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Socio-demographic predictors of household hygiene and sanitation practice and its effect on child health index in Fitche Town, North Shoa, Oromia Region, Ethiopia

By:

Belete Enja

A thesis submitted to College of Developmental Studies Center of Population Studies, in partial fulfillment of the requirements for the degree of masters of population Studies.

June, 2022

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Name of Advisor;

Professor Nigatu Regassa

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DECLARATION

I, hereby declare that the thesis entitled "**Socio-demographic predictors of household hygiene and sanitation practice and its effect on child health index in Fitche Town, North Shoa, Oromia Region, Ethiopia**" is my original work and has not been submitted earlier for the award of any academic degree or diploma. I also declare that no chapter of this thesis in the whole or part incorporated in this thesis from any earlier work done by others or me.The participant's rights to anonymity, withdrawal from the study without prejudice.

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Approval Sheet

This is to certify that Mr. Belete Enja has fulfilled the requirements prescribed for the MSc degree in the College of Development Studies, Addis Ababa University. The thesis entitled "**Socio-demographic predictors of household hygiene and sanitation practice and its effect on child health index"** in Fitche Town, North Shoa, Oromia Region, Central Ethiopia" was carried out under my supervision and evaluated and approved by examiners. No part of the thesis has been submitted for the award of any degree or diploma before this date. Ethical clearance was obtained from the Institutional Review Board (IRB) of the College of Development Studies, Addis Ababa University.

Signed by the Examining Board:

Name	**Signature**	**Date**
1. Advisor: _____,	_____,	_____
2. Examiner: _____,	_____,	_____
3. Examiner:_____,	_____,	_____

_____

Chief Department or Graduate Program Coordinator

Name	Signature	Date
_____,	_____,	_____

ACJNOLEDGMENT

First and foremost, I thank the Almighty God, for give me the good health and strength all through my research work.

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List of ABBREVATIONS and Acronyms

AOR	Adjusted Odds Ratio
CSA	Central Statistical Agency
CI	Confidence Interval
EDHS	Ethiopian Demographic Health Survey
EPI	Expanded Program of Immunization
GTP	Growth Transformation Plan
HHs:	Households
ICF	Intermediate Care Facility
KAP	Knowledge, Attitude and Practice
MoFED	Ministry of Finance and Economic Development
NGOs	Non-Governmental Organization
NICR	Namibia Inter-Census Report
SDGs	Sustainable Development Goal
SNNP	South Nation, Nationalities and Peoples
SPSS	Statistical Package for Social Science
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WVE	World Vision Ethiopia

ABSTRACT

Background: Access to appropriate and adequate sanitation is fundamental to health, survival, growth and development, and the achievement of Sustainable Development Goals (SDGs). The lack of access to improved sanitation and the practice of open defecation had significant socio-economic impacts on households without access and those living in communities where access to sanitation is poor. Objective of the study is to assess socio-demographic predictors of household hygiene and sanitation practice and its effect on child health index in Fitche town, Ethiopia. Method: A community based cross-sectional study was employed to assess socio-demographic predictors of household hygiene and sanitation practice, and its effect on child health. The minimum calculated sample size was 422 households drawn from Fitche town, North Shoa. The collected data were cleaned, checked for completeness, complied and entered to EPI(External Presentation Interface) data version4.4.3.1, then exported and analyzed using SPSS(Statistical Package for the Social Science), version 23. There were three outcome variables, namely; Hygiene, sanitation and child health index and a range of socio-demographic variables were used as potential predictors. Given the three outcome variables had count form, Poisson regression was used to analyze the determinants and effect of WASH on child health index. A total of 422 households were studied with the response rate of 99.3%. The mean age of respondent's was 45 years (with SD=±12.125). The proportion of household that treated water with any method was 23.7%.The expected mean of household hygiene practice was significant for household income, level of education, occupation and source of drinking water. Similarly, the expected mean of household sanitation practice had significant association with the number of household in the compound, level of education and types of toilet facility. Whereas, the expected mean of child health index was significantly associated with household income, occupation, ethnicity, household sanitation practice, hand washing with soap and liquid waste disposal system.

Keywords: *hygiene, household, sanitation, Fiche town, Ethiopia*

Chapter-One

Introduction

1.1 Background

Poor Water, Hygiene and Sanitation (WASH) is one of the most pressing public health concerns in developing countries in the twenty-first century. Access to appropriate and adequate sanitation is fundamental to health, survival, growth and development, and the achievement of Sustainable Development Goals (SDGs). Globally, close to 2.6 billion people lack access to adequate sanitation. The regions with the lowest coverage are sub-Saharan Africa, Southern Asia and Oceania in ascending order(Chawicha et al., 2015). Challenges of access to sanitation and water are severe in sub-Saharan Africa, where the number of people without access to safe water and proper sanitation facilities is increasing due to the prevailing poor socio-economic conditions(Mohd & Malik, 2017).It is estimated that around 842,000 people die as a result of insufficient WaSH, accounting for 58 percent of all diarrheal deaths(WHO, 2017). WASH remains one of the primary public health concerns in Sub-Saharan Africa, with relatively low coverage(Bain et al., 2014). Nearly half of the population (319 million) does not have access to WaSH facilities, and 58 percent of people in Sub-Saharan Africa do not have access to basic drinking water. Only 15 percent of people in Sub-Saharan Africa have access to soap and water for hand washing(WHO/UNICEF, 2017).

Nearly, 39 million Ethiopians, most of whom living in the rural areas do not have access to safe water supply (World Vision, 2015). Close to 48 million Ethiopians lack access to basic sanitation. Poor sanitation, lack of access to clean water supply and inadequate personal hygiene are responsible for 90% of diarrheal disease occurrence. On the other hand, diarrhea is the leading cause of under -5 mortality in Ethiopia, causing 23% of all under- 5 deaths (73,341 children per year) (WVE, 2017). An estimated 64,540 children could be saved every year by improving Water, Sanitation and Hygiene in the country. Millions of people are subjected to WaSH-related diseases as a result of recurrent droughts and health emergencies resulting from poor sanitation and hygiene (World Vision, 2017).

Although access to safe and reliable water is a human right, the availability of water does not necessarily translate to proper sanitation provision in rural and urban areas(Young, 2021). Lack

of water prevents people from practicing hygiene habits, such as washing hands before eating or after using a latrine. Several studies have revealed that improvements in sanitation have been shown to improve health consistently, as indicated by increased child growth, less diarrhea, reduced parasitic infections, and lower mortality rates (Agric, 2020).By strengthening WaSH practices, many communicable diseases can be effectively managed. Waterborne disease prevalence can be reduced by 30% and 40%, respectively, if feces are properly disposed of and hands are washed with soap at important times. Similarly, proper water treatment and storage can lower the occurrence of waterborne infections by 30–50 percent(UNICEF, 2016). Some studies indicated that household social and economic variables are associated with hygiene and sanitation. Socio-demographic studies of household WaSH may help answer questions about variations at community and household level in water acquisition, use and their impacts. Such research can lead to more efficient design and targeting of household and community hygiene and sanitation programs thereby improve health of the most vulnerable community members (Sintondji, 2017).

1.2 Statement of the problem

Ethiopia has one of the lowest rates of access to safe drinking water and sanitation services in Sub-Saharan Africa. Urban and rural households rely on different sources of drinking water. The three most common sources of drinking water in urban households are water piped into the household's dwelling, yard, or plot (63%); water piped into a public tap/standpipe (13%); and water piped to a neighbour (12%). By contrast, rural households obtain their drinking water mainly from public taps/standpipes (19%), followed by protected springs (14%) and tube wells or boreholes 13% (EDHS, 2016).

However, most household in both urban (88%) and rural (92%) areas report that they do not treat their water prior to drinking. Overall, 7% of households in Ethiopia (11% in urban areas and 6% in rural areas) are using an appropriate treatment method (EDHS-2016). Such low practice leads to susceptible for waterborne disease. Despite being naturally gifted with huge water resources that satisfy domestic, agricultural, and hydropower requirements, Ethiopia, as a developing county, has faced poor sanitation and unsafe drinking water services (Yasin et al. 2015; Gonfa et al. 2019; Alemnew et al. 2020; Matusala et al. 2020). As of 2015, Ethiopia had a population of 99.4 million, of which about 45 million (about 56.7%) lack access to clean water and 51.4 million people (about 51.7%) do not have access to improved sanitation sources (World Bank 2018).

Latrines are virtually non-existent in rural communities with defecation taking place in fields, bushes or along drainage ditches. According to Ethiopia's 2016 Demographic and Health Survey (DHS), 57 percent of rural households (HHs) get their drinking water from improved sources, and 39 percent don't have access to a toilet. Hand washing practice is reported as only 19% and open defecation is about 32% (28.3 million) in 2015. Poor hygiene practices continue to cause illness contributing to poverty in rural areas (UNICEF, 2017). The lack of access to improved sanitation and the practice of open defecation had significant socio-economic impact on the households without access and those living in communities where access to sanitation is low. High levels of unhygienic latrines (62% of all latrines) and the practice of open defecation (37%) result in a continuing disease burden (World Bank, 2015). The prevalence of diarrhea episodes was observed to be 12 percent in the population (Central Statistical Agency (CSA) and ICF, 2016).

Poor Wash practice is one of the major public health problems in developing countries especially in Ethiopia. In Ethiopia more than 250,000 children die every year from sanitation and hygiene related diseases. Some 60 percent of the disease burden is related to poor sanitation and hygiene (World Vision, 2019).In Ethiopia, 60 to 80 percent of communicable diseases are attributed to limited access to safe water and inadequate sanitation and hygiene services. In addition, an estimated 50 percent of the consequences of under nutrition are caused by environmental factors that include poor hygiene and lack of access to water supply and sanitation (UNICEF, 2017). There are strong links between sanitation and stunting, and open defecation can lead to fecal-oral diseases such as diarrhea, which can cause and worsen malnutrition ((WHO/UNICEF, 2017).It is observed that, access to water, sanitation, and hygiene (WASH) service is limited in Ethiopia, while the prevalence of active trachoma among children in Ethiopia ranged between 10.3% (Bain et al.2014) and 74.3% (Mohamed et al.2019), which was higher than the World Health Organization (WHO) elimination target (Solomon,2006). The association of access to water supply and active trachoma studies also reported. A survey conducted in the Oromia region found that people who walked lower than 15 minutes to fetch water had the highest prevalence of trachoma (AOR: 1.75, 95% CI: 1.26 to 3.03). In contrast, study results from the Amhara region show that individuals living within 30 minutes of walking distance to water sources had lower chances of contracting active trachoma than those traveling over 30 minutes to get water (AOR: 0.02, 95% CI: 0.01 to 0.05) (Tadesse et al.2017).

Previous Studies revealed that, three key hygiene practices i.e. safe disposal of faeces, hand washing with soap at critical times along with safe treatment and storage of drinking water are the most effective ways in reducing water borne disease prevalence. Safe storage and treatment of water at point of use brings about approximately 30 to 50% reduction, hand washing with soap over 40% reduction and safe disposal of feces approximately 30% reduction in prevalence of water borne diseases (Mohd& Malik ,2017). Sanitation and hygiene practices are heavily influenced by people's knowledge and attitudes towards it. However, most previous studies focus on impacts of Knowledge, attitudes, and access of WASH practice at school and health facility level. Practices in relation to drinking water, sanitation and hygiene, mere access to the services is not sufficient to mitigate health problems related to unsafe water and poor sanitation and hygiene. Thus, our understanding of the underlined factors and impacts at household level is minimal. This study is meant to fill this research gap and has primarily focused on examining the key predictors of WASH and its effect on child health index in Fitche town, Northern Ethiopia.

1.3 Objectives

1.3.1General objective

The major objective of the present study is to estimate the prevalence of WASH practice and assess the key Socio-demographic predictors and their effects to child health in Fitche District, North Showa Zone, Oromia Regional static, Ethiopia,2022.

1.3.2 Specific objectives

The specific objectives of the study were to:

a) estimate the prevalence of acceptable household sanitation access and practice in Fitche town.
b) examines the key socio-demographic predictors of combined household hygiene practices in Fitche town
c) assess the effect of household hygiene and sanitation practice on child health/mortality in Fitche town.

1.4 Research Questions

a).What is the prevalence of acceptable household's access and practice of WASH in Fitche town look like?

b).What are Socio-demographic predictors of household hygiene and sanitation practices in Fitche District, North Showa Zone, Oromia Region, Ethiopia?

c).What is the implication of household's hygiene and sanitation practice on child health?

1.5 Significance of the Study

Maintaining personal hygiene and sanitation is important for several reasons such as personal, social, psychological, health, etc. Proper hygiene and sanitation prevent the spread of diseases and infections. If every individual on the planet maintains good hygiene for oneself and the things around him/her, diseases will eradicate to a great level. Thus, the rationale for conducting this study is two folds. First, as this study's primary focus is to examine the key determinants of hygiene and sanitation and its implications, the findings may be useful on a regional scale in informing health planners and policy makers the increased risk of mortality, and appropriate measures to be taken thereof. Many non-governmental organizations (NGO), private organizations, and community-based organizations in the study area will benefit from such a study for their planning, geographic targeting, and monitoring and evaluating programs. Secondly, results obtained from this study will add to the body of knowledge and contribute to the discourse on WASH and its implication. The findings could also help predict future public health challenges for individuals, families, communities and health care system at large. It is hoped that the findings of the study will provide ways to improve water, hygiene and sanitation practice of the urban community of Fitche town. The findings of the study will improve the existing water management systems and suggesting ways of conducting it.

1. 6 Scope and Limitation of the study

The study was Primary focus on assessing the key determinants of WaSH practice and its effect on child health index. The study focuses on household level factors (households and individual level), and thus; no data were collected and analyzed at community level (such as schools and health facilities). Since studying all dimensions of WaSH is too broad, the study emphasized on only selected key indicators of the outcome variable.

Limitations of the Study

The study is useful in increasing our understanding of the level and predictors of hygiene and sanitation practices in the region. The findings could be useful for planning, monitoring and evaluating WaSH activities in the study area. A major limitation of present study is its cross-sectional design as the inference of possible causality is speculative. The individual and households that were included in the study were from only one town (Fitche Town), limiting the scope of the study and making generalization of the findings and other towns in Oromia region. The study was limited to the determinants of household hygiene and sanitation practice at

household level and its effect on child health, did not include data collection from the local institutions such as: the municipality, the town's health facilities, and other. Our study population was also limited to one woreda of Fitche town hence, at best, our sample could be considered to be more representative of individual and households in the Fitche town, Oromia Region.

Chapter-Two

Review of Literature

This chapter reviews the literature on Socio-demographic predictors of HHs hygiene and sanitation practice and its effect on child health index. It reviews theoretical literature about predictor's of Wash practice and its effect on child health index and empirical literature of studies are to the estimate the prevalence of Wash practice and determine the effects of Water, Sanitation and Hygiene (WASH) practice on child health index in Fitche town, Oromia Region, Ethiopia.

2.1The Integrated Behavioral Model for Water, Sanitation, and Hygiene

The provision or promotion of low-cost water, sanitation, and hygiene (WASH) technologies at the individual, household, or community-level combined with hygiene promotion is a key strategy for reducing diarrheal diseases in resource poor settings (Peal A; Evans B & van der Voorden C.2010) The Integrated Behavioral Model for Water, Sanitation, and Hygiene (IBM-WASH) represents to reviews Wash practice. IBM-WASH takes the form of a matrix, with three dimensions (columns) and five levels (rows), consistent with the matrices of ecological frameworks

The **Societal / Structural Level** refer to the broad organizational, institutional, or cultural factors that influence behaviours in each of our three dimensions. This includes factors such as laws, policies, climate, geography, geology, and manufacturing and commercial distribution of products.

The **Community Level** includes the physical and social environment in which individuals are nested, as well as the formal and informal institutions that shape individual experiences. It is analogous to both the Institutional and the Community factors as proposed by (McLeroy et. al.1988).

The **Interpersonal/Household Level** represents interactions between individuals and the people they intimately associate with, including household members, close friends and neighbours. At this level, factors include roles and responsibilities in the household, household wealth, injunctive and descriptive norms, aspirations, shame, sharing access to a product, and behavioural modeling.

The **Individual Level** includes Sociodemographic factors;such as age and gender, individual cognitive factors, and attitudes toward the product, hardware, or behaviour.

Dimensions of IBM-WASH: contextual factors, psychosocial factors, and technology factors

Contextual dimension

The contextual dimension represents the background characteristics of the setting, individual, or environment that are often beyond the scope of influence of program activities; however, they exert significant influence on the adoption of specific products or behaviour. These include access to markets and products, access to enabling resources (such as water for hand washing or water treatment), socioeconomic and demographic characteristics, characteristics of the household, and the built and natural environment (Janz et.al. 1984). There are only a few studies that have explicitly considered the relationship of these contextual factors with WASH behaviours. In a study of hand washing practices in Kenya, found that both media exposure and media ownership were associated with increases in hand washing with soap, while constraints imposed by the natural environment, such as limited water and sanitation access, and individual socio-demographic characteristics (e.g. lower education) were associated with reduced rates of hand washing with soap among the most impoverished population groups (Schmidt et. al.2009). Contextual factors played a key role in household decision making regarding sanitation adoption in the decision-making framework based on work in Ghana (Jenkins et.al.2007). Multiple contextual factors(including population mobility, gendered division of labour, and economic constraints),were identified as barriers to effective environmental sanitation and clean water provision in *colonias* along the Mexican-US border (Cifuentes et. al.2006).

Psychosocial dimension

The psychosocial dimension of the IBM-WASH model consists of factors that are amenable to intervention activities. These are often the focus of behaviour change strategies. Disgust has been one of the most widely researched psychosocial determinants related to WASH; particularly in relation to hand washing with soap and open defecation (Rimal et.al. 2009). Experimental evidence from Australia and the United Kingdom has shown an association between disgust messages and hand washing behavior's (Porzig-Drummond et. al.2009). In Community Led Total Sanitation (CLTS), elicitation of disgust at the community level is a key step in mobilizing support for sanitation improvements (Pattanayak et.al, 2009). Social norms and/or social desirability, and aspirations are also widely acknowledged to influence WASH practices as well as play a central role in Diffusion of Innovation Theory (Kar, Chambers, 2008). Knowledge and perceived threat of illness; particularly diarrheal disease are often key components of behaviour change promotion strategies. While some studies have linked knowledge with improved hygiene

practices in a domestic environment (Rosen.et.al, 2009), the role of knowledge alone in motivating WaSH behaviour in the domestic environment has been questioned by researchers. While beliefs, perceived behavioural control, and self-efficacy have been associated with improved WaSH practices in a number of specific institutional settings (Mosler. et al, 2010).

Technological dimension

All WASH practices; even simple hand washing with soap, require some type of physical product or technology component, and characteristics of this hardware can often have a strong influence on behavioural outcomes. First, the location of the technology required to carry out behaviour may facilitate or inhibit practice. Having soap or water at a convenient location for hand washing was associated with improved hand washing practices following faecal contact in rural Bangladesh (Luby.et al.2009). In a study assessing hand washing station design, Devine found that physical characteristics of the hand washing station, including tap design, soap presentation, and container parameters, influenced acceptability and use (Devine,2010). Ease of use can influence technology preference and behaviour change. In a structured decision making study of various point-of-use water treatment technologies in rural Tanzania, research participants prioritized the ease and convenience of water treatment with liquid sodium hypochlorite solution over more effective yet less convenient alternative point-of-use technologies (Arvai ,2012). In addition to factors that influence the acceptability of a technology, physical attributes also determine what technologies are feasible in different settings. In a study testing sanitation facilities in urban slums in Uganda, investigators reported that in order for a latrine to be sustainable the technology must be durable, that materials must be available for construction and on-going maintenance, and that the system must be upgradeable [Katukiza AY, 2010].

2.2. Global status of WaSH

Safe water, sanitation and hygiene (collectively known as WASH) are crucial for human health and well-being. Yet, millions of people globally lack adequate WASH services and consequently suffer from or are exposed to a multitude of preventable illnesses. Lack of safe WASH negatively impacts quality of life and undermines fundamental human rights. Poor WASH services also weaken health systems; threaten health security and place a heavy strain on economies (WHO, 2019).Worldwide, in 2016; 1.9 million deaths and 123 million disability-adjusted life-years (DALYs) could have been prevented with adequate WASH. The WASH-attributable disease burden amounts to 4.6% of global Disability-Adjusted Life-Years (DALYs)

and 3.3% of global deaths. The burden of deaths among children under -5 years was 13% (WHO, 2019).In 2017; 3.4 billion People used safely managed services. An additional 2.2 billion used at least basic services. 627 million people used limited services, 701 million used unimproved facilities, and 673 million still practiced open defecation (WHO and UNICEF 2017).Globally, WHO estimates that 1.8 million people die each year from diarrheal diseases, 200 million people are infected with schistosomiasis and more than 1 billion people suffer from soil-transmitted helminthes infections. According to the report, every year, 85,700 children under-15 die from diarrhea linked to unsafe water, sanitation and hygiene facilities **(**WASH) (UNICEF, 2019).

2.2.1 Safe Drinking Water

Improving access to safe drinking-water supplies may involve constructing or improving water supply systems or services such as provision of piped water on-site, public standpipes, boreholes, protected dug wells, protected springs or rainwater. It should also involve risk assessment and management approaches, such as water safety planning, to ensure the success and sustainability of the improvements put in place. Low-cost strategies to treat and safely store drinking-water at the point-of-use (e.g. filters, chlorine tablets, safe storage containers) can provide an intermediate solution while longer-term infrastructure improvements are being planned and implemented(WHO,2019). Globally, at least 2 billion people use a drinking-water source contaminated with faeces (UNICEF&WHO, 2019).

In 2017, 71% of the global population (5.3 billion people) used a safely managed drinking-water service that is, one located on premises, available when needed, and free from contamination. 90% of the global population (6.8 billion people) used at least a basic service. A basic service is an improved drinking-water source that can be accessed within 30 minutes (round-trip). Approximately 785 million people lack even a basic drinking-water service, including 144 million people who are dependent on surface water. By 2025, half of the world's population will be living in water-stressed areas.

2.2.2 Sanitation

A safe sanitation system is designed and used to separate human excreta from human contact at all steps of the sanitation service chain from safe toilets and containment (in some systems with treatment in-situ) through conveyance (in sewers or by emptying and transport), to treatment and final disposal or end use. A holistic approach to addressing faecal risks from toilets to safe use or disposal is facilitated through sanitation safety planning. As a household moves away from open defecation towards use of better sanitation services and ultimately to safely managed systems

health benefits increase (WHO, 2019).Two billion people still do not have basic sanitation facilities such as private toilets or improved latrines (UNICEF&WHO, 2019). In 2017, 45% of the global population (3.4 billion people) used a safely managed sanitation service. A 31% of the global population (2.4 billion people) used private sanitation facilities connected to sewers from which wastewater was treated (UNICEF&WHO, 2019).14% of the global population (1.0 billion people) used toilets or latrines where excreta were disposed of in-situ. 74% of the world's population (5.5 billion people) used at least a basic sanitation service. 673 million still defecate in the open, for example in street gutters, behind bushes or into open bodies of water. At least 10% of the world's population is thought to consume food irrigated by using wastewater. Only 40 out of 152 countries are on track to achieve basic sanitation for all by 2030(UNICEF&WHO, 2019).

Study done In Namibia(Southern Africa) had unacceptably low levels of sanitation coverage (34%)(UNICEF, 2015)where (70%) of people in rural areas and 26% of urban residents defecate in the open, which is harmful to health and hygiene (NICR, 2016). The study defined good sanitation, if the toilet is used only by members of one household and if the facility used by the household separates waste from human contact (UNICEF, 2017). In Namibia, inadequate sanitation, poor hygiene and unsafe drinking water contribute to 88% of deaths from diarrheal diseases in children(Agric, 2020).A national survey conducted in Bangladesh by Department of Public Health Engineering found that 42 % of households had no definitive place for defecation and the 58% who had such access and among these only 33% points had hygienic toilet facilities, while for 25% lived in unsanitary condition. Thus, 67% of households had either no toilet or access to a poor-quality toilet. The percentage having hygienic toilets was higher in urban areas (51%) than in rural areas (29%), where 47% had no toilet facility. The lack of money was given as the most important reason for not having a toilet facility (77%), while lack of space (11%) and lack of awareness were cited as other major reasons(Unit, 2015).

2.2.3Hygiene

Hygiene interventions include promoting hand washing with soap at critical times. A broader definition may include food hygiene measures (e.g. washing, covering, cooking and storage of food), environmental hygiene (e.g. cleaning of surfaces), menstrual hygiene, or hygiene interventions specific to prevention and control of particular diseases (e.g. face washing for trachoma, shoe wearing for soil-transmitted helminthes, and animal management for zoonotic diseases) (World Bank; 2016).Nearly, 3/4 of the population in least-developed countries lacked

hand washing facilities with soap and water (UNICEF&WHO, 2019). 60% of the global population had basic hand washing facilities with soap and water available at home. 78 countries (and 3 out of 8 SDG regions) had estimates for basic hand washing facilities at home, representing 52% of the global population. Many high-income countries lacked data on hygiene. 3 billion people still lacked basic hand washing facilities at home: 1.6 billion had limited facilities lacking soap or water, and 1.4 billion had no facility at all (UNICE/WHO, 2012).

The cross-sectional study conducted in Dhankuta Municipality of Nepal showed that hand washing reduces diseases (71.3%), They knew that diarrhea is spread by dirty environment (55.7%) and drinking unsafe water (46.3%) and unhygienic food (43.3%). Majority of respondents (95.3%) washing hands with soap and water after defecation and (30%) respondents used burning as a management of solid waste(Sah et al. 2015).In a cross-sectional study carried out in Benin (West Africa) more than 49 % of the household surveyed used unimproved water sources for their daily needs. Only 8.7 % of the household had improved sanitation facilities at home and 9.7 % had improved hygiene behavior. The type of housing as an indicator of the socioeconomic status, the permanent availability of soap and improved hygiene practices were identified as the main factors positively associated with improved sanitation status(Johnson et al., 2015).

2.3 Socio-demographic determinants of WaSH and child health index

Previous studies conducted around the world have reported a wide range of socio-demographic factors affecting the quality and quantity of WASH services including, but not limited to, income, education, household size, headship, type of house, maternal and paternal economic and social status…etc. Smith and Hanson (2003) establish that household income is one of the main determinants of access to water and sanitation facilities. From their study conducted in Cape Town, South Africa, households with lower incomes (below 800 rands) had limited opportunities to improve their water and sanitation conditions. Similarly, UNICEF estimates that households in the lowest wealth quintile are 5.5 times more likely to lack improved water access and 3.3 times more likely to lack adequate sanitation, compared with households in the highest wealth quintile in the same country. Bosch and others (2001) also indicate income levels of households as among the factors that determine their access to water and sanitation facilities and services. Study done in Ghana by Ayisha Matuamo Mahama, on determinants of Households access to improved water and sanitation facilities was household income (wealth).

Study done in urban setting of Banglare India on KAP of hygiene and sanitation showed that there is a significant association between sanitation and hygiene knowledge and socio-economic status; while no significant association was found with age, gender and religion .In the same study an association was also found between sanitation and hygiene practices and socio-economic status and family size. No significant association was found with age and religion(Mohd & Malik, 2017).A study conducted in Manyara Region Small Towns in Tanzania, found significant association between the type of household, sanitation facility and household social economic characteristics, including education level, wealth quintile , residence ownership, and source of water for domestic use. The type of sanitation facility a household owns also varies according to whether the house is privately owned or rented. Other variables, including head of the household, marital status, family size, and household income, did not have any association with the type of sanitation facility the household has (Mshida et al., 2020).

Education is another commonly reported socio-demographic variable predicting WASH. The lesser the educational attainment of an individual, the more he or she has limited opportunities to demand better facilities from the authorities as he or she is powerless (Bosch et al., 2008).Study done in Ghana by Ayisha& Others, on determinants of Households access to improved water and sanitation facilities, reported that those households with heads having better educational status were 2.21 times more likely to access improved toilet facilities. Study conducted in peri-urban Ethiopia shows, the educational status of household residents was associated with good levels of knowledge, attitudes and practices in relation to water safety, sanitation and hygiene. HWT, open defecation and shared latrines are matters that still require intervention in areas (Abera, 2018).

Gender differences may play an important role in the work division in developing countries. Most of the time women have higher household responsibilities such as fetching water, cleaning compounds, childcare and food preparation (Morakinyo, 2015). Therefore, this might be directly linked with water and sanitation in the sense that women may be preoccupied with other daily routines than WASH Households that used IDWS (Improved Drinking Water Source) was headed by females (66.7 %) than males (58.7 %). The likelihood of using IDWS was higher in household headed by females (Morakinyo, 2015).Women's decision-making power in the household has been demonstrated to be positively associated with improved sanitation in Kenya. As with socioeconomic and demographic drivers, interpersonal factors, particularly the gendered division of power and autonomy in the household, can be considered an influential determinant of sanitation practice. A study done in Ghana, on determinants of household's access to

improved water and sanitation facilities, reported that males were less likely to have access to improved toilet facilities as compared to females (Agbadi& Others, 2019**).**

A study conducted in Hadaleala District, Afar Region, northeast, Ethiopia on socioeconomic factors associated with Diarrheal disease were statistically associated with the number and age of under-five children, the educational level of mothers, and the economic status of households(Wondwoson, 2016). In addition, Study done in Mkuranga District, Tanzania on diarrhea among under- five Children and Household Water Treatment and Safe Storage Factors. Diarrhea was significantly associated with education of caretakers, breast feeding and caretakers washing their hands with soap after household activities (Remidius, 2012).A study on sociodemographic predictors of diarrhea among Under- 5 Children, Presenting at a Tertiary Health Facility in Nigeria shown that a significant association were found between Poor hygiene practices, maternal education, wealth index of the family, water related practices, sanitation, age of the child and breastfeeding practices(Chineke,et .al,2021).A cross-sectional study done in Woldia Town, Ethiopia on prevalence of WaSH associated factors of acute diarrhea among children under five revealed that the prevalence of acute diarrhea among children under five in the two-week study period was 17.6 %, and significant associated were found with water consumption per capita per day (< 20L), used unimproved sanitation facility, mothers/caregivers practicing poor hand washing at critical times, mothers/caregivers practicing unsafe child feces disposal methods and hand washing with water and soap (Getahun et.al.2021).

2.4 Water, Sanitation and Hygiene in Ethiopia

Multilevel analysis based on EDHS 2016 shows that, the proportions of households' access to improved sources of drinking water and toilet facilities were 69.94% and 25.36%, respectively. Households headed by women and households with a better wealth index were positively associated with access to improved drinking water sources. Whereas rural households, ≥30min round trip to obtain drinking water and region were factors negatively associated with household's access to improved drinking water sources. A higher probability of having access to improved toilet facilities: households with heads who had attained higher education, households having better access to improved sources of drinking water and households with better wealth index. While the following households were less likely to have access to improved toilet facilities: households with heads were widowed, households with four to six members, rural households and region (Zewdu et.al.2020).

According to the latest Joint Monitoring Program (JMP) of United Nations Children's Fund (UNICEF) and World Health Organization (WHO) basic and improved household sanitation coverage in Ethiopia is estimated to be at 63%. As a result it is estimated that around 37% of the population (over 35 million people) still don't have access to any form of toilet and therefore defecate in the open. Within this there are disparities between the rural and urban context, with 43% of people living in rural area defecating in the open compared to 8% in urban areas. Consistent with global trends, in Ethiopia those lacking access to improved sanitation are those in the bottom poverty quintiles, with more than three quarters of the poorest quintile practicing open defecation compared to just 12% of the richest(UNICEF-WHO, 2014). Even though Ethiopia has achieved greater progress in reduction of open defecation from 93 to 45% at national level and from 100 to 53% in rural areas, there is poor latrine utilization among individual and families in some communities and 38.1 million people still practice open defecation (Cronk& Hernandez, 2015). A study conducted in Dambiya, access to adequate sanitation was significantly improved (50.7%) and access to protected water sources was (81.1%). Significant proportion of households (58.3%) practiced good drinking water handling. Practice of home-based water treatment was improved (47%). The general hygienic condition of children was significantly improved (Zemichael Gizaw& Others, 2020). A cross-sectional study conducted in Tigray Region Northern Ethiopia on knowledge, attitude, and practice (KAP) of WASH among rural residents shows that, Good knowledge, positive attitude, and good practice on WASH were observed (Berhe et al., 2020).

Inequalities in access to proper sanitation facilities are also evident in rural and urban areas where households in urban areas (49%) have improved toilet facilities that are not shared, compared to households in rural areas (17%) (*Central Statistical Agency (CSA) and ICF*, 2016).

Regarding, Inappropriate waste disposal and housing environment cleanliness were observed in 60%, 93%, and 61% of the HHs. 15% of the HHs with latrine and only 5.3% had hand washing facility, and (10.7%) of the respondents practiced hand washing at critical periods. A study in peri-urban areas Northwest Ethiopia showed that 75.7% of their respondents had good knowledge (Abera, 2018). (89.2%) of the respondents know latrine is essential and obligatory for every HH. A similar study in North Ethiopia reported that 94% (Tessema et.al. 2017) and 95.2% (Abera, 2018) of respondents know the significance of latrine for health. However, a study in DireTiyara district, Eastern Ethiopia, indicated that 48.3% of the respondents think latrines are only intended for rich people (Tessema et.al. 2017).

Although, Study Conducted In Tigray Region Shows that (90%) HHs were using protected water sources (pump/ spring) for domestic uses and only (18.3%) of the HHs treated water at HH level by boiling or using Wuha-Agar/ chlorine. Majority, (87%), of the HHs spent less than or equal to 30 minutes to fetch water and the average consumption of water was less than 20 liters per person per day in the majority of the respondents, (88.4%). A total of (92.6%) HHs had inappropriate waste disposal practice. Only (35.3%) of the HHs had latrine, and among the HHs with latrine, only 40 (14.98%) of them had hand washing facility. Among HHs with latrine, 224 (84%) utilized their latrines. Almost all, (98%) of the HHs, who do not have latrine, defecate in the open field. Good practice on WASH was observed in 49.2%(Berhe et al., 2020).

2.5 The impact of WASH on child health and mortality

Water, sanitation, and hygiene (WASH) investments are widely seen as essential for improving health in early childhood. However, the experimental literature on WASH interventions identifies inconsistent impacts on child health outcomes, with relatively robust impacts on diarrhea and other symptoms of infection but weak and varying impacts on child nutrition (Headey& Palloni, 2019).Globally, diseases such as diarrhea and respiratory tract infections (RTIs) have been identified as major threats to child survival. Diarrhea, defined as the passage of three or more loose/liquid stools per day, is one of the leading causes of morbidity and mortality in children under -five years. According to the WHO, an estimated 1.7 billion cases of diarrhea disease occur annually worldwide, with approximately 525 000 children dying from the disease (WHO, 2017).

Poor Sanitation and unsafe drinking water cause diarrheal disease and environmental enteropathy. These inhibit nutrient absorption in the small intestine, which can lead to under nutrition and stunting. WASH interventions can prevent 860,000 Child deaths from under nutrition a year globally (Fitcheret.al. 2013) and decreased stunting prevalence by 12% in Ethiopia (Fenn et.al. 2012).In relation to diarrhea, a study conducted in Ghana reported that about 53% of the children experienced diarrhea two weeks preceding the study and this may be attributable to the consumption of food or water which has been contaminated with human waste through open defecation and improper dumping of rubbish, as a majority of the households practiced open defecation and disposed waste in a dumpsite/pit close to the households. Similarly, the odds of diarrhea were higher when children defecated outside the compound or the surrounding bushes compared to defecating in chamber pot. The frequent open defecation may be related to unavailability and poor access to toilet facilities in the district. This can also be a

contributing factor to the spread of diseases as rainwater coupled with poor drainage may carry all faecal matter to water bodies which may be used for household consumption without proper treatment(Azupogo et .al. 2019).A study conducted in Hilly Rural Village of Nepal on Socio-Demographic Factors, Mother and Child Health Status, Water, Sanitation, and Hygienic Conditions shows that the prevalence of acute diarrhea and fever in the household over a four-week period was reported to be 21.6% and 35.2% respectively. Around 91.5% of the households reported access to improved water supply. The majority of the households (96.8%) reported no proper water treatment before use. Around 86.7% of the mothers reported washing their hands after visiting toilet and approximately 50% of them reported washing their hands before handling food (Pratibha et.al. 2019).The study done in Southern Nations Nationalities and Peoples'(SNNP) show that every year, 1.8 million children die from diarrheal diseases (including cholera) of which 90% of them are children under the age of 5 and 88% of the diarrhea related deaths are attributable to unsafe water supply and inadequate sanitation and hygiene (Chawicha et .al. 2015). A study conducted in TIgray region shows that (98%) of the respondents know the health consequences of improperly managed liquid wastes, and most of them, (93.9%), were using clean water source for washing hands(89.2), of the respondents know that latrine is essential and obligatory for every HHs(Berhe et. al. 2020).

2.6 Conceptual framework of the Study

The information acquired from the literature review is relevant to the suggested conceptual framework in this study. As can be seen from Figure 1, household WASH practices are influenced by three intermediate variables: knowledge, quality and quantity of services and access. Theoretically, the background variables (individual and household variables) should pass through these three intermediate variables (Access, Knowledge and Quality of service) in order to influence WASH practices. The last two boxes indicate the possible impacts of WASH practices. In this study, the effects of both the background and intermediate variables on WASH practices will be studies. Also, the analysis will address the effects/ implication of WASH on overall health of under- five children.

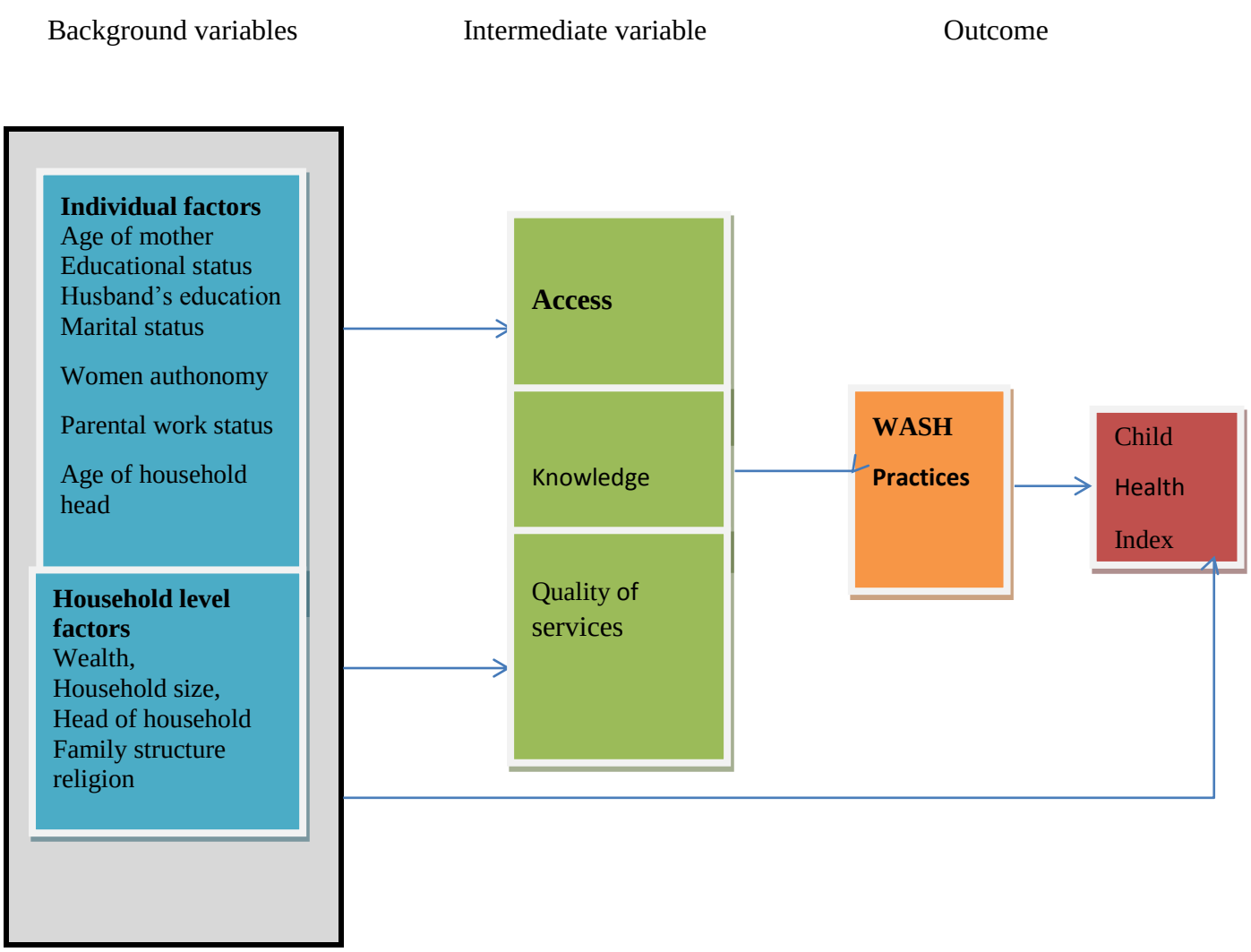

Figure 1: Conceptual framework of the study

Source: Developed by the author based on the review of literatures,2022

Chapter-Three

METHODOLOGY OF THE STUDY

3.1. Study area description

Fiche is a town in central Ethiopia. It is the administrative center of the North Shewa Zone of Oromia and separate District. It is 114 kilometers from the country capital Addis Ababa. Fiche has a latitude and longitude of 9°48′N 38°44′E / 9.800°N 38.733°E and an elevation between 2,738 and 2,782 meters above sea level. The average annual temperature in Fiche is 15.1 °C (59.2°F). The warmest month, on average, is May with an average temperature of 16.8 °C (62.2°F) and the coolest December, with an average of 13.3 °C (55.9°F). Average annual precipitation is 1,244.6 mm, the highest monthly precipitation on average occurs from June to August and the lowest in December (with 12.7 mm on average).and administratively classified into 4 woreda. According, to the Administrative Councel figure the urban population of the Town is estimated as 216050, where 101320 are males and 114730 are females. The Town has 01 hospital, 02 health centers, 01 health Posts and 08 different level clinics established by non-governmental organization (NGOs) (NSFDAA).

Regarding infrastructure, Fitche town is supplied with piped water obtained from springs and bore holes. There are 13 springs spatially distributed in different parts of the town and one bore hole. The existing water coverage of the town on the basis of 20 liters per person per day is 68.33%. There is no solid waste disposal site, although the rapid urbanization and informal urban setting affect sanitation necessitate in the town. In poorly accessible and insecure areas, including the study area, where there are no water quality testing facilities, the community may be susceptible to waterborne diseases. More than half of the population of the country uses unimproved sanitation facilities while 36% of them practice open defecation (Keredin & Prasada 2016). In addition, the majority of the population of Fiche uses jerry-cans and plastic extensions to store water at home for several days. This material has a very narrow space through which enough oxygen cannot get in and stored water at home for days are highly suitable for the growth of anaerobic organisms. Therefore, there may be a high chance of drinking water contamination both from sources and households.

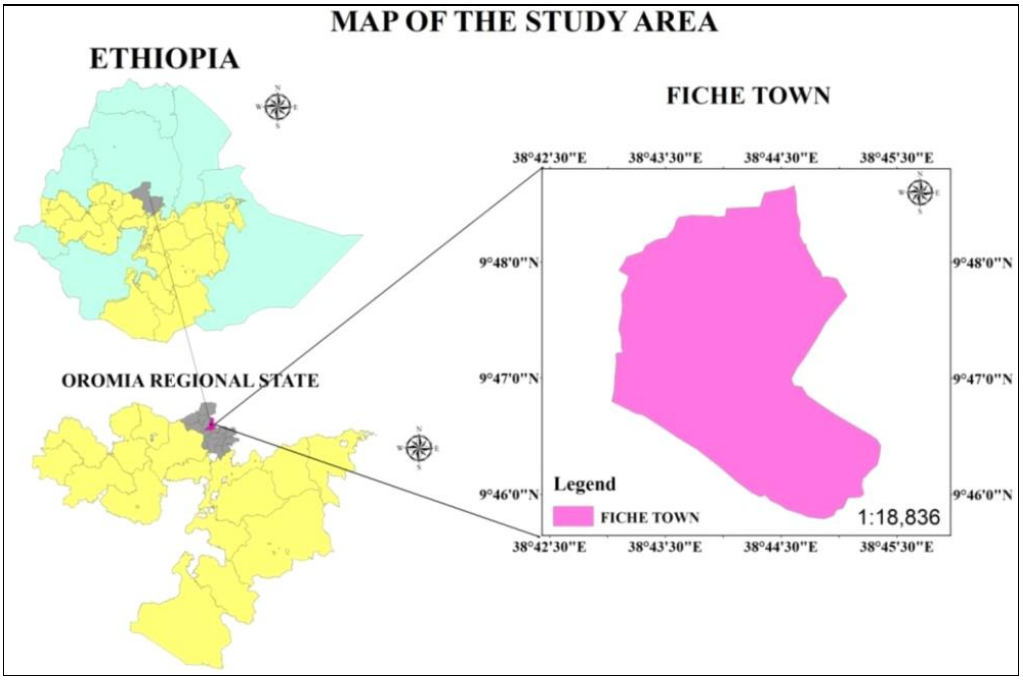

Figure 2*: Fitche, Ethiopia (GIS Database)*

3. 2. Study period

The data collection was conducted from March to May 2022.

3.3. Study design

A community based Quantitative cross-sectional study design was employed. In cross sectional design, information was collected at a specific point in the lives of the respondents.

3.4. Source and study populations

Source population is all households in Fitche town and the study population are all households in selected Kebele of Fitche town.

3.5. Inclusion and exclusion criteria

The inclusion criterion used was all households who lived in Fitche town and who stayed prior to 6 months during the time of data collection. The exclusion criteria was all households who stayed less than 6 months duration and unable to respond due to medical illness at the time of data collection.

3.6. Sample size determination

The sample size for this study is calculated using a single population proportion formula by considering the following formula and assumption Cochran's Formula.

$n = \frac{(Z\alpha/2)^2 P(1-P)}{(d)^2} = \frac{(1.96)^2 \times (0.49)(1-0.49)}{(0.05)^2}$, n=384

Sample size after adding 10% non-response rate was:

NF= (n*0.10) +n= ((384*0.10) +384)= 38 +384= 422

Where:

P= the prevalence of good practice on wash from the study done in Tigray region (49%) (Berhe et al., 2020)

d = the margin error between the sample and the population (0.05).

Z α/2= critical value at 95% confidence level of certainty (1.96).

From the total of 04 woreda found in Fitche Town one woreda was randomly selected and number of households found in the woreda was included. To select a fairly representative sample of households, the sample size was distributed proportionally to each of the three blocks based on the number of households they have. After assigning a number to each houses, each sample was selected by systematic random sampling at an interval of two (800 households divide by 422 total sample size). In case of absenteeism the next household number was included in the study.

3.7. Data collection

A questionnaire containing sociodemographic information, hygiene and sanitation practices were used for the data collection. Most questions had a binary response. The reliability of the questionnaire was checked using test-retest methods. Three clinical nurses were recruited to collect the data after receiving intensive training. The data collection was done in the month of March to May 2022. Household heads were interviewed based on the sampling frame made available by the town administration.

3.8 Study variables

The study was use three outcome variables: household hygiene, sanitation and child health index. Hygiene practice was measured by household's response of hand washing with water and soap. Sanitation practice was measured by a combination of a setoff questions: if households has access to water, toilet facility roof, slap, coverage all around and waste disposal system (solid and liquid). The third outcome variable was measured by combining a set of child health indicators (including presence of diarrhea, respiratory tract infection, stomachache, history of

hospitalization and child death related to the above). For the purpose of analysis, the explanatory variables are socio-demographic factors(sex(1-male,2female),age(continuous),maritalstatus(1-married,2-single/nevermarried,3-divorced,4-separated,5-widowed,6-others),religion(1-orthodox,2-muslim,3-prostetant,4-none,5-other),education(0-noeducation,1-primaryschool,2-secondaryschool,3-Post-secondary education),occupation(1-govermental,2-merchant,3-farmer,4-daily labour,5-other), income(continuous), head of household(1-male,2-female), size of house hold(count).

Table 1: Description of the study variables

Dependent Variable	**Independent Variables**
HHs Hygiene practice(Count) **HHs Sanitation Practice(Count)** **Child health Index(Count)**	**I) Individual-factors** Sex Age Marital Status Women authonomy Education Occupation **II)Household factors** Religion Income Head of household Size of household

3.9. Data collection and procedure

Data was collected using structured and pre-tested questionnaire. The questionnaire was prepared in English and translated to Amharic, and then back to English. The questionnaires contain socio demographic factors, access, knowledge of hygiene and sanitation, practice of hygiene and sanitation and child health (annex).A total of 3 data collectors, one for each household block was interview the head of the households. One day training was given for data collectors on how to gather the appropriate information, procedures of data collection techniques and management of field works. The investigator was monitored the overall data collection process during the data collection period.

Data collection was carried out in morning as well as evening hours to get access to eligible respondents (head of the household) at home. Before conducting the interviews, the investigator

ask prospective respondents; whether they are head of the household, if not then their relationship with the head of the household. A selected household was followed up at least twice in case of unavailability of the respondent on the first visit. A respondent who could not be contacted even after the second attempt was counted as a nonresponse. In case of more than one household (family) living in a single house, one was randomly selected.

3.10. Data Quality Assurance

Data quality was assured before, during and after data collection. Prior to data collection Pretest was conducted in 5% of the sample size in Debretsige town (a small town found near the study area) to determine its clarity, adequacy, of the questionnaire. Corrections and modifications for some questions were done before data collection. During data collection period, a study participant was informed about the purpose of data collection and importance of the study to generate quality data. The principal investigator was actively involved in supervision of the data collection. After data collection, the collected data was rechecked for completeness, consistencies, and cleaned on daily basis by investigator.

3.11. Data processing, analysis, and presentation

Data was entered into EPI data version 4.4.3.1 and exported in to Statistical package of social science (SPSS) version 26 and Data cleaning was performed by running frequency of each variable to check accuracy, inconsistency and missed value of the data. Before analysis of the data, recoding of variables was conducted to analysis easier. Given the three outcome variables were take a Count form, Poisson regression analysis was used to assess the key predictors. As a rule of thumb, potential variables with a p-value less than 0.20 in bivariate Poisson analysis, variables with biological plausibility and those with consistency in the previous study was taken into the multivariable Poisson regression (David et.al.2013). Multicollinearity test was done to check the correlation between each independent variable. Model goodness of fit was tested by scale and Deviance result. Strength of association was evaluated using odds ratio at 95% confidence interval and P-values than 0.05 considered significant associations.

3.12. Ethical Consideration

The study was conducted after getting ethical clearance from Addis Ababa University, College of Developmental studies research and ethical review committee. Confidentiality and privacy was guaranteed during the whole period of the study by anonymous completion of the

questionnaires. For the respondents it was notified that they have the right to refuse or terminate at any point of data collection.

3.13. Operational definition

Hygiene practice; an individuals or household had good hygiene practice; if individual or household use both water and soap/ash for hand washing.

Sanitation practice; an individuals or household has good sanitation practice; if individual or household have three out of setoff components.

Child health index; an individuals or household has good child health index; if individual or household had no complain of child health indicators.

3.14. Plan for Dissemination of the Finding

The findings of the study was compiled in Thesis format and submitted to Addis Ababa University, College of Developmental studies, Center for Population studies. The findings will be communicated to concerned offices in Fitche Town. Also, all efforts will be made to publish the result of the study in peer reviewed and reputable Journals.

CHAPTER -FOUR

RESULT AND DISCUSSION

4.1 RESULT

4.1.1 Characteristics of study participants

Out of 422 sampled households, 303(71.8%), males and 119 (28.2%) females, were interviewed with response rate of 99.29%.The median age of the respondents was 45 years (SD=±12.125) and 80(19.0%) were illiterate. Among the respondents, about half 208(49.3%), were Oromo by ethnicity and 361(85.5%), were orthodox in religion. Regarding occupation of respondents most of them, 186(44.1%), were government employee. In the majority of the households, 297 (70.4%), household size was in the range of 4-7 members/persons or mean of 4.48(with SD) see (Table2 below).

Table 2: Socio-demographic characteristics of the study subjects in Fitche town, North Shewa, Ethiopia, 2022.

Lists of Variables	Frequency(n)	Percent (%)
Sex of the respondent		
Male	303	71.8
Female	119	28.2
Age of Respondent's		
15-39	133	31.5
40-59	218	51.7
60 above	71	16.8
Ethnicity		
Amhara	174	41.2
Oromo	208	49.3
Gurage	23	5.5
Tigre	17	4.0
Religion		
Orthodox	361	85.5
Muslim	32	7.6
Protestant	29	6.9

Marital status		
Married	370	87.7
Single	14	3.3
Divorced	15	3.6
Widowed	23	5.5
Level of Education		
No education	80	19.0
Primary education	58	13.7
Secondary school	125	29.6
Post-secondary school	159	37.7
Occupation		
Governmental	186	44.1
Merchant	89	21.1
Farmer	50	11.8
Daily laborer	53	12.6
House wife	44	10.4
Wealth Index/Income		
Poor	173	41.0
Middle income	208	49.3
Rich	41	9.7
Household size		
1-3 Members	113	26.8
4-7 Members	297	70.4
7 Above	12	2.8
Mean of household size	4.48	

4.1.2 Household water access, hygiene and sanitation practices

As indicated in table3, majority, (91.7%), of the household's water source was piped into compounds. Concerning the problems related to water supply, 418 (99.1%), households complained about scarcity of water. From a total of 422 households, 275(65.2%) reported that they practice safe disposal of solid wastes, whereas 294 (69.7) practice unsafe liquid disposal. The main reason for it is lack of sewerage/pit system in the town. Concerning awareness on water supply, sanitation and hygiene practices, almost 61.6 percent of the households said that, they didn't have a continuous training, support and follow up from health extension professionals.

Table 3: Frequency distribution of water access, hygiene and toilet facility of households, Fitche town, North Shewa, Central Ethiopia, 2022/14(n=422)

List of Variable	Frequency	Percent (%)
Source of drinking water		
Piped into dwelling	6	1.4
Piped into compound	387	91.7
Piped to neighbor	11	2.6
Public tap/stand pipe	18	4.3
Water scarcity		
Yes	418	99.1
No	4	.9
Household toilet facility		
Flush to piped sewer system	4	.9
Flush to septic tank	4	.9
Flush to pit latrine	25	5.9
Pit latrine with slab	379	89.8
Twin pit with slab	10	10
Waste Disposal System		
Liquid Wastes		
Safe disposal	128	30.3
Open field	294	69.7
Solid waste Management		
Safe Disposal	275	65.2
Open field	147	34.8
Place of hand washing		
Fixed facility observed (Sink / Tap) in dwelling	32	7.6
Fixed facility observed (Sink / Tap) in yard /plot	8	1.9
Mobile object observed (Bucket / Jug / Kettle	382	90.5
Availability of water at the place for hand washing		
Water is available	215	50.9
Water is not available	207	49.1
Availability of soap or detergent		
Soap/detergent is available	139	32.9
Soap/detergent is not available	283	67.1

As shown in Table4, Poisson regression analysis was used to assess the bivariate associations between selected explanatory variable and household hygiene practice. Household income, number of households in the compound, presence of old age in the household, presence of disabled household member, sex, level of education, occupation and source of drinking water had significant bivariate association at p-values less than 0.2.

4.1.3 Bivariate analysis

Table 4: Bivariate Poisson Regression analysis for association between the socio-demographic variable and household hygiene, Fitche town, 2022(n=422)

Variables		
	Exp(B)with 95% CI	**P-value**
Number of households in compounds	1.032(0.993-1.072)	0.114
Presence of old age member (>65yrs)		
No	1	.
Yes	.764(0.578-1.008)	0.057
Presence of disabled household member		
No	1	.
Yes	0.786(0.590-1.048)	0.101
Household size	1.076(1.008-1.149)	0.027
Number of under-5 children	0.947(0.811-1.107)	0.494
Household ownership		
Others	1	.
Rent	1.151(0.351-3.778)	0.817
Own house	1.431(0.459-4.461)	0.537
Household income		
Higher Income	1	.
High Income	0.792(0.586-1.071)	0.130
Medium Income	0.482(0.351-0.662)	0.000
Low Income	0.216(0.127-0.367)	0.000
Sex of respondents		
Female	1	.
Male	1.390(1.081-1.787)	0.010
Age of respondents	0.998(0.989-1.006)	0.573
Religion		
Protestant	1	.

Muslim	.954(0.509-1.787)	0.883
Orthodox	1.332(0.838-2.116)	0.225
Marital status		
Widowed	1	.
Separated/divorced	0.767(0.328-1.791)	0.539
Single	0.719(0.296-1.747)	0.466
Married	1.255(0.760-1.747)	0.375
Level of education		
No Education	.250(0.163-0.382)	0.000
Primary School	.402(0.270-0.598)	0.000
Secondary School	.739(0.585-0.934)	0.011
Post-secondary Education	1	.
Occupation of respondents		
House Wife	1	.
Daily labor	0.482(0.270-0.862)	0.014
Farmer	0.369(0.193-0.705	0.003
Merchant	1.164(0.193-0.705)	0.478
Governmental	1.671(1.147-2.434)	0.007
Source of drinking water		
Public tap/standpipe	1	.
Piped to neighbour	0.818(0.074-9.023)	0.870
Piped into compound, yard/plot	8.000(1.993-32.116	0.003
Piped into dwelling	10.500(2.181-50.544	0.003

NB: Level of significance (p-value< 0.2)

As shown in Table5, Bivariate Poisson regression analysis was used to assess the bivariate associations between selected explanatory variable and household Sanitation practice. Household income, number of households in the compound, level of education, occupation and Types of toilet facility had significant association with less than (p-value=0.2).

Table 5: Bivariate Poisson Regression analysis for association between socio- demographic variables and household sanitation practice, Fitche Town, 2022 (n=422)

Variables	Exp(B)with 95%CI	P-Value
Number of households in compounds	0.756(0.694-0.825)	0.000
Presence of Old age member(>65yrs)		
No	1	.
Yes	1.275(0.780-2.085)	0.332
Presence disabled of household member		
No	1	.
Yes	1.265(0.758-2.110)	0.369
Household size	0.943(0.833-1.068)	0.357
Number of under-5 children	1.008(0.755-1.347)	0.955
Household ownership		
Others	1	.
Rent	0.368(0.038-3.581)	0.389
Own house	0.406(0.045-3.665)	0.422
Household income		
Higher Income	1	.
Low Income	4.242(1.732-10.392)	0.002
Medium Income	1.544(0.778-3.063)	0.214
High Income	1.250(0.625-2.501)	0.528
Sex of respondents		
Female	1	.
Male	.980(0.633-1.518)	0.929
Age of respondents	1.011(0.994-1.027)	0.212
Religion		
Protestant	1	.
Muslim	1.348(0.477-3.806)	0.573
Orthodox	1.141(0.529-2.461)	0.737
Marital status		
Widowed	1	.
Separated/divorced	2.115(0.516-8.668)	0.298
Single	0.769(0.203-2.918)	0.700
Married	1.264(0.540-2.959)	0.590
Level of education		

No Education	1.676(0.955-2.942)	0.072
Primary School	2.118(1.100-4.078)	0.025
Secondary School	1.294(0.803-2.086)	0.289
Post-secondary Education	1	.
Occupation of respondents		
House Wife	1	.
Daily labour	1.929(0.819-4.543)	0.133
Farmer	1.615(0.689-3.789)	0.270
Merchant	1.233(0.588-2.586)	0.579
Governmental	0.878(0.451-1.711)	0.702
Types of toilet facility		
Twin pit with slap	1	.
Pit latrine with slap	0.718(0.183-0.741)	0.635
Flush to piped sewer system	0.061(0.005-2.819)	0.028

NB: Level of significance (p-value< 0.2)

Table 6 shows the results of bivariate Poisson regression analysis for association between socio-demographic variables and child health index. The variables with a p-value of <0.2 were household income, number of households in the compound, sex, age, ethnicity, religion, marital status, level of education, occupation, household hygiene practice, sanitation practice and liquid waste disposal.

Table 6: Bivariate Poisson regression for socio-demographic predictors of child health index Fitche Town, 2022 (n=422)

Variables	**Exp(B)with 95% CI**	**P-Value**
Number of households in compounds	1.040(0.992-1.090)	0.102
Household size	0.991(0.913-1.075)	0.825
Household income		
Higher income	1	.
High income	1.250 (0.625-2.501)	0.528
Medium income	1.544(.778-3.063)	0.214
Low income	4.242(1.732-10.392)	0.002
Sex of respondents		
Female	1	.

Male	0.790(0.602-1.038)	0.091
Age of respondents	1.013(1.003-1.023)	0.010
Ethnicity		
Tigrae	1	.
Amhara	0.639(0.383-1.066)	0.086
Oromo	0.445(0.268-0.740)	0.002
Gurage	0.830(0.419-1.642)	0.592
Religion		
Protestant	1	.
Muslim	1.052(0.419-2.227)	0.895
Orthodox	1.507(0.933-2.434)	0.094
Marital status		
Widowed	1	.
Separated/divorced	0.732(0.296-1.814)	0.501
Single	0.515(0.170-1.565)	0.242
Married	0.637(0.372-1.092)	0.101
Level of education		
No education	1.820(1.322-2.507)	0.000
Primary School	1.305(0.863-1.973)	0.207
Secondary School	0.962(0.710-1.304)	0.802
Post-secondary education	1	.
Occupation of respondents		
House Wife	1	.
Daily labour	1.609(0.906-2.857)	0.105
Farmer	1.708(0.954-3.057)	0.071
Merchant	1.450(0.850-2.476)	0.173
Governmental	1.088(0.652-1.814)	0.748
Household hygiene practice		
Both of them present(water and soap)	1	.
No access	1.085(0.795-1.481)	0.605
One of them(water or soap)	1.294(0.931-1.798)	0.124
Household sanitation practice	0.889(0.794-0.995)	0.040
Liquid waste disposal		
Open field	1	.
Safe disposal	1.353(1.052-1.740)	0.019

NB: Level of significance (p-value< 0.2)

4.1.4 Multi-variable analysis

The results of multivariable Poisson regression are shown in Table4.6. Out of 09 variables examined, four variables had associations with household hygiene practice after controlling the effects of all variables. These are household income, level of education, occupation and source of drinking water. The other predictor variables had no effect on the dependent variable.

The expected mean of household hygiene practice was significantly lower among low income groups compared to higher income groups (RR=0.382, 95% CI: 0.211-0.694, p-value=0.002). Those who have no education and primary school had lower mean of household hygiene practice (RR=0.480; 95% CI: 0.276-0.836 and RR=0.602; 95% CI: 0.368-0.984, respectively). The mean of household hygiene practice index was significantly lower for farmers, daily labours, (RR=0.440; 95% CI 0.219-0.883 and RR=0.496; 95% CI0.270-0.914, respectively) compared to the reference category (housewife). The expected mean of household hygiene practice was higher among those who had source of drinking water piped to dwelling and compound/yard.

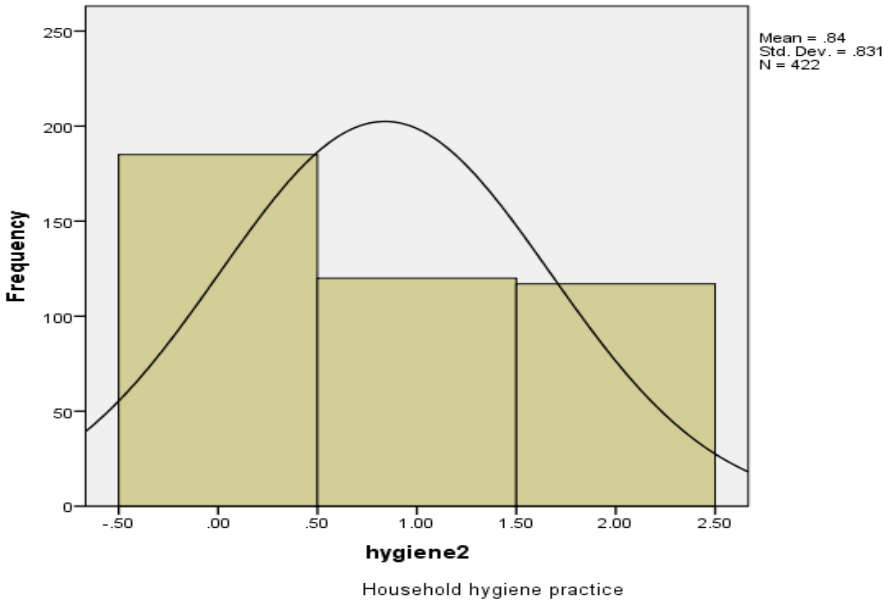

Figure 3: Histogram of Household hygiene practice

Table 7*:* Multi-variable Poisson Regression analysis for socio-demographic predictors of household hygiene practice, Fitche town, 2022 (n= 422)

Variable	Exp(B)with 95%CI	P-Value
Presence of old age members		
No	1	.
Yes	0.997(0.397-2.506)	0.995
Presence of disabled members		
No	1	.
Yes	0.901(0.347-2.337)	0.830
Household income		
Higher Income	1	.
High Income	0.874(0.634-1.206)	0.413
Medium Income	0.723(0.506-1.032)	0.074
Low Income	0.382(0.211-0.694)	0.002
Sex of respondents		
Female	1	.
Male	1.169(0.886-1.541)	0.269
Level of education		
No-education	0.480(0.276-0.836)	0.009
Primary School	0.602(0.368-0.984)	0.043
Secondary School	1.019(0.756-1.374)	0.902
Post-secondary School	1	.
Source of drinking water		
Public tab/standpipe	1	.
Piped to dwelling	5.932(1.211-29.053)	0.028
Piped to Cpd/yard	5.622(1.382-22.873)	0.016
Piped to neighbor	1.695(0.150-19.212)	0.670
Occupation		
Housewife	1	.
Governmental	0.886(0.557-1.407)	0.607
Merchant	0.830(0.529-1.303)	0.418
Farmer	0.440(0.219-0.883)	0.021
Daily Labour	0.496(0.270-0.914)	0.025
Number of households in compound	1.015(0.971-1.061)	0.509
Number of household members	1.010(0.937-1.088)	0.800
Scale	1	
Deviance/DF =1.330		

NB: Level of significance (p-value< 0.05).

The dependent variable, household sanitation practice is a count Variable. Thus, the independent variables were entered into Poisson regression model to examine the effect of associations between the outcome variable and these explanatory variables. The results of multivariable Poisson regression are shown in Table 7. Out of 05 variables examined, three variables had associations with household sanitation practice after controlling for all variables. These are number of households in the compound, level of education, occupation and type of toilet facility. The other variables had no effect on the dependent variable. Those who had no education and primary school had higher mean of household sanitation practice (RR=2.530; 95% CI: 0.969-6.601 and RR=2.940; 95% CI: 1.129-7.657, respectively) compared to the reference category. The expected mean of household sanitation practice was lower among those with higher number of households in compound compared to those who had no additional households (RR=0.717; 95% CI: 0.647-0.794). Similarly, the expected mean of household Sanitation practice was lower among both pit latrines with slab, Flush to sewer system facility ownership (RR= 0.194; 95% CI: 0.042-0.896, RR=0.021; 95% CI 0.001-0.302) compared to twin pit with slab facility.

Table 8*:* Multi-variable Poisson regression analysis for key socio-demographic variables of household sanitation practices, Fitche town, 2022 (n=422)

Variable	**Exp(B) with 95% CI**	**P-Value**
Households income		
Higher Income	1	.
High Income	0.527(0.223-1.245)	0.258
Medium Income	0.527(0.527-1.245)	0.144
Low income	1.073(0.358-3.214)	0.899
Level of education		
No Education	2.530(0.969-6.601)	0.058
Primary Education	2.940(1.129-7.657)	0.027
Secondary School	1.483(0.747-2.943)	0.260
Post-Secondary School	1	.

Occupation		
Housewife	1	.
Governmental	1.907(0.753-4.828)	0.173
Merchant	1.716(0.731-4.033)	0.215
Farmer	2.489(0.872-7.104)	0.088
Daily Labor	2.468(0.950-0.411)	0.064
Type of toilet facility		
Twin Pit with slab	1	.
Flush to sewer system	0.021(0.001-0.302)	0.005
Pit latrine with Slab	0.194(0.042-0.896)	0.036
Number of households in the compound	0.717(0.647-0.794)	0.000
Scale	1	
Deviance/DF =1.431		

NB: Level of significance (p-value< 0.05)

The dependent variable, child heath index, was count variable. Thus, the independent variables were entered into Poisson regression model to examine the effect of associations between the outcome variable and these explanatory variables. The results of multivariable Poisson regression are shown in Table 4.8. Out of 11 variables examined, six variables had associations with child health index after controlling for all variables in the model. These are household's income, occupation, ethnicity, household sanitation practice, presence of soap for hand washing, and liquid wastes disposal system. The other predictor variables had no effect on the dependent variable.

The expected mean of child health index was significantly higher among high income groups (RR=1.801; 95%CI 1.099-2.950, p-value=0.019) compared to the reference group (higher income group). Regarding ethnicity the expected mean of child health index among Oromo was significantly lower by 47.8% (RR=0.522; 95% CI 0.307-0.889) compared to the reference group (Tigrae) and also the mean of child health index was significantly higher for merchants, (RR= 1.896; 95% CI, 1.047-3.434, p-value=0.035 and RR=1.926; 95% CI 1.004-3.698, p-value=0.049), Compared to Housewives. Similarly, the expected mean of child health index was significantly higher for those who had practiced safe disposal of liquid waste and those who use soap for hand washing. Whereas, the expected mean of child health index was significantly higher among who had better household sanitation practice.

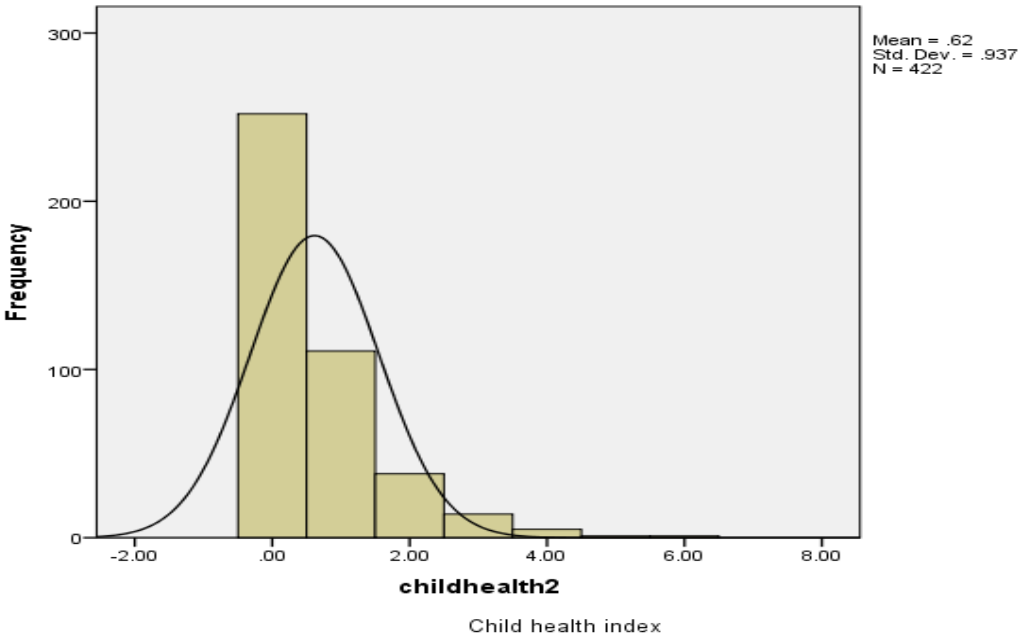

Figure 4: Histogram of child health Status

Table 9: Multi-variable of Poisson regression analysis for socio-demographic predictors of child health index, Fitche town, 2022 (n=422*)*

Variables	Exp(B) 95% CI	P-value
Sex		
Male	0.802(0.584-1.101)	0.173
Female	1	.
Marital status		
Married	0.632(0.345-1.158)	0.138
Single	0.499(0.152-1.632)	0.250
Divorced	0.547(0.211-1.418)	0.214
Widowed	1	.
Level of education		
No-education	1.197(0.675-2.120)	0.539
Primary education	0.984(0.550-1.759)	0.956
Secondary education	0.794(0.513-1.229)	0.301
Post-secondary	1	.
Occupation		
Government employee	1.323(0.682-2.564)	0.408

Merchant	1.896(1.047-3.434)	0.035
Farmer	1.457(0.743-2.857)	0.273
Daily labour	1.926(1.004-3.698)	0.049
Housewife	1	.
Liquid wastes		
Safe disposal	1.469(1.081-1.997)	0.014
Open field	1	.
Age of respondent's	1.006(0.994-1.018)	0.308
Household Sanitation practice	0.857(0.749-0.981)	0.025
Ethnicity		
Amhara	0.647(0.381-1.098)	0.106
Oromo	0.522(0.307-0.889)	0.017
Gurage	0.914(0.452-1.846)	0.801
Tigrae	1	
Household income		
Low income	1.217(0.631-2.348)	0.558
Middle income	1.466(0.860-2.500)	0.160
High income	1.801(1.099-2.950)	0.019
Higher income	1	
Presence of water for hand washing		
No	1	.
Yes	0.829(0.603-1.138	0.246
Presence of soap for hand washing		
No	1	.
Yes	1.448(1.074-1.953)	0.015
Scale	1	
Deviance/DF =1.307		

NB: Level of significance (p-value< 0.05).

5.1 Discussion

This study has primarily aimed at assessing the socio-demographic predictors of hygiene and sanitation practice and its effect on child health index. The univariate analysis indicated that substantial proportion of households had water access (93.1%) which is piped to their dwellings/yard. This figure is much higher when compared to the national figure reported by the Ethiopian Demographic and Health Survey/EDHS-2016, (69.94%). On the contrary, 99.1% of households complained about scarcity of water and only 23.7% practice water treatment at home level. Previous study in Dambiya, Tigray region and Benin (West Africa) indicated that water treatment at home level were 47% and 18.3% and 9%, respectively. It was further noted that 72.2% had poor household hygiene practice and 27.8% had good practice. For household who had source of water piped to their dwelling and/or yard, the expected mean index of household hygiene practice increased by 5.962 and 5.622 (95%CI: 1.211-29.053, 95%CI: 1.382-22.873, respectively) compared to the reference category. No literature was found for comparison.

The finding indicated positive association between education of household head and household hygiene practice was significantly lower among no education and primary education. This finding is consistent with the study conducted in Ghana (Bosch and others 2001), Manyara, Tanzania (Mshida, et.al, 2020), Per-urban Ethiopia (Abera, 2018).

For the second outcome variable (household sanitation practice), the results of this study shows that, three of them were significantly associated with the outcome in multi-variable Poisson regression. These are number of households in the compound, level of education and type of toilet facility. Regarding, level of education the expected mean of household sanitation practice was significantly higher among primary education. This finding was inconsistent with a study conducted on determinants of access and sanitation practice, in Ghana (Bosch and others 2001), Manyara, Tanzania (Mshida, et.al, 2020); Per-urban Ethiopia (Abera, 2018). In previous study conducted in urban setting of Bangladesh latrine coverage 51% (Unit, 2015)and 25.36%(EDHS-2016).No association was found between household income and occupation. Those who had toilet facility flush to sewer and pit latrine with slap, had a mean index of household sanitation practice decreasing by 97.9% and 80.6% (RR=0.021, 95%CI: 0.001-0.302, RR=0.194, 95%CI: 0.042-0.896, respectively), compared to the reference(two pit with slap). No literature was found for comparison

Water, sanitation, and hygiene (WASH) investments are widely seen as essential for improving health in early childhood. However, the experimental literature on WaSH interventions identifies inconsistent impacts on child health outcomes, with relatively robust impacts on diarrhea and other symptoms of infection (Headey& Palloni, 2019). For the third outcome variable (Child health index), the results of this study shows that, six of them were significantly associated in multi-variable Poisson regression. These are household income, occupation, ethnicity, household sanitation practice, presence of soap for hand washing and liquid waste disposal system. This result shows that, the expected mean of child health index was significant higher among high income compared to the reference group (higher income). This finding is consistent with previous study done in Hadaleala District, Afar Region (Wondwoson, 2016), Nigeria (Chineke. et .al, 2021). The expected mean of child health index was significantly higher among who had better household sanitation practice. This finding is concur with previous study in Nigeria (Chineke.et .al, 2021), Woldia Town (Getahun and Other, 2021).The expected mean of child health index was significantly higher who had soap for hand washing compared to the reference and same result with study done in Nigeria(Chineke,et .al,2021), Woldia (Getahun and Other,2021). Oromo ethnicity had, the expected mean number of child health index decreased by 47.8 percent (RR=0.522, 95%CI: 0.307-0.889) and also who had better house sanitation practice, the expected mean number of child health index decreased by 14.3percent (RR=0.857, 95%CI: 0.749-0.981), respectively when compared to the reference category. The expected mean number of child health index increased by 1.896(95%CI: 1.047-3.434) for merchants and the expected mean number of child health index increased by 1.926(95%CI: 1.004-3.698) when compared to the reference groups (housewife).

The study result shows that 59.7% households had good child health index whereas, 40.3% had present with one or more child health indices/diseases this indices are more likely related to poor management of wastes especially poor hand washing with soap, liquid wastes and poor sanitation practice.

Chapter - five

Conclusion and Recommendations

5.1 .Conclusions

This study assessed the links between socio-demographic factors and hygiene and sanitation practice and its effect on child health index in Fitche Town, north Shoa. The results revealed that the households used unacceptably practices for conserving drinking water and have developed poor hygiene and sanitation practice mainly due to scarcity of water, lack of waste disposal especially liquid waste and poor access to information. Also, poor practice of hygiene and sanitation were found to have adverse effects on child health index. Therefore, improvement of household socio-economic status, infrastructure and access to education, enhancing the capacity of individual and households groups to achieve and sustain equitable access to, and use of, improved drinking water and basic sanitation and adoption of improved hygiene practices would contribute to improvement of child health and household well-being. More rigorous studies could be required to examine the changes in child health over time using longitudinal data.

5.2. Recommendations

Based on the results of this study the following recommendation can be forwarded to overcome better household hygiene and sanitation practice and thereby improve overall child health status and household wellbeing.

1. Health education should be provided by health extension worker on the importance of household hygiene and sanitation practice and its effect on child health index.
2. The town administrative offices strictly take action to construct infrastructure for proper disposal waste place and sewerage since almost all of household do not have access to these services.
3. Household in Fitche town should be educated to develop the culture to treat/sterilization water at home level and the town should install its own water quality testing facility.
4. Health extension workers should use all medium of communication possible, including the use of Behavioural Change Communication (BCC) strategies, to influence the knowledge, attitude and behavior of the community members.

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6. Appendices-I: English version of Questionnaires

Addis Ababa University

College of Development Studies

Center for Population Studies

Consent

Hello, my name is _____. Currently, I am collecting data for the study of household hygiene and sanitation practices in Fiche town, North Shoa. I am here to ask you some questions related to Socio demographic information, your knowledge, access to the services, and overall health of household members (especially children). The purpose of this study is to assess the factors that affect WASH practice at household level and its implication on child health. Your participation in this study is very important as it will help us create more in-depth understanding of the problems associated with access and utilization.

Be assured that all the information you provide will be treated strictly with utmost confidentiality. This questionnaire will be assigned a unique identification number, which means that none of the answers you give will be linked to your name. The interview will take 90-120 minutes.

PLEASE NOTE THAT…

- ✓ Your participation in this study is entirely voluntary and involves no cost.
- ✓ You can refuse to participate or stop at any time without giving any reason for doing so.
- ✓ Some of the questions are very personal, requiring you to give your own opinion
- ✓ Please remember that you are free to skip any question you do not want to answer, and that you are free to stop answering questions at any time.
- ✓ There are no rights or wrong answers; we want to know about you, your opinions, and experiences.

May I continue the interview?

Respondent consent obtained: YES NO

Identification

Identification Code: Date:

Name of Data collector: Sig:

Household Information

HI01	How many other households are located in the compound? *Write down the count. If the household is not located in a compound, enter 0*	___ ___	
HI02	Is there at least one person over age 65 living in this household?	1 – Yes 2 – No	
HI03	Is there at least one adult living in the household who has difficulty with any of the following: Seeing, walking, self-care such as dressing and washing the body, or using hands for routine activities?	1 – Yes 2 – No	
HI04	How many people are living in this household?	___ ___	
HI05	How many children under age 5 are living in this household?	___ ___	
HI06	Is this household owned by you or rent?	1 – Own house 2 – Rented 3.- Others	
HI07	How much money earn within a month?	_____Birr	

Respondent Demographics			
CG01	Identify the respondent: are you the head of the household?	1 – Yes 2 –No	
CG02	Sex of the respondent	1. Male 2. Female	
CG03	How old were you at your last birthday? (in years) *Estimate if the respondent does not know*	___ ___ ___ Years	
CG04	What is your ethnicity?	1 – Amhara	

		2 - Oromo 3 - Gurage 4 - Tigrae 5 – Others (specify) 5a:_____	
CG05	What is your religion?	1 -Orthodox 2 -Muslim 3-Prostentant 4 - None 5 - Others 5a - If others, specify _____	
CG06	What is your marital status?	1 - married 2 - single / never married 3 - divorced 4 - separated 5 - widowed 6 - other (specify) 6a:_____	
CG07	What is the highest level of school that you attended: primary, secondary, or higher?	0 - No Education 1 - Primary School 2 - Secondary school 3 - Post-secondary education	
CG08	What is your Job/Occupation?	1- Governmental 2- Merchant 3- Farmer 4- Daily labour 5-Other(specify) 5a:_____	

Knowledge of Water, Sanitation and Hygiene			
KW01	Can unsafe water cause diarrheal diseases?	1-Yes 2-No	

KW02	Can water get contaminated?	1-Yes 2-No	
KW03	Was a clean water source used for hand washing?	1-Yes 2-No	
KW04	What are the consequences of liquid wastes?	1- Expose to diseases 2- Does not expose to diseases	
KW05	Does animal dung cause diseases?	1-Yes 2-No	
KW06	Have you got information on WASH in the last 6 months?	1-Yes 2-No	
KW07	What is your source of information about WASH?	1- Health extension workers 2-Womendevelopment army/community 3- Radio/television	
KW08	What was the information received on WASH about?	1- Hand hygiene 2- Water quality 3- Latrine Sanitation	
KW09	Is latrine essential and obligatory for every household?	1-Yes 2.No	
KW10	Prevention mechanisms for acute watery diarrhea?	1- Food hygiene 2- Hand hygiene 3- Sanitation Using latrine	
KW11	What are the consequences of not washing hands?	1- Expose to various diseases 2- Does not expose to diseases	

Household Water Access and Treatment			
HW01	What is the main source of ***drinking water*** for members of your household?	1 - Piped into dwelling 2 - Piped into compound, yard, or plot	

	If unclear, probe to identify the place from which members of this household most often collect drinking water (collection point).	3 - Piped to neighbour 4 - Public tap / standpipe 5 - Tube Well / Borehole 6 -Protected well 7 - Unprotected well 8 - Protected spring 9 - Unprotected spring 10 - Rainwater collection 11 - Tanker-truck 12 - Cart with small tank 13 - Water kiosk 14 - Surface water (river, dam, lake, pond, stream, canal, irrigation channel) 15 - Bottled water 16 - Sachet water 17 - Other (specify) 17a: _____	
HW02	Where is that water source located?	1 - In own dwelling 2 - In own yard / compound 3 - Elsewhere	
HW03	How long does it take for members of your household to go there, get water, and come back? *Enter '88' if they do not know. Enter '99' if household members do not collect*	Number of minutes: __ __ __	
HW04	In the last month, has there been any time when your household did not have sufficient quantities of drinking water?	1 - Yes, at least once 2 - No, always sufficient 88 - Don't know	
HW05	Do you or any other household member do anything to the water to make it safer to drink?	1 – Yes 2 – No 88 – Don't know	
HW06	What do you usually do to the water to make it safer to drink? Anything else?	Yes no 1 – Boil 1 2	

	Check all that apply	2 - Add bleach / chlorine 1 2 3 - Strain it through a cloth 1 2 4 - Use water filter (ceramic, sand, composite, etc.) 1 2 5 - Solar disinfection 1 2 6 - Let it stand and settle 1 2 7 - Other (specify) 7a: _____1 2 88 - Don't know	
HW07	Does your household have a storage tank?	1 – Yes 2 – No 88 – Don't know	
HW08	Does your household store drinking water in small containers?	1 – Yes 2 – No 88 – Don't know	

Household Sanitation Part I: Interview and Visual Inspection			
HSV01	What kind of toilet facility do members of your household usually use? *If 'Flush' or 'Pour flush', probe:* Where does it flush to? *If not possible to determine, ask permission to observe the facility.*	1 - Flush to piped sewer system 2 - Flush to septic tank 3 - Flush to pit latrine 4 - Flush to open drain 5 - Flush to DK where 6 -Pit latrine with slab 7 - Pit latrine without slab / Open pit 8 - Composting toilet 9 - Twin pit with slab 10 - Twin pit without slab 11 - Bucket 12 - Hanging toilet / latrine 13 - No facility / Bush / Field 14 - Other (*specify*) 14a: _____	
HSV02	Where is this toilet facility located?	1 - In own dwelling	

		2 - In own yard / plot 3 - Elsewhere	
HSV03	Do you share this facility with others who are not members of your household?	1 - Yes 2 - No	
HSV04	Do you share this facility only with members of other households that you know, or is the facility open to the use of the general public?	1 - Shared with known households (not public) 2 - Shared with general public	
HSV05	Who has primary responsibility for maintaining the latrine?	1 – Respondent's household 2 – Another household 3 – shared responsibility	
HSV06	How many households in total use this toilet facility, including your own household? *Enter '88' if they do not know*	___ ___ households	
HSV07	Has your latrine pit or septic tank ever been emptied?	1 – Yes 2 – No 88 – Don't know	
HSV08	When your pit latrine or septic tank was last emptied? *Determine number of months. If they don't know, enter '88'*	___ ___ months	
HSV09	Does the latrine have a slab?	1 - Yes 2 - No 88 - Could not observe	
HSV10	Is there a container for water inside the latrine?	1 - Yes 2 - No 88 - Could not observe	
HSV11	Does the latrine have covering on all four sides?	1 - Yes 2 - No	

		88 - Could not observe	
HSV12	Does the latrine have an intact roof that provides shelter?	1 - Yes 2 - No 88 - Could not observe	
HSV13	How can you management liquid wastes?	1- Use in Kitchen garden 2- Food to cattle 3- Others (pond, soaked. Pit system)	
HSV14	How can you management Solid wastes?	1- Burn 2- Prepare Compost 3- Others(land fill, dumping)	

Household Hand washing Materials			
HM01	Can you please show me where members of your household <u>most often</u> wash their hands? **Observation:** What type of facility was it? Record result and observation.	1 - Fixed facility observed (Sink / Tap) in dwelling 2 - Fixed facility observed (Sink / Tap) in yard /plot 3 - Mobile object observed (Bucket / Jug / Kettle) 4 - No hand washing place in dwelling / yard / plot 5 - No permission to see 6 - Other (specify) 6a: _____	
HM02	**Observation:** Observe availability of water at the place for hand washing. Verify by checking the tap/pump, or basin, bucket, water container or similar objects for presence of water.	1 - Water is available 2 - Water is not available	
HM03	**Observation:** Observe availability of soap or detergent at the place for hand washing.	1 - Soap or detergent available 2 - Soap or detergent not available	

HM04	**Observation:** Is ash/mud/sand present at the place for hand washing	1 - Yes, present 2 - No, not present	
HM05	When do you wash Your hands**?**	1- Before handling food 1 2 2- After defecation 1 2 3- After cleaning children 1 2 4- before preparing food 1 2 5- when hands are dirty 1 2	

Household Sanitation Part III: Access			
HSA01	Is there a latrine that member of your household use?	1 – Yes 2 – No	
HSA02	Can you use the latrine every time you need to defecate (during the day and at night) when you are in or near the house?	1 – Yes 2 - No	
HSA03	If you cannot use the latrine every time you need, then where do you go instead? Do you do anything else? *Check all that apply. Do not prompt.*	1 - use another family's latrine 2 - use a bucket which is emptied into a latrine 3 - go on the floor and someone picks it up and puts it into the latrine 4 - go in a black plastic bag and throw the bag out of the house in the morning 5 - defecate on the ground and leave it there 6 - dig and bury it 7 - other (specify) 7a: _____	
HSA04	Are all, most, some or none of the BOYS in the home allowed to use the household latrine?	1 – All of them 2 – Most of them 3 – Some of them 4 – None of them 88 – Don't know 99 – No boys in home	

HSA05	Are all, most, some or none of the GIRLS in the home allowed to use the household latrine?	1 – All of them 2 – Most of them 3 – Some of them 4 – None of them 88 – Don't know 99 – No girls in home	
HSA06	Are all, most, some or none of the MEN in the home allowed to use the household latrine?	1 – All of them 2 – Most of them 3 – Some of them 4 – None of them 88 – Don't know 99 – No men in home	
HSA07	Are all, most, some or none of the WOMEN in the home allowed to use the household latrine?	1 – All of them 2 – Most of them 3 – Some of them 4 – None of them 88 – Don't know 99 – No women in home	

Impacts of WASH on child health			
Now I am going to ask you some questions about the overall health and safety of your household members			
IW01	During the last 15 days, has anyone in the household had cough?	1 – Yes 2 – No 88 – Don't Remember	
IW02	During the last 15 days, has anyone in the household had stomach ache?	1 – Yes 2 – No 88 – Don't Remember	
IW03	During the last 15 days, has anyone in the household had visited a clinic/ health facility due to some health issues?	1 – Yes 2 – No	

		88 – Don't Remember	
IW04	During the last 15 days, has any child under age 5 had diarrhea?	1 – Yes 2 – No 88 – Don't Remember	
IW05	During the last 15 days, has any child under age 5 had any pain or discomfort needing medical attention?	1 – Yes 2 – No 88 – Don't Remember	
IW06	Have you encountered death of a child under 5 during the last three five years?	1 – Yes 2 – No 88 – Don't Remember	Skip to ES 08 if the answer is 'No'.
IW07	If the answer for the Q ES06 is yes, what was the cause	1 – diarrhea 2 – respiratory disease 3 – Internal body pain 4. Communicable diseases 5. Other causes	
IW08	During the last one year, has your child been admitted to the hospital or clinic or health facility due to respiratory or communicable disease?	1 – Yes 2 – No 88 – Don't Remember	

6.1 Appendices –II Amharic version of Questionaries'

Addis Ababa University
College of Development Studies
Center for Population Studies

የፍቃደኝነት መጠየቂያ ቅፅ

ሰላም ስሜ _____. በአሁኑ ወቅት በሰሜን ሸዋ ፍቼ ከተማ የቤተሰብ ንፅህና እና ንፅህና አጠባበቅ ጥናት መረጃ እየሰበሰብኩ ነው። ከሶሺዮ ስነ ሕዝብ መረጃ፣ ከዕውቀትዎ፣ ከአገልግሎቶች ተደራሽነት እና ከቤተሰብ አባላት (በተለይም ሕፃናት) አጠቃላይ ጤና ጋር የተያያዙ አንዳንድ ጥያቄዎችን ልጠይቅህ እዚህ መጥቻለሁ። የዚህ ጥናት አላማ የንጽህና አጠባበቅ ሂደቶችን በቤተሰብ ደረጃ እና በልጆች ጤና ላይ ያለውን ተጽእኖ ለመገምገም ነው። በዚህ ጥናት ውስጥ የእርስዎ ተሳትፎ በጣም አስፈላጊ ነው ምክንያቱም ከተደራሽነት እና አጠቃቀም ጋር የተያያዙ ችግሮችን የበለጠ ጥልቅ ግንዛቤ ለመፍጠር ይረዳናል.

ሁሉም የሚያቀርቡት መረጃ በጥብቅ ሚስጥራዊነት እንደሚስተናገዱ እርግጠኛ ይሁኑ። ይህ መጠይቅ ልዩ መለያ ቁጥር ይመደብለታል፣ ይህ ማለት እርስዎ ከሚሰጧቸው መልሶች ውስጥ አንዳቸውም ከስምዎ ጋር አይገናኙም። ቃለ መጠይቁ ከ90-120 ደቂቃ ይወስዳል።

እባክዎትን የሚከተሉትን ማስታወሻ ያስተዉሉ...

- ✓ በዚህ ጥናት ውስጥ ያለዎት ተሳትፎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ እና ምንም ወጪ የማይጠይቅ ነው።
- ✓ ምንም አይነት ምክንያት ሳይሰጡ በማንኛውም ጊዜ ለመሳተፍ እምቢ ማለት ወይም ማቆም ይችላሉ።
- ✓ አንዳንዶቹ ጥያቄዎች በጣም የግል ናቸው፣ የራሳችሁን አስተያየት እንድትሰጡ የሚጠይቁ ናቸው።
- ✓ እባኮትን መልስ መስጠት የማትፈልጉትን ማንኛውንም ጥያቄ ለመዝለል እና በማንኛውም ጊዜ ለጥያቄዎች መልስ መስጠት ለማቆም ነጻ መሆንዎን ያስታውሱ።
- ✓ ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም; ስለእርስዎ፣ ስለእርስዎ አስተያየት እና ተሞክሮዎች ማወቅ እንፈልጋለን።

ቃለ መጠይቁን ልቀጥል?

የተሳታፊ ስምምነት ተገኝቷል: አዎ ☐

መለያ

መለያ ቁጥር: ቀን:

የመረጃ ሰብሳቢ ስም: ፊርማ:

የቤተሰብ መረጃ			
HI01	በግቢው ውስጥ ስንት ሌሎች አባወራዎች ይገኛሉ? (ቆጠራውን ይፃፉ. ቤተሰቡ ግቢ ውስጥ ካልሆነ፣ 0 አስገባ)	___ ___	
HI02	በዚህ ቤተሰብ ውስጥ ቢያንስ አንድ ከ65 ዓመት በላይ የሆነ ሰው ይኖራል?	1 — አዎ 2 — አይ	
HI03	ከሚከተሉት ውስጥ በአንዱ የሚቸገር ቢያንስ	1 — አዎ	

	አንድ ጎልማሳ በቤተሰብ ውስጥ ይኖራል: ማየት, መራመድ, ራስን መቻል እንደ ልብስ መልበስ እና ገላ መታጠብ, ወይም እጆችን ለዕለት ተዕለት እንቅስቃሴዎች መጠቀም?	2 — አይ	
HI04	የዚህ ቤተሰብ አባዋራ ከአንድ ሚስት በላይ ያገባ ነው? (ማስታወሻ፡ ባል ሁለት ወይም ከዚያ በላይ ሚስቶች አሉት)	1 — አዎ 2 — አይ	
HI05	በዚህ ቤተሰብ ውስጥ ስንት ሰዎች ይኖራሉ?	___ ___	
HI06	በዚህ ቤተሰብ ውስጥ ከ5 ዓመት በታች የሆኑ ስንት ልጆች ይኖራሉ?	___ ___	
HI07	የእርስዎ ቤት ነው ወይስ ተከራይ ኖት?	1 — የራሴ ነዉ 2 — ተከራይቼ 3.- ሌላ	
HI08	በወር ውስጥ ምን ያህል ገንዘብ ገቢ ያገኛሉ?	1- < 1500 ብር 2- 1500-2500 ብር 3- 2500-4000 ብር 4- > 4000 ብር	

የምላሽ ሰጪ የስነ ሕዝብ አወቃቀር			
CG01	ምላሽ ሰጪውን ይለዩ፡ እርስዎ የቤተሰብ አስተዳዳሪ ነዎት?	1 — አዎ 2 —አይ	
CG02	የምላሽ ሰጪው ፆታ	1. ወንድ 2. /ሴት	
CG03	በመጨረሻው ልደትህ ስንት አመትዎ ነበር? (በአመታት) (ምላሽ ሰጪው የማያውቅ ከሆነ ይገምቱ)	___ ___ ___ ዓመት	
CG04	ብሄርህዎ ምንድነዉ	1 — አማራ 2 — ኦሮሞ 3 — ጉራጌ 4 — ትግሬ 5 — ሌላ (ለይተዉ ይፃፉ) 5a:_____	
CG05	ሃይማኖትዎ ምንድን ነው?	1 —ኦርቶዶክስ 2 —መስሊም 3-ፕሮቴስታንት 4 — ምንም 5 — ሌላ 5a - ሌላ ከሆነ ይለዩ _____	
CG06	የጋብቻዎ ሁኔታ	1 — ባለትዳር 2 - ያላገባ 3 — የተፋታ 4 - ተለያይተዋል 5 — ባል የሞተባት 6 — ሌላ (ለይተዉ ይፃፉ) 6a:_____	
CG07	የተማሩት ከፍተኛ የትምህርት ደረጃ	0 - ምንም አይነት ትምህርት አልተማርኩም 1 - የመጀመሪያ ደረጃ ትምህርት 2 - ሁለተኛ ደረጃ ትምህርት 3 - የድህረ-ሁለተኛ ደረጃ ትምህርት	
CG08	ሥራዎ ምንድን ነው?	1- የመንግስት ስራ 2- ነጋዴ 3- ገበሬ 4- የጉልበት ሥራ 5-ሌላ(ይለዩ) 5a:_____	

የውሃ ፣ የንፅህና እና የንፅህና አጠባበቅ እውቀት			
KW01	ንፁህ ያልሆነ ውሃ የተቅማጥ በሽታዎችን ሊያስከትል ይችላል?	1-አዎ 2-አይ	
KW02	ውሃ ሊበክል ይችላል?	1- አዎ 2-አይ	
KW03	ንፁህ የውሃ ምንጭ ለእጅ መታጠቢያ ይገለገሉ ነ ነበር?	1-አዎ 2-አይ	
KW04	የፈሳሽ ቆሻሻ ውጤቶች ምንድናቸው?	1- ለበሽታዎች ያጋልጣል 2- ለበሽታዎች አያጋልጥም	
KW05	የእንስሳት እበት በሽታ ያስከትላል?	1-አዎ 2-አይ	
KW06	ባለፉት 6 ወራት ውስጥ ስለ የውሃ የንጽህና እና የንፅህና አጠባበቅ መረጃ አግኝተዋል?	1-አዎ 2-አይ	
KW07	ስለ ውሃ. የንጽህና እና የንፅህና አጠባበቅ የመረጃ ምንጮ ምን ነበር?	1- ከጤና ኤክስቴንሽን ሰራተኞች 2- የሴቶች ልማት ሰራዊት/ማህበረሰብ 3- ሬዲዮ / ቴሌቪዥን	
KW08	ስለ ውሃ. የንጽህና እና የንፅህና አጠባበቅ ጉዳይ ያገኙት የመረጃ ምን ነበር?	1- የእጅ ንፅህና 2- የውሃ ጥራት 3- የመጸዳጃ ቤት ንጽህና	
KW09	ለእያንዳንዱ ቤተሰብ መጸዳጃ አስፈላጊ እና ግዴታ ነው?	1-አዎ 2.አይ	
KW10	አጣዳፊ የውሃ ተቅማጥን የመከላከል ዘዴዎች?	1- የምግብ ንፅህና 2- የእጅ ንፅህና 3- ሽንት ቤትን በመጠቀም ንፅህናን መጠበቅ	
KW11	እጅን አለመታጠብ የሚያስከትለው መዘዝ ምንድን ነው?	1- ለተለያዩ በሽታዎች ማጋለጥ/ 2- ለበሽታዎች አይጋለጥም	

Household Water Access and Treatment / የቤት ውስጥ የውሃ አቅርቦት እና ሕክምና			
HW01	ለቤተሰብዎ አባላት ዋናው የመጠጥ ውሃ ምንጭ ምንድነው? (ግልጽ ካልሆነ፣ የዚህ ቤተሰብ አባላት አብዛኛውን ጊዜ የመጠጥ ውሃ የሚሰበስቡበትን ቦታ (የመሰብሰቢያ ቦታ) ለማወቅ ይመርምሩ።)	1 - በቧንቧ ወደ መኖሪያ ቤት ገብቷል 2 - ወደ ጓሮ ተዘርግቷል። 3 - ቧንቧ ወደ ጎረቤት 4 - የህዝብ ቧንቧ 5 - ጉድጓድ 6 - የታጠረ የጉድጋድ ውሃ 7 - ያልታጠረ የጉድጋድ ውሃ 8 - የታጠረ የምንጭ ውሃ 9 - ያልታጠረ የምንጭ ውሃ 10 - የዝናብ ውሃን ማጠራቀም 11 - ታንከር-ትራክ 12 - ትንሽ ታንከር ያለው ጋሪ 13 - የውሃ ኪዮስክ 14 የገጸ ምድር ውሃ (ወንዝ፣ ግድብ፣ ሀይቅ፣ ኩሬ፣ ጅረት፣ ቦይ፣ የመስኖ ሰርጥ 15 - የታሸገ ውሃ 16 - የከረጢት ውሃ 17 — ሌላ (ለይተዉ ይፃፉ) 17a: _____	
HW02	የሚጠቀሙት የውሃ ምንጭ የት ነው የሚገኘው?	1 - በራስ መኖሪያ ቤት ውስጥ 2 - በራስ ግቢ ውስጥ 3 — ሌላ ቦታ	
HW03	የቤተሰብዎ አባላት ወደዚያ ሄደው ውሃ ቀድተው እስኪመለሱ ድረስ ምን ያህል ጊዜ ይፈጅባቸዋል? *(ካላወቁ '88' ያስገቡ። የቤተሰብ አባላት ካልሰበሰቡ '99' ያስገቡ)*	የደቂቃዎች ብዛት: __ __	
HW04	ባለፈው ወር፣ ቤተሰብዎ በቂ የመጠጥ ውሃ ያላገኘበት ጊዜ አለ?	1 - አዎ፣ ቢያንስ አንድ ጊዜ 2 - አይ ፣ ሁል ጊዜ በቂ ነዉ 88 - አላውቅም	
HW05	እርስዎ ወይም ሌላ የቤተሰብ አባል ውሃውን ለመጠጥ ደህንነቱ የተጠበቀ ለማድረግ የሆነ ነገር ታደርጋላችሁ?	1 — አዎ 2 — አይ 88 — አላውቅም	
HW06	ብዙውን ጊዜ ውሃውን ለመጠጣት ምቹ እንዲሆን ምን ያደርጋሉ? ሌላ ነገር? (የሚመለከተውን ሁሉ ይምረጡ)	አዎ አይ 1 — ማፍላት 1 2 2 - ክሎሪን መጨመር 1 2 3 - በጨርቅ ውስጥ ማጥለል 1 2 4 - የውሃ ማጣሪያን መጠቀም (ሴራሚክ ፣ አሸዋ ፣ ስብጥር ፣ ወዘተ 1 2 5 - በፀሃይ ሀይል ማፅዳት	

		1 2 6 - እንዲረጋ ና 1 2 7 - ሌላ ካለ ይጥቀሱ 7a: _____1 2 88 - አላውቅም	
HW07	የእርስዎ ቤተሰብ የማጠራቀሚያ ታንክር አለው?	1 — አዎ 2 — አይ 88 — አላውቅም	
HW08	የእርስዎ ቤተሰብ የመጠጥ ውሃን በትንሽ ኮንቴይነሮች ውስጥ ያከማቻል?	1 — አዎ 2 — አይ 88 — አላውቅም	

የቤተሰብ ንጽህና ክፍል 1፡ ቃለ መጠይቅ እና የእይታ ምርመራ			
HSV01	የቤተሰብዎ አባላት ብዙውን ጊዜ የሚጠቀሙት ምን ዓይነት የመጸዳጃ ቤት ነው? ውሃ የሚጠቀም የመፀዳጃ አይነት ከሆነ ፍሳሹ ወዴት ነዉ የሚፈሰዉ *መለየት ካልቻሉ ለመመልከት ፍቃድ ይጠይቁ*	1 - ወደ ፈሳሽ ቆሻሻ ማስወገጃ ቱቦ 2 - ወደ ሴፕቲክ ማጠራቀሚያ 3 - ወደ ጉድጓድ መጸዳጃ ቤት 4 - ወደ ክፍት የፍሳሽ ማስወገጃ 5 - Flush to DK where 6 - ወደ ስላብ ባለዉ የጉድጓድ መጸዳጃ ቤት 7 - ወደ ስላብ የሌለዉ የጉድጓድ መጸዳጃ ቤት 8 - ለማዳበሪያነት ወደሚጠቅመዉ መፀዳጃ 9 - ስላብ ያለዉ መንትያ ጉድጓድ 10 - ስላብ የሌለዉ መንትያ ጉድጓድ 11 - ባልዲ 12 - የተንጠለጠለ መጸዳጃ ቤት 13 - ምንም መገልገያ / ቡሽ / መስክ የለም 14 - ሌላ (*ይጥቀሱ*) 14a: _____	
HSV02	ይህ መጸዳጃ ቤት የት ነው የሚገኘው?	1 - በራስ መኖሪያ ቤት 2 - በራስ ግቢ ውስጥ 3 - የሆነ ቦታ	
HSV03	ይህን መፀዳጃ ቤት የቤተሰብዎ አባላት ላልሆኑ ሌሎች ሰዎች ይጋራሉ?	1 - አዎ 2 - አይ	
HSV04	ይህንን የመፀዳጃ አገልግሎት እርስዎ ከሚያውቋቸው ሌሎች ቤተሰቦች ጋር ብቻ ነው የሚጋሩት ወይስ ተቋሙ ለሰፊው ህዝብ አገልግሎት ክፍት ነው?	1 - ከታወቁ ቤተሰቦች ጋር የተጋራ (የህዝብ ያልሆነ) 2 - ከህዝብ ጋር የተጋራ።	
HSV05	*መጸዳጃ ቤቱን የመንከባከብ ዋና ኃላፊነት ያለው ማነው?*	1 — የምላሽ ሰጪ ቤተሰብ 2 — ሌላ ቤተሰብ 3 — የጋራ ሃላፊነት	
HSV06	የእራስዎን ቤተሰብ ጨምሮ በአጠቃላይ ስንት	___ ___ አባወራዎች	

	አባወራዎች ይህንን የመጸዳጃ ቤት ይጠቀማሉ? ካላወቁ '88' አስገባ		
HSV07	የመጸዳጃ ጉድጓድዎ ወይም የሴፕቲክ ማጠራቀሚያዎ ተመጦ ያውቃል?	1 — አዎ 2 — አይ 88 — አላውቅም	
HSV08	የእርስዎ መጸዳጃ ቤት ጉድጓድ ወይም የሴፕቲክ ታንክ ለመጨረሻ የተመጸጠጠዉ መቼ ነበር የወራት ብዛት ይወስኑ። ካላወቁ፣ '88' ያስገቡ	___ ___ ወራት	
HSV09	መጸዳጃ ቤቱ ጠፍጣፋ አለው?	1 - አዎ 2 - አይ 88 - አላየዉም	
HSV10	በመጸዳጃ ቤት ውስጥ የውሃ ማጠራቀሚያ አለ?	1 - አዎ 2 - አይ 88 - አላየዉም	
HSV11	መጸዳጃ ቤቱ በአራቱም በኩል ሽፋን አለው?	1 - አዎ 2 - አይ 88 - አላየዉም	
HSV12	መጸዳጃ ቤቱ መጠለያ የሚሰጥ ያልተነካ ጣሪያ አለው?	1 - አዎ 2 - አይ 88 - አላየዉም	
HSV13	ፈሳሽ ቆሻሻዎችን እንዴት ነዉ የሚያስወግዱት	1- በኩሽና የአትክልት ስፍራ ውስጥ መጠቀም 2- ለከብቶች ምግብ 3- ሌሎች (ኩሬ፣ የሚያሰርግ ጉድጓድ ውስጥ)	
HSV14	ደረቅ ቆሻሻዎችን እንዴት ነዉ የሚያስወግዱት	1- ማቃጠል 2- ኮምፖስት ማዘገጃጀት 3- ሌሎች (መሬት መመላት, መጣል)	

የቤት ውስጥ የእጅ መታጠቢያ ቁሳቁሶች			
HM01	እባክዎን የቤተሰብዎ አባላት ብዙ ጊዜ እጃቸውን የሚታጠቡበት ቦታ ሊያሳዩኝ ይችላሉ? ምልከታ፡ ምን አይነት ፋሲሊቲ ነበር? ውጤቱን እና ምልከታን ይመዝግቡ።	1 - በመኖሪያ ቤት ውስጥ የሚታይ ቋሚ መገልገያ (ሲንክ) 2 - በጓሮ ውስጥ የተቀመጠ ቋሚ መገልገያ (ሲንክ / ታፕ) 3 - ተንቀሳቃሽ ነገር ታይቷል (ባልዲ/ጆግ / ማንቆርቆሪያ) 4 - በመኖሪያ ቤት / ጓሮ / መሬት ውስጥ የእጅ መታጠቢያ ቦታ የለም 5 - ለማየት ፍቃድ የለም 6 - ሌላ (ይግለፁ) 6a: _____	
HM02	ምልከታ፡- እጅን ለመታጠብ በቦታው ላይ	1 - ውሃ አለ።	

	የውሃ መኖሩን ይመልከቱ። የቧንቧ/ፓምፑን፣ ወይም ገንዳውን፣ ባልዲውን፣ የውሃ መያዣውን ወይም ተመሳሳይ ነገሮችን ውሃ መኖሩን በማጣራት ያረጋግጡ።	2 - ውሃ የለም	
HM03	ምልከታ፡- እጅን ለመታጠብ ሳሙና ወይም ሌላ ንፅህና መጠበቂያ በቦታዉ መኖሩን ይመልከቱ።	1 - ሳሙና ወይም ሌላ ንፅህና መጠበቂያ አለ። 2- ሳሙና ወይም ሌላ ንፅህና መጠበቂያ የለም	
HM04	ምልከታ፡- አመድ/ጭቃ/አሸዋ ለእጅ መታጠቢያ ቦታ አለ።	1 - አዎ አለ 2 - ኤይ የለም	
HM05	መች መች ነዉ እጅ የሚታጠቡት	1- ምግብ ከመያዝዎ በፊት 1 2 2- ከተፀዳዱ በኋላ 1 2 3- ልጆችን ካጸዱ በኋላ 1 2 4- ምግብ ከማዘጋጀት በፊት 1 2 5- እጆች ሲቆሸሹ 1 2	

የቤተሰብ ጽዳት ክፍል III: ተደራሽነት			
HSA01	የቤተሰብዎ አባላት የሚጠቀሙበት መጸዳጃ ቤት አለ?	1 — አዎ 2 — አይ	
HSA02	ቤት ውስጥ ወይም አጠገብ ሲሆኑ መጸዳዳት በሚፈልጉበት ጊዜ ሁሉ (በቀን እና በሌሊት) መጸዳጃውን መጠቀም ይችላሉ?	1 — አዎ 2 - አይ	
HSA03	በሚፈልጉበት ጊዜ ሁሉ መጸዳጃ ቤት መጠቀም ካልቻሉ ታዲያ የት ነው የሚሄዱት? ሌላ ነገር ታደርጋለህ? የሚመለከተውን ሁሉ አረጋግጥ። አትጠይቅ።	1 - የሌላ ቤተሰብ መጸዳጃ ቤት መጠቀም 2 - ወደ መጸዳጃ ቤት የሚወጣ ባልዲ መጠቀም 3 - መሬት ላይ በመሄድ አንድ ሰው አንሥቶ ወደ መጸዳጃ ቤት ያስገባል። 4 - ጥቁር ፕላስቲክ ከረጢት ውስጥ በመፀዳዳት ጠዋት ጠዋት ዩፕላስቲክ ከረጢቱን ከቤት አውጥቶ መጣል 5 - መሬት ላይ መጸዳዳት እና መተው 6 - ቆፍሮ መቅበር 7 - ሌላ ካለ ይግለፁ 7a: _____	
HSA04	በቤቱ ውስጥ ያሉት ሁሉም፣ አብዛኞቹ፣ ጥቂቶቹ ወይም አንዳቸውም የቤተሰብ መጸዳጃ ቤት እንዲጠቀሙ ተፈቅዶላቸዋል?	1 — ሁላቸውም 2 — አብዛኞዎቹ 3 — አንዳንዶቹ 4 — አንዳቸውም አይደሉም 88 — አላውቅም 99 — ምንም ወንድ ልጆች በቤት ውስጥ የሉም	

HSA05	ሁሉም፣ አብዛኞቹ፣ አንዳንድ ወይም አንዳቸውም በቤት ውስጥ ያሉ ልጃገረዶች የቤተሰብ መጸዳጃ ቤት እንዲጠቀሙ ተፈቅዶላቸዋል?	1 — ሁላቸውም 2 — አብዛኛዎቹ 3 — አንዳንዶቹ 4 — አንዳቸውም አይደሉም 88 — አላውቅም 99 — ምንም ልጃገረድ ልጆች በቤት ውስጥ የሉም	
HSA06	ሁሉም፣ አብዛኞቹ፣ አንዳንድ ወይም አንዳቸውም በቤት ውስጥ ያሉ ወንዶች የቤተሰብ መጸዳጃ ቤት እንዲጠቀሙ ተፈቅዶላቸዋል?	1 — ሁላቸውም 2 — አብዛኛዎቹ 3 — አንዳንዶቹ 4 — አንዳቸውም አይደሉም 88 — አላውቅም 99 — ምንም ወንዶች በቤት ውስጥ የሉም	
HSA07	ሁሉም፣ አብዛኞቹ፣ አንዳንድ ወይም አንዳቸውም በቤት ውስጥ ያሉ ሴቶች የቤተሰብ መጸዳጃ ቤት እንዲጠቀሙ ተፈቅዶላቸዋል?	1 — ሁላቸውም 2 — አብዛኛዎቹ 3 — አንዳንዶቹ 4 — አንዳቸውም አይደሉም 88 — አላውቅም 99 — ምንም ሴቶች በቤት ውስጥ የሉም	

የውሃ፣ የንፅህና እና የንፅህና አጠባበቅ በህጻናት ጤና ላይ የሚያሳድረው ተጽዕኖ			
አሁን ስለ ቤተሰብዎ አባላት አጠቃላይ ጤና እና ደህንነት አንዳንድ ጥያቄዎችን ልጠይቅዎት ነው።			
IW01	ባለፉት 15 ቀናት በቤተሰቡ ውስጥ ሳል ያደረበት አለ?	1 — አዎ 2 — አይ 88 — አላስታውስም	
IW02	ባለፉት 15 ቀናት ውስጥ፣ በቤተሰቡ ውስጥ የሆድ ህመም ያለበት ሰው አለ?	1 — አዎ 2 — አይ 88 — አላስታውስም	
IW03	ባለፉት 15 ቀናት ውስጥ በአንዳንድ የጤና ችግሮች ምክንያት በቤተሰቡ ውስጥ ክሊኒክ/ጤና ተቋም የጎበኘ ሰው አለ?	1 — አዎ 2 — አይ 88 — አላስታውስም	
IW04	ባለፉት 15 ቀናት ውስጥ ከ5 አመት በታች የሆነ ልጅ ተቅማጥ ነበረው?	1 — አዎ 2 — አይ 88 — አላስታውስም	
IW05	ባለፉት 15 ቀናት ውስጥ፣ ከ5 አመት በታች የሆነ ህጻን የህክምና ክትትል የሚያስፈልገው ህመም ወይም ምኞት ማጣት አጋጥሞታል?	1 — አዎ 2 — አይ 88 — አላስታውስም	
IW06	ባለፉት ሶስት አምስት አመታት ከ5 አመት	1 — አዎ	

	በታች የሆነ ህፃን ሞት አጋጥሞህ ያውቃል?	2 — አይ 88 — አላስታውስም	መልሱ 'አይ' ከሆነ ወደ ES 08 ይዝለሉ።
IW07	ለ ES06 መልሱ አዎ ከሆነ ምክንያቱ ምን ነበር?	1 — ተቅማጥ 2 — የመተንፈሻ አካላት በሽታ 3 — የሰውነት ውስጣዊ ህመም 4ተላላፊ በሽታዎች 5. ሌሎች ምክንያቶች	
IW08	ባለፈው አንድ አመት ውስጥ ልጅዎ በመተንፈሻ አካላት ወይም በተላላፊ በሽታዎች ምክንያት ሆስፒታል ወይም ክሊኒክ ወይም የጤና ተቋም ገብቷል?	1 — አዎ 2 — አይ 88 — አላስታውስም	

በዚህ ዳሰሳ ላይ ስለተሳተፉ እናመሰግናለን።

Thank you for your participation in this survey.