irratti	Televijiinii	Eeyyee (1).	Lakk (0).
211 irratti	Sa'aatii	Eeyyee (1).	Lakk (0).
212. 212.	Humna ibsaa	Eeyyee (1).	Lakk (0).
213 irratti	Dilaleessaa	Eeyyee (1).	Lakk (0).
214. 214.	Bilbila Mania	Eeyyee (1).	Lakk (0).
215 irratti	Mobayila Harkaa	Eeyyee (1).	Lakk (0).
216. 216.	Konkolaataa	Eeyyee (1).	Lakk (0).
217 irratti	Mootar Saayikilii	Eeyyee (1).	Lakk (0).
218 irratti	Biskileetti	Eeyyee (1).	Lakk (0).
219 irratti	Gaarii	Eeyyee (1).	Lakk (0).

220 irratti	Minjaala	Eeyyee (1).	Lakk (0).
221 irratti	Barcuma	Eeyyee (1).	Lakk (0).
222. irratti	Siree	Eeyyee (1).	Lakk (0).
223 irratti	Qibaaba Ibsaa.	Eeyyee (1).	Lakk (0).
224 irratti	Mana jireenya Ofii	Eeyyee (1).	Lakk (0).
225 irratti	Lafa Qonaa Ofii	Eeyyee (1).	Lakk (0).

26.	Istoovii	Eeyyee (1).	Lakk (0).
	Oomishaa kan qabu qabeenya		
227 irratti	Meeshaa Qonaa (Maarashaa)	Eeyyee (1).	Lakk (0).
228 irratti	Qotoo	Eeyyee (1).	Lakk (0).
229 irratti	Gaagura Kanisa Ammayaa	Eeyyee (1).	Lakk (0).
230 irratti	Gaagura Kanisa Aadaa	Eeyyee (1).	Lakk (0).
231 irratti	Makotkochaa	Eeyyee (1).	Lakk (0).
232. irratti	Akaafaa	Eeyyee (1).	Lakk (0).
233 irratti	Haamtu	Eeyyee (1).	Lakk (0).
232. 232.	Madda Bishaan dhugaatti	tuuboo (1).	Tuboo hin taane (0).
235 irratti	Lafti Mana jireenyaa kee	Simintoo/muka (1).	Dachee (0).
236.irratti	Dhaabni Mana jireenyaa	Simintoo (1).	Dhoqqee (0).
237 irratti	Fuldurii fi gubaan mania	Konkiriitii (1).	Sibiila waraqaa (0).
238.irratti	Gosa Mana fincaanii	Ventilated fooyya'eera boolla mana fincaanii (1).	Boolla aadaa mana fincaanii (0).

Kata II: Gaaffiiwwan indeeksii qabeenya mate amma jiru madaaluuf (Haala Diinagdee).

S. N	Gosa qabeenya	Deebii		Yaada
	Beeylada mania			
0201	Loon (Qotiyoo).	Eeyyee.....1	Lakk.....2	
0202	Hoolaa	Eeyyee.....1	Lakk.....2	
0203	Re'ee	Eeyyee.....1	Lakk.....2	
0204	Lukku	Eeyyee.....1	Lakk.....2	
0205	Farda/harree/galee	Eeyyee.....1	Lakk.....2	
	Qabeenya yeroo dheeraaf turu			
0206	Raadiyoo/Television	Eeyyee.....1	Lakk.....2	
0207	Sa'aatii/sa'aatii	Eeyyee.....1	Lakk.....2	
0208	Mobaayila	Eeyyee.....1	Lakk.....2	
0209	Solar	Eeyyee.....1	Lakk.....2	
0210	Minjaala (Xarabeezaa)	Eeyyee.....1	Lakk.....2	
0211	Barcuma (kursii, teessoo)	Eeyyee.....1	Lakk.....2	
0212	Siree	Eeyyee.....1	Lakk.....2	
0213	Mana jireenyaa ofii	Eeyyee.....1	Lakk.....2	
0214	Lafa qonnaa ofii	Eeyyee.....1	Lakk.....2	_hektaara
0215	Galii mataa keetii qabdaa?	Eeyyee.....1	Lakk.....2	_Birrii dhaan ibsaa_____
0216	Gaagura Kanisaa	Eeyyee.....1	Lakk.....2	
	Amaloota mana jireenyaa			
0217	Madda bishaanii kami fayyadamtu	Ujummoo..... 1.	Tuboo him taane 2	

0218	Mani keessatti jiraatu lafatti isaa maali?	Simintoo/muka.1	Lafa/Biyyee...2	Kanneen biroo (ibsi).
0219	Girgidaa/Gidaarii/Gooda mana Jireenya keetti maal irraa hojatamee?	Simintoo... 1	Dhoqqee.....2	Kanneen biroo (ibsi).

Kata III. Gaafanoo haala buxuucha fi haala soorata daa'imaa guddiftoota

Koori	**Gaafillee**	**Deebii**	**Gara gaafi itti aanuti dabrii**
0301	Torbaan lamina darbee keessatti daa'ima keesan yeroo meeqa buxuuuchan (Deemsisaan) qabe? Kalatii garsiisi: buxuchaa yeroo sadii ykn sanaa oll ykn buxuuchaa yaasu guyaatti?	**_____(yeroo)**	
0302	Daa'ima keesan buxuuuchan erga qabee guyyaa meeqaa? Kallatii garsiisi: guyyaa sirrii galmeesi; Torbee lammaa ol you taée gear mana itti aanutti darbii	**_____days**	
0303	Buxuuchaan gosa kami ture?	1.Buxuchaa guyyaatti yerro sadii fi sana ol turee fi Dhiga kan him qabne. 2.Buxuchaa bishaani kan utaalu, kan yeroo kolleran arrada keessatti jiru. fakkaatu 3.Dhiiga buxuchan wal makee	Deebiisaa tokko ol irratti marsuu dandeesu

		4.Buxuchaa guyyaa 14 caalu 5.Dhangala'aa qaama keessaa dhume kamu hanqina nyaatan walqabate 6.Buxuucha qoriicha fudhachun dhufe 7.Dhiiga fi furii buxuchaan wal make, afufa garaa, ittoo garaa, 8. kan biro you jiraatee ibsii	
0304	Daa'ima buxuchaaan qabee guyyaa meeqa booda yaala duraa argate/tte?	1._____guyaa 2.hin yaadadhu 3. him yaalamnee	
0305	Yaalii /walaansa eessatti argatan? Kalatii garsiisi: baka fedhe yaa taú, maqaa dhaabatichaa /dido itti argamu barreessi	(Maqaa dhaabata/did) _____	
0306	Buxuuchaa daa'imaa half maal kenineef? *maallooYoo qorichi mana jiraate mee natti garsiisi, Milano him dubissin, *Deebii Keenan hunda irra marii	1.Homaa 2.ORS 3.zink fi ORS wal iraatti 4.Zink 5.Dhangala'a manatti qopha'u 6.shiroopii 7.Qoricha lilmeen kennamu	Deebiisaa tokko ol irratti marsuu dandeesu

		8. qorichaa hidda dhiigan kenamu 9.Qoricha Aadaa 10.kan biro you jiraate ibsii_____	
0307	Yeroo Daa'ima kee buxuchaan qabeetti maali soorata isaa akkami? kan duraanitti gadii, haanguma durraaanii, kan durii ol moo gonkumaa him nyaatu/ttu ture? Deebi iirra marii	1.bayee Sanaa gadii 2.xinoo sana gadii 3.haanguuma durii 4.kan duraani caalaa 5.nyaata dhaabe/dhabdee 6.gonkumaa him kenineef 7.hin beeku	
0308	Hanga dhangalaá'a daa'imni fudhatee. Haarma haadhaa dabalatee akkami? Dhangala'aa haangam fudhaachaa ture/turte osoo buxuchaan him qabiin waaliin walbira qabde yoomu ilaaltu?	1.bayee Sanaa gadii 2.xinoo sanagadii 3.hanguma durii 4.kan duraani caalaa 5.nyaata gutumatti dhaabe/dhaabde 6.gonkumaa hinkenineef 7.hinbeeku	
0309	Yeroo buxuchaan qabeeti nyaata fi dhugaati dhorkitee jirtaa/	1. Eye 2.Laki	

Kata IV. Gaafannoo Haala itti fayyadama zinkii guddiftoota daa'imaa

Koori	**Gaaffiilee**	**Filannoo deebii keessani guutaa ykn irratti maraa**	**Gara gaafii itti Aanutti darbaa**
0401	Odeefanoo Waa'ee zinkii dhageessani beektu?	1. Eyyeen 2. Lakki	Yoo deebisaan "lakkii" tahee gear gaafii 0403 tti darbaa
0402	Waa'ee zinkii Eessaa Dhageessan?	1.Raadiyoonii/ TV 2.HEF ,3. Ogeessa fayyaa, 4. Hiriyaa, 5. Ollaa, 6. Kan biroo	Deebiisaa tokko ol irratti marsuu dandeesu
0403	Kanaan dura kinnina ziinkii fayadamtanii beektu?	1. Eyyeen 2. Lakki	
0404	Daa'ima keessan yeroo deemsisaan qabu zinkii kennitaniifi jirtuu?	1. Eyyeen 2. Lakki	
0405	Deebiin 0403 you lakki taée sababbni isaa maali?	1.Bakka kiniin zinkii itti argamu waan him beekneef. 2.Dhaabbata fayyaa irraa waan him ajajamneef. 3.akkaataa kenninsa kiniina zinkii waan him beekneef 4.qaalii ta'u isaatiif.5.kan biroo ibsi__	
0406	Zinkii Eessaa argattan?	Barreessii_____	
0407	Bulbula ORS (Sogida Ingiliz) kiniina zinkii waliin kenniteefi jirtaa?	1. Eyyeen 2. Lakki	

0408	Kinina zinkii maalin bulbultanii daa'imaaf kenning?	. bishaanin 2.ORS dhaan, 3. harma haadha, 4.kan biroo	
0409	Daa'ima dhukkubsateef kinina zinkii osoo add him muriin guyyaa meeqaf keeniteef?	Guyyaadhan_____	
0410	Yoo deebiin "0409" guyyaa 10 gad ta'e Maalif kinina zinkii daa'imaaf ajajamu guutumatti him xumursiifne?	1.dhandhamni kininaa gaarii waan him taaneef 2.daa'imni hayaa jedhee waan him liqimsineef ,3. waan daa'ima hooqqisiisuuf 4.deemsisaan waan irraa dhaabbateef 5.hin beeku	
0411	Daa'imni kinina zinkii fudhachuu ergaa eegalee guyyaa meeqaffarratti deemsisaan irraa dhaabbate?	Guyana_____	

Kata V: Haala Qulqullina Naannoo fi Dhunfaa

LAKKI	GAAFFII	Deebii (Deebisaa lakkofsa Koori irratti marii)	Koori
0501	Mana fincaanii ni qabdu?	. Eeyyee	1
		. Lakki	2
0502	Miseensonni mate yeroo baayyee mana fincaanii Akamai fayyadamu?	Flush sarara bishaan boolla bulchiinsa magaalaa waliin walqabate	1
		Flush septic tank waliin walqabate	2
		Mana fincaanii boollaa fooyya'aa qilleensa qabu	3

		Mana fincaanii boollaa konkiriitii irraa hojjetame	4
		Mana fincaanii waliinii	5
0503	Balfa jajjaboo mana keessaa akkamitti maqsitu (darbitu)?	Boolla – boolla dhuunfaan qophaa'e keessatti	1
		Boolla balfaa bulchiinsa magaalaatiin walitti qabame keessatti	2
		Daandii/akka banaa irratti kan gatame/darbu	3
		Gubuu	4
		Qaruuraa (meeshaa) balfaaf qophaa'ee kessatti	5
		Dhaabbata dhuunfaatiin kan walitti qabame	6
0504	Balfa dhangala'aa mana keessanii eessatti gatan?	Boolla bishaan xuraa'aa/mana fincaanii keessatti	1
		Boolla seepage keessatti	2
		Bakka kamiyyuu akka banaa keessatti	3
0505	Maddi bishaan dhugaatii keessanii maali?	Tuboo (bombaa)	1
		burqaa dallaa eegumsa qabu	2
		burqaa dallaa eegumsa him qabne	3
0506	Fageenya dido bishaanii irraa hanga manaatti jiru	Daqiiqaa_____ ykn Meetira_____	
0507	Mana fincaanii cinatti bakki harka dhiqannaa jiraa?	Eeyyee	1
		Lakki	2
0508		Mana fincaanii keessatti	1

	Balfa/Sagaraa daa'immanii wage shanti gadii eessatti gattaan/darbitu?	Bakka hundatti ykn dirree gubbatti	2
		Biyyee itti uuwisu ykn haguguu	3

Xumuramee jira!!!

Deebii nuuf kennuu keessaniif Baayee **Galatoomaa**!!

Sa'aatii gaaffii fi deebiin Itti Xumuramee Barreessii _____

9.7. Information Sheet and Informed Consent Form of Caregiver of Participants with Age of ≥ 18 years (Amharic Version)

ደህና አደራችሁ/ ዋላቹ

ስሜ አቶ/ ወ/ሮ_____ ይባላል ፣ በመረጃ ሰብሳቢነት እየሠራሁ ያለሁት በአቶ ተስፋ አዘነ በሐሮማያ ዩኒቨርሲቲ፣ በጤናና ሕክምና ሳይንስ ኮሌጅ ሁለተኛ ዲግሪያቸውን በመከታተል ላይ ስላሉት ነው። ስለ ጥናቱ እርስዎን ለማስረዳት እና ልጅዎን የጥናቱ ተሳታፊ አድርጎ ለመምረጥ ትኩረትዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ። የጥናቱ/የፕሮጀክቱ ርዕስ፡-

የዚንክ አጠቃቀምን እና ተያያዥ ምክንያቶችን ከአምስት አመት በታች ህጻናት ተቅማጥ ላለባቸው ተንከባካቢዎች በምስራቅ ኢትዮጵያ ምዕራብ ሀረርጌ በጭሮ ከተማ ከ 11/12/2016 እስከ 30/2016 ለመገምገም የጥናቱ ዓላማ፡

ጥናቱ በምስራቅ ኢትዮጵያ ምዕራብ ሐረርጌ በጭሮ ከተማ ከአምስት ዓመት በታች ተቅማጥ የተያዙ ሕፃናትን የዚንክ አጠቃቀም ደረጃ እና ተያያዥ ጉዳዮችን ለመለየት ይጠበቃል። ይህም የከተማው ጤና ጥበቃ ጽ/ቤት በከተማው ውስጥ በተለያዩ እርከኖች የሚደረጉ ጣልቃገብነቶችን ለመምራት የሚያስችል አዋጭ የፕሮግራም አማራጭ ለመንደፍ ይረዳል። በተጨማሪም ከተማዋ የዚንክ አጠቃቀምን በመጨመር ከአምስት አመት በታች ተቅማጥ ያለውን ጫና ለመቀነስ ይረዳል። በተጨማሪም ተቋሙ የጤና መከንን እና በተለያዩ ደረጃዎች ያሉ የጤና ባለሙያዎች እንዲገነዘቡ እና እንዲያሰገነዘቡ ያግዛል።ከዚንክ አጠቃቀም ጋር የተዛመዱ ምክንያቶችን ፅንሰ-ሀሳብ። በዚህ ጥናት ላይ ተጨማሪ ዓላማ ለዋና መርማሪው በአጠቃላይ የህዝብ ጤና ማስተር መርሃ ግብር ለማሟላት ከፊል መስፈርት ይሆናል:

ሂደት እና ቆይታ፡-የተሟላ እርዳታ ያለው ጠቃሚ መረጃ ለእኔ ለመስጠት መጠይቁን በመጠቀም ቃለ መጠይቅ አደርግልዎታለሁ።ለጥናቱ. እርስዎን በመጠየቅ መጠይቁን የምሞላበት 37 ጥያቄዎች መልስ ያገኛሉ። ቃለ-መጠይቁ ከ30-35 ደቂቃ ይወስዳል፣ስለዚህ በዚህ ጊዜ እንድትቆጥቡልኝ በአክብሮት እጠይቃለሁ።

አደጋ እና ጥቅም፣ በዚህ ጥናት ውስጥ የመሳተፍ አደጋ በጣም ትንሽ ነው ነገር ግን ጥቂት ደቂቃዎችን ብቻ ይወስዳል፡፡ የእርስዎ ጊዜ. በዚህ ጥናት ውስጥ ለመሳተፍ ምንም አይነት ቀጥተኛ ክፍያ አይኖርም። ግን ግኝቶቹ ከዚህ ጥናት ለአካባቢው የጤና እቅድ አውጪዎች ጠቃሚ መረጃን ሊያሳይ ይችላል። ሚስጥራዊነት የምታቀርቡልን መረጃ ሚስጥራዊ ይሆናል። የሚያመጣው መረጃ አይኖርምበተለይ እርስዎን መለየት. የጥናቱ ግኝቶች ለጥናቱ ማህበረሰብ አጠቃላይ እና የግለሰቦችን ወይም የመኖሪያ ቤቶችን ማንኛውንም

ነገር አያንፀባርቅም። መጠይቁ ስሞችን ለማግለል ኮድ የተደረገ ይሆናል ። የቃል ወይም የጽሁፍ ዘገባዎች ላይ ምንም ማጣቀሻ አይደረግም። መብቶችየዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ነው. ለመሳተፍም ሆነ ላለመሳተፍ የመግለጽ መብት አልዎትበዚህ ጥናት ውስጥ. ላለመሳተፍ ከወሰኑ, በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አለዎት፡፡ ጊዜ እና ይህ እርስዎ ያለዎት ማንኛውም የጥቅማጥቅም ማጣት ምልክት አይቀረቦትም፡፡ መመለስ የማትፈልገውን ማንኛውንም ጥያቄ መመለስ የለብህም። የእውቂያ አድራሻ

በጥናቱ ላይ በማንኛውም ጊዜ ጥያቄዎች ወይም ስጋቶች ካሉ የሚመለከታቸውን አካላት በሚከተለው አድራሻ፡- የሞባይል ስልክ ቁጥር 0923193502 azenetesfa@gmail.com እና የጤና ጥናትና ምርምር ስነምግባር ገምጋሚ ኮሚቴ (ኢሰመእር) በቢሮ ስልክ +251254662011 ወይም ፒ.ኦ. ሣጥን 235፣ ሀራሬ) ። በመረጃ የተደገፈ የፈቃደኝነት ስምምነት መግለጫ

የተሳታፊውን የመረጃ ወረቀት አንብበውልኛል/አንብበውልኛል። የጥናት ሂደቶች አላማዎች፣ በጥናቱ ውስጥ የመሳተፍ ስጋቶች እና ጥቅሞች፣ የምስጢርነት ጉዳይ፣ የመብቶች እና የጥያቄዎች አድራሻ መሆናቸውን ተረድቻለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። በግጽ እዳሳወኩኝ መሆኑን ፣ በማንኛውም ጊዜ ከጥናቱ የመውጣት ወይም የማልፈልገውን ማንኛውንም ጥያቄ ሳይነካኝ መልስ የመስጠት መብት አለኝ። ስለዚህ ከዚህ በታች በተገለፀው መሰረት ፊርማዬን በመያዝ በዚህ ጥናት ለመሳተፍ በፈቃደኝነት መስማማቴን አውጃለሁ።

የተንከባካቢው ፊርማ _____; _____

የመረጃ ሰብሳቢው ስም እና ፊርማ_____; _____

9.8. Information Sheet and Informed Consent Form of Caregiver of participants with Age of <18years (Amharic Version)

ደህና አደራችሁ/ ዋላቹ

ስሜ አቶ/ ወ/ሮ_____ ይባላል ፣ በመረጃ ሰብሳቢነት እየሠራሁ ያለሁት በአቶ ተስፋ አዘነ በሐሮማያ ዩኒቨርሲቲ፣ በጤናና ሕክምና ሳይንስ ኮሌጅ ሁለተኛ ዲግሪያቸውን በመከታተል ላይ ስላሉት ነው። ስለ ጥናቱ እርስዎን ለማስረዳት እና ልጅዎን የጥናቱ ተሳታፊ አድርጎ ለመምረጥ ትኩረትዎን እንዲሰጡኝ በአክብሮት እጠይቃለሁ። የጥናቱ/የፕሮጀክቱ ርዕስ፡-

የዚንክ አጠቃቀምን እና ተያያዥ ምክንያቶችን ከአምስት አመት በታች ህጻናት ተቅማጥ ላለባቸው ተንከባካቢዎች በምስራቅ ኢትዮጵያ ምዕራብ ሀረርጌ በጭሮ ከተማ ከግንቦት 11 እስከ 30/2024 ለመገምገም የጥናቱ ዓላማ፡

ጥናቱ በምስራቅ ኢትዮጵያ ምዕራብ ሐረርጌ በጭሮ ከተማ ከአምስት ዓመት በታች ተቅማጥ የተያዙ ሕፃናትን የዚንክ አጠቃቀም ደረጃ እና ተያያዥ ጉዳዮችን ለመለየት ይጠበቃል። ይህም የከተማው ጤና ጥበቃ ጽ/ቤት በከተማው ውስጥ በተለያዩ እርከኖች የሚደረጉ ጣልቃገብነቶችን ለመምራት የሚያስችል አዋጭ የፕሮግራም አማራጭ ለመንደፍ ይረዳል። በተጨማሪም ከተማዋ የዚንክ አጠቃቀምን በመጨመር ከአምስት አመት በታች ተቅማጥ ያለውን ጫና ለመቀነስ ይረዳል። በተጨማሪም ተቋሙ የጤና መኮንን እና በተለያዩ ደረጃዎች ያሉ የጤና ባለሙያዎች እንዲገነዘቡ እና እንዲያሰገነዘቡ ያግዛል።ከዚንክ አጠቃቀም ጋር የተዛመዱ ምክንያቶችን ፅንሰ-ሀሳብ። በዚህ ጥናት ላይ ተጨማሪ ዓላማ ለዋና መርማሪው በአጠቃላይ የህዝብ ጤና ማስተር መርሃ ግብር ለማሟላት ከፊል መስፈርት ይሆናል:

ሂደት እና ቆይታ፡-የተሟላ እርዳታ ያለው ጠቃሚ መረጃ ለእኔ ለመስጠት መጠይቁን በመጠቀም ቃለ መጠይቅ አደርግልዎታለሁ።ለጥናቱ. እርስዎን በመጠየቅ መጠይቁን የምሞላበት 37 ጥያቄዎች መልስ ያገኛሉ። ቃለ-መጠይቁ ከ30-35 ደቂቃ ይወስዳል፣ስለዚህ በዚህ ጊዜ እንድትቆጥቡልኝ በአክብሮት እጠይቃለሁ። አደጋ እና ጥቅም፣ በዚህ ጥናት ውስጥ የመሳተፍ አደጋ በጣም ትንሽ ነው ነገር ግን ጥቂት ደቂቃዎችን ብቻ ይወስዳል፡፡ የእርስዎ ጊዜ. በዚህ ጥናት ውስጥ ለመሳተፍ ምንም አይነት ቀጥተኛ ክፍያ አይኖርም። ግን ግኝቶቹ ከዚህ ጥናት ለአካባቢው የጤና እቅድ አውጪዎች ጠቃሚ መረጃን ሊያሳይ ይችላል። ሚስጥራዊነት የምታቀርቡልን መረጃ ሚስጥራዊ ይሆናል። የሚያመጣው መረጃ አይኖርምበተለይ እርስዎን መለየት. የጥናቱ ግኝቶች ለጥናቱ ማህበረሰብ አጠቃላይ እና የግለሰቦችን ወይም የመኖሪያ ቤቶችን ማንኛውንም

ነገር አያንፀባርቅም። መጠይቁ ስሞችን ለማግለል ኮድ የተደረገ ይሆናል ። የቃል ወይም የጽሁፍ ዘገባዎች ላይ ምንም ማጣቀሻ አይደረግም። መብቶችየዚህ ጥናት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ነው. ለመሳተፍም ሆነ ላለመሳተፍ የመግለጽ መብት አልዎትበዚህ ጥናት ውስጥ. ላለመሳተፍ ከወሰኑ, በማንኛውም ጊዜ ከጥናቱ የመውጣት መብት አለዎት፡፡ ጊዜ እና ይህ እርስዎ ያለዎት ማንኛውም የጥቅማጥቅም ማጣት ምልክት አይቀረቦትም፡፡ መመለስ የማትፈልገውን ማንኛውንም ጥያቄ መመለስ የለብህም። የእውቂያ አድራሻ

በጥናቱ ላይ በማንኛውም ጊዜ ጥያቄዎች ወይም ስጋቶች ካሉ የሚመለከታቸውን አካላት በሚከተለው አድራሻ፡- የሞባይል ስልክ ቁጥር 0923193502 azenetesfa@gmail.com እና የጤና ጥናትና ምርምር ስነምግባር ገምጋሚ ኮሚቴ (ኢሰመአር) በቢሮ ስልክ +251254662011 ወይም ፒ.ኦ. ሣጥን 235፣ ሀራሬ) ። በመረጃ የተደገፈ የፈቃደኝነት ስምምነት መግለጫ

የተሳታፊውን የመረጃ ወረቀት አንብበውልኛል/አንብበውልኛል። የጥናት ሂደቶች አላማዎች፣ በጥናቱ ውስጥ የመሳተፍ ስጋቶች እና ጥቅሞች፣ የምስጢርነት ጉዳይ፣ የመብቶች እና የጥያቄዎች አድራሻ መሆናቸውን ተረድቻለሁ። ግልጽ ባልሆኑ ጉዳዮች ላይ ጥያቄዎችን እንድጠይቅ እድል ተሰጥቶኛል። በግጽ እዳሳወኩኝ መሆኑን ፣ በማንኛውም ጊዜ ከጥናቱ የመውጣት ወይም የማልፈልገውን ማንኛውንም ጥያቄ ሳይነካኝ መልስ የመስጠት መብት አለኝ። ስለዚህ ከዚህ በታች በተገለፀው መሰረት ፊርማዬን በመያዝ በዚህ ጥናት ለመሳተፍ በፈቃደኝነት መስማማቴን አውጃለሁ።

የተንከባካቢው ፊርማ _____; _____ የመረጃ ሰብሳቢው ስም እና ፊርማ_____; _____

9.9. Amharic Version Data Collection Instrument

መጠይቆች መታወቂያ ቁጥር: _____ የቀበሌው ስም_____ የጠያቂው ስም _____መረጃ የሚሰበሰብበት ቀን____/____/____ የጀመርከበትን ጊዜ ይመዝግቡ _____ _____

ክፍል **I. ለተንከባካቢ ማህበራዊ-ስነ-ሕዝብ ባህሪያት መጠይቅ**

ኮድ	ተለዋዋጮች/ጥያቄዎች	ምላሽ	ዝለል
0101	ከልጁ ጋር ያለዎት ግንኙነት ምንድነው?	1.እናት 2. ተንከባካቢ, 3. ሌላ ይግለጹ_____	
0102	ዕድሜ ስንት ነው? መፈተሽ፡ ባለያለፈው ያከበረከው ልደትህ ስንተኛ አምትህ ነበረ?	ዕድሜ (በተጠናቀቁ ዓመት) __ __	
0103	የእንክብካቤ ሰጪው ጾታ ምንድን ነው?	1.ሴት 2. ወንድ	
0104	(ስም) ዕድሜው ስንት ነው? መፈተሽ: በባለፈው ልደቶአ እሱ / እሷ (ስም) ስንት አመት ነበር?	ዕድሜ (በወር) __ __	
0105	የ(ስም) ጾታ ምንድን ነው?	1. ወንድ 2. ሴት	

0106	ሃይማኖትህ ምንድን ነው?	1. ሙስሊም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ካቶሊክ ,5. ሌላ (ይግለጹ)_____	
0107	ዘርህ ምንድን ነው?	1.ኦሮሞ, 2. አማራ 3. ጉራጌ, 4. ሌሎች	
0108	አሁን ያለህበት የትዳር ሁኔታ ምን ይመስላል? የምላሽ አማራጮችን ያንብቡ	1. ነጠላ ፣ አጋር የለም 2. ነጠላ, መደበኛ ያልሆነ አጋር 3.ነጠላ ከመደበኛ አጋር ጋር 4.አገባ 5.የሞተባት 6.የተፋቱ/የተለያዩ	
0109	ሥራህ ምንድን ነው?	1. ገበሬ 2. የቤት አመቤት 3. ነጋዴ 4. የቀን ሰራተኛ 5. ተማሪ 6. ሌላ(ይግለጹ)____	
0110	የትምህርት ደረጃህ ስንት ነው?	1. ማንበብ እና መጻፍ አለመቻል 2. ማንበብ እና መጻፍ የሚችል 3. የመጀመሪያ ደረጃ ትምህርት ቤት (1-8) 4. ሁለተኛ ደረጃ ትምህርት ቤት (9-12) 5.የኮላጅ ደረጃ እና ከዚያ በላይ	

0111	የአባት የትምህርት ደረጃ?	1. ማንበብ እና መጻፍ አለመቻል 2. ማንበብ እና መጻፍ የሚችል 3. የመጀመሪያ ደረጃ ትምህርት ቤት (1-8) 4. ሁለተኛ ደረጃ ትምህርት ቤት (9-12) 5.የኮላጅ ደረጃ እና ከዚያ በላይ	
0112	የባልሽ ስራ ምንድነው?	1. የመንግስት ሰራተኛ 2. የግል ሰራተኛ 3. ነጋዴ 4. የቀን ሰራተኛ 5. ሌላ (ይግለጹ)	
0113	በቤትዎ ውስጥ ያሉ ልጆች ቁጥር ስንት ነው?	_____(አይ.)	

ክፍል II: የሀብት መ ረጃ ጠ ቋሚ መ ጠ ይቆች፣ የቤት ውስጥ ንብረቶች (ንብረት)

	የንብረት ዓይነት	**ምላሽ**	
	የሀገር ውስጥ እንስሳት		
201	ከብቶች (በሬ,)	አዎ (1)	አይ (0)
202	ላም	አዎ (1)	አይ (0)
203	ጥጃ	አዎ (1)	አይ (0)
204	ዶሮ	አዎ (1)	አይ (0)
205	ፍየል	አዎ (1)	አይ (0)
206	በግ	አዎ (1)	አይ (0)

207	ፈረስ	አዎ (1)	አይ (0)
208	አህያ	አዎ (1)	አይ (0)
209	በቅሎ	አዎ (1)	አይ (0)
	ዘላቂ ንብረት		
210	ቴሌቪዥን	አዎ (1)	ቁጥር (0)
211	ሰዓት	አዎ (1)	ቁጥር (0)
212	ኤሌክትሪክ	አዎ (1)	ቁጥር (0)
213	ማቀዝቀዣ/ፍሪጅ	አዎ (1)	ቁጥር (0)
214	ተንቀሳቃሽ ያልሆነ ስልክ	አዎ (1)	ቁጥር (0)
215	ሞባይል ስልክ	አዎ (1)	ቁጥር (0)
216	መኪና	አዎ (1)	ቁጥር (0)
217	ሞተርሳይክል	አዎ (1)	ቁጥር (0)
218	ሳይክል	አዎ (1)	ቁጥር (0)
219	ጋሪ	አዎ (1)	ቁጥር (0)
220	ጠረጴዛ	አዎ (1)	ቁጥር (0)
221	ወንበር	አዎ (1)	ቁጥር (0)
222	አልጋ	አዎ (1)	ቁጥር (0)
223	ኤሌክትሪክ " ምታድ "	አዎ (1)	ቁጥር (0)
224	የግል መኖር ቤት	አዎ (1)	ቁጥር (0)
225	የግል የእረሻ መሬት	አዎ (1)	ቁጥር (0)

226	ምድጃ/እስቶቭ	አዎ (1)	ቁጥር (0)
	ምርታማ ንብረት		
227	ማረሻ	አዎ (1)	ቁጥር (0)
228	መረተብያ	አዎ (1)	ቁጥር (0)
229	ዘመናዊ የንብ ቀፎ	አዎ (1)	ቁጥር (0)
230	ባህላዊ የንብ ቀፎ	አዎ (1)	ቁጥር (0)
231	መኮትኮቻ	አዎ (1)	ቁጥር (0)
232	አካፋ	አዎ (1)	ቁጥር (0)
233	ማጭድ	አዎ (1)	ቁጥር (0)
232	የውሃ ምንጭ	ቧንቧ (1)	ቧንቧ ያልሆነ (0)
235	የቤት ወለል	ሲሚንቶ/እንጨት (1)	ምድር (0)
236	የግድግዳ አይነት	ሲሚንቶ (1)	ጭቃ (0)
237	የ ጣሪያ ዓይነት	ኮንክሪት (1)	ብረት ሉህ (0)
238	ሽንት ቤት መገልገያ	ማናፈሻ ተሻሽሏል ።ጉድጓድ ሽንት ቤት (1)	ባህላዊ ጉድጓድመጸዳጃ ቤት (0)

ክፍል III. ስለ ልጅ ተቅማጥ እና አመጋገብ ለተንከባካቢ የሚቀረብ መጠይቅ

ኮድ	**ተለዋዋጭ / ጥያቄ**	**ምላሽ**	**ዝለል**
0301	የተቅማጥ ወይም የሰገራ ድግግሞሽ በቀን	_____ (ጊዜ)	
0302			

	ተቅማጡ የቆየበት ጊዜ (በቀን)	_____ ቀናት	
0303	ምን ዓይነት የተቅማጥ ዓይነቶች ተረድተዋል?	1.ውሃማ 2. ዝልግልግ 3. ደም የቀላቀለ 4.የላላ (ቀጠን ያለ 7. ሌላ፣ ይግለጹ …….	
0304	ተቅማጥ ከጀመረ ህክምና ለስንት ተደረገሎት?	1._____ ቀናት 2. አያውቁም 3. ምንም ሕክምና አላገኘም	
0305	ከየት ነው ምክር ያገኙት? ምርመራ: ሌላ ቦታ? የተቋሙን/ቦታውን ስም ይፃፉ ። _____ (የቦታ ስም)	_____ (የተቋሙ/ቦታ ስም)	
0306	ተቅማጥን ለማከም ለ(NAME) ምን ተሰጠ? ሊሆኑ የሚችሉ ምላሾችን አያነብቡ ሁሉም የተጠቀሱትን ለሌላ ማንኛውም ነገር መርምር።	1.ምንም 2. ORS 3.Zink እና ORS የጋራ ጥቅል 4.ዚንክ 5. በቤት ውስጥ የተሰራ ፈሳሽ (ወይም ፈሳሽ)	

		6. ከኒን ወይም ሽሮፕ 7. መርፌ 8.(iv) በደም ሥር 9.ከዕፅዋት የተቀመሙ መድኃኒቶች 10. ሌላ (ይግለጹ)	
0307	(ስም) ተቅማጥ በነበረበት ወቅት፣ እሱ/ሷ ለመብላት ከወትሮው ያነሰ፣ ተመሳሳይ መጠን ያለው፣ ከወትሮው የበለጠ ወይም ምንም የሚበላ ነገር አልነበረም?	1. በጣም ያነሰ 2. በመጠኑ ያነሰ 3.ስለ ተመሳሳይ 4.ተጨማሪ 5. የቆመ ምግብ 6. ምግብ አልሰጠም 7. አያውቅም	
0308	በተቅማጥ ጊዜ (የጡት ወተትን ጨምሮ) (ስም) ምን ያህል ይወስዱ ነበረ ተቅማጥ ከመጀመሩ በፊት ጋረ ሲወዳደረ?	1. ተጨማሪ 2. እንደተለመደው ተመሳሳይ 3. በመጠኑ ያነሰ 4. በጣም ያነሰ 5.ለመመገብ ማስታወሻ 6.አላውቅም/አላውቅም።	
0309	በተቅማጥ ጊዜ ምግብ እና መጠጥ እየከለከሉ ነው?	1.አዎ 2.አይ	

ክፍል IV. ስለ ዚንክ ታብሌት አጠቃቀም ለተንከባካቢ መጠይቅ

ኮድ	ተለዋዋጮች/ጥያቄ	ምላሽ	ዝለል
0401	ስለ ዚንክ ሰምተህ ታውቃለህ?	1. አዎ 2. አይደለም	
0402	ስለ ዚንክ የት ሰማህ?	1.ራዲዮ/ ቴሌቪዥን 2.HEW 3. የጤና እንክብካቤ አቅራቢ 4. ጓደኛ 5. ጎረቤቶች 6. ሌላ ይግለጹ	
0403	የዚንክ ታብሌት ተጠቅመህ ታውቃለህ?	1. አዎ 2. አይ 3. አያውቁም	
0404	ተቅማጥ ከጀመረበት ጊዜ ጀምሮ ለልጅዎ የዚንክ ምርት ሰጥተሃል?	1. አዎ 2. አይደለም	
0405	ሲመልሱ"0403" አይደለም፣ ለምን ዚንክ አትሰጥም?	1. የት እደሚገኝ አላወቀም 2.በጤና ባለሙያ አልታዘዘም 3. እንዴት እንደሚሰት አላውቅም 4. ውድ ስለሆነ 5. ሌላ፣ ይግለጹ_____	
0406	የዚንክ ምርቱን ከየት አገኙት?	_____ ይዘርዝሩ	
0407	ለልጅዎ ORS ከዚንክ ምርት ጋር ይሰጣሉ?	1. አዎ 2. አይደለም	

0408	የዚንክ ታብሌት እንዴት ይቀላቀላሉ?	1. በውሃ በጥብጠው 2. በ ORSበጥብጠው 3. ከጡት ወተት ጋር ይደባለቁ 4. ሌሎች	
0409	ለምን ያህል ጊዜ ዚንክን ለተቅማጥ ልጅ ያለምንም ማቋረጥ ይሰጣሉ	----- ቀናት	
0410	ከ10 ቀናት ባነሰ ጊዜ ውስጥ "0407" ብለው ሲመልሱ ለልጅዎ በቤት ውስጥ ሙሉ የዚንክ መጠን ያልሰጡበት ምክንያት ምንድን ነው?	1. ደስ የማይል ጣዕም 2. ልጁ እንዳይወስድ 3. ማስመለስ 4. ተቅማጥ ቆመ 5. አላውቅም	
0411	ተንከባካቢው ለልጆቻቸው ዚንክ ከተጠቀመ በኋላ ተቅማጥ የቆመው መቼ ነው?	---------- ቀናት	

ክፍል V፡ የአካባቢ እና ንፅህና ሁኔታ

አይ	ጥያቄዎች	ምላሽ	ኮድ
0501	መጸዳጃ ቤትዎ ውስጥ ይገኛል?	አዎ	1
		አይ	2
0502	የቤተሰብ አባላት አብዛኛውን ጊዜ የሚጠቀሙት ምን ዓይነት መጸዳጃ ቤት ነው?	ከማዘጋጃ ቤት ፍሳሽ መስመር ጋር የተገናኘ ፍሳሽ	1
		የፍሳሽ ማስወገጃ ከሴፕቲክ ማጠራቀሚያ ጋር ተገናኝቷል	2
		አየር የተሞላ የተሻሻለ ጉድጓድ መጸዳጃ ቤት	3
		ከኮንክሪት ንጣፍ የተሰራ የጢት መጸዳጃ ቤት	4

		የጋራ መጸዳጃ ቤት	5
0503	የቤት ውስጥ ቆሻሻዎችን እንዴት ማስወገድ እንደሚቻል?	በግል በተዘጋጀ ጉድጓድ ውስጥ - ጉድጓድ	1
		በማዘጋጃ ቤት በተሰበሰበ ቆሻሻ ጉድጓድ ውስጥ	2
		በመንገድ/ክፍት ቦታ ላይ ተጥሏል።	3
		ማቃጠል	4
		ቆሻሻ መጣያ	5
		በግል ተቋም የተሰበሰበ	6
0504	የቤትዎን ፈሳሽ ቆሻሻ የት ነው የሚያወጡት?	በሴፕቲክ ማጠራቀሚያ / የመጸዳጃ ጉድጓድ ውስጥ	1
		በተንጣለለው ጉድጓድ ውስጥ	2
		ክፍት ቦታ ላይ በማንኛውም ቦታ	3
0505	ለመጠጥ የሚሆን የውሃ ምንጭዎ ምንድነው?	ቧንቧ	1
		የተጠበቀ ግድግዳ ጸደይ	2
		ያልተጠበቀ ግድግዳ ምንጭ	3
0506	የውሃ ምንጭ ከቤት ያለው ርቀት	……. ደቂቃዎች / ሜትር	
0507	ከመጸዳጃ ቤት አጠገብ የእጅ መታጠቢያ ቦታ አለ?	አዎ	1
		አይ	2
0508	ከአምስት አመት በታች የሆኑ የህጻናት ቆሻሻዎችን የት ነው የምታስወግዱት?	በመጸዳጃ ቤት ውስጥ	1
		በሁሉም ቦታ ክፍት ሆኖ ተወው።	2
		በአፈር የተሸፈነ	3

ያጠናቀቁበትን ጊዜ ይመዝግቡ _____, _____ ስለ ጊዜዎ እና ለትብብርዎ በጣም አመሰግናለሁ