ADDIS ABABA UNIVERSTY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF ALLIED HEALTH SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY

KNOWLEDGE, ATTITUDE AND PRACTICE ON HAND WASHING AND ASSOCIATED FACTORS AMONG PUBLIC PRIMARY SCHOOL CHILDREN IN HOSANNA TOWN, SNNPR, ETHIOPIA 2016.

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RESEARCH THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY, SCHOOL OF ALLIED HEALTH SCIENCES, DEPARTMENT OF NURSING AND MIDWIFERY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS IN PEDIATRICS AND CHILD HEALTH NURSING.

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This thesis by **ALULA SEYUM BUDA (BSc)** is accepted in its present form by board of examiners as satisfying thesis requirement for the degree of masters in Advanced child health and pediatric nursing.

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Summary:

Back ground: - The burden of communicable diseases within developing countries is mainly influenced by poor personal hygiene practices and inadequate sanitary conditions that affect health of school children. Hand washing with soap (HWWS) is simple and cost effective measure to prevent transmission of many communicable diseases in school-age children. Despite substantial evidence about the effectiveness of hand washing, especially using soap at all critical time, the practice is poor in developing countries including Ethiopia. The problem is not researched well on children who are major risk groups for diarrheal diseases, ARI and other hygiene related problems. This school based cross sectional study focused on describing KAP of school children provides base line information on the area.

Objective: - To assess knowledge, attitude and practice of hand washing and associated factors among primary school children in Hosanna town, SNNPR, Ethiopia.

Methods: - Institution based cross sectional study was conducted in sample size of 246 students in Girma Bekele primary school in Hosanna town from April 15 -30/2016.Data was collected using interviewer administered pre tasted structured questionnaires by trained data collectors.

Result: - From students participated in this study over all 167(69.9%) students have good and 72 (30.1%) have poor knowledge. Knowledge of students in this primary school is affected by grade of student and area of residence with (AOR, 95% CI 9.099(.587-.850) and (AOR.384; 95% CI (.114-.299)) respectively. Regarding the attitude of students 142(59.4%) and 97(40.6%) have good and poor attitude respectively. Overall 172(71.97%) of students have good practice and 67 (28.03%) have poor practice toward hand washing.

Conclusion:-Majority of the study subjects has adequate knowledge and about more than half of them have positive attitude. Overall practice of HW is good but utilization of soap and HW after toilet visit is low. Maternal educational status, area of residence, age, sex and grade of student are factors that affect KAP of school children toward hand washing with soap.

Recommendations:-The area should have to be further researched to identify where the gap is like food handlers condition at home, interpersonal contacts, school environment and playing area and materials and any launches conditions near the school; because irrespective of good knowledge level of student the prevalence of diarrhea is still high and hand washing after toilet visit and soap utilization of students is still low.

Key words: primary school children, hand washing, knowledge, attitude and practice.

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List of abbreviations and acronyms

AAU	Addis Ababa University
ARI	Acute Respiratory Infections
AOR	Adjusted Odds Ratio
CDC	Centres for Disease Control and Prevention
CI	Confidence interval
HAI	Healthcare associated infections
HCW	Health care workers
HWF	Hand washing facilities
HWWS	Hand washing with soap
KAP	Knowledge, Attitude and Practice
NTD	Neglected Tropical Diseases
SNNPRS	Southern Nations, Nationalities and Peoples Regional State
WASH	Water Sanitation and Hygiene
WHO	World Health Organization

CHAPTER ONE

1. Introduction

1.1. Background

Hand washing is washing hands with plain or antimicrobial soap and water and it is a single most preventive measure for reducing the spread of contagious diseases. Hand hygiene may be accomplished using an alcohol-based hand rub or soap and running water. The condition of the hands can influence the effectiveness of hand hygiene. Intact skin is the body's first line of defence against bacteria, therefore careful attention to hand care is an essential part of the hand hygiene program. The presence of dermatitis, cracks, cuts or abrasions can trap bacteria and compromise hand hygiene(1).

Other authors indicated that hand hygiene is a general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands while maintaining the good skin integrity resulting from a hand care program. All humans carry transient and resident flora microorganisms on their skin. Transient microorganisms contaminate the upper layers of the skin and are acquired during direct contact with patients, healthcare providers, contaminated equipment or the environment (2).

Clean hands are the single most important factor in preventing the spread of pathogens and antibiotic resistance in healthcare settings. Hand hygiene reduces the incidence of healthcare associated infections. CDC estimates that each year nearly 2 million patients in the United States get an infection in hospitals, and about 90,000 of these patients die as a result of their infection. More widespread use of hand hygiene products that improve adherence to recommended hand hygiene practices will promote patient safety and prevent infections(2).

The importance of hand washing for human health - particularly for people in vulnerable circumstances like mothers who had just given birth or wounded soldiers in hospitals - was first recognized in the mid-19th century by two remarkable pioneers of hand hygiene: the Hungarian physician Ignaz Semmelweis who worked in Vienna, Austria and Florence Nightingale, the English 'founder of modern nursing'. The time most people still believed that infections were caused by foul odours called miasmas (3).

Rub-in cleanser is commonly used in many European countries instead of hand washing. Scientific evidence and ease of use support employment of a hand rub for routine hand hygiene. It is microbiologically more effective in vitro and in vivo, it saves time, and preliminary data demonstrate better compliance than with hand washing(4).

Alcohol-based hand rub is preferred when hands are not visibly soiled and should contain 70 – 90% alcohol taking less time than hand washing that is more effective than hand washing with soap and water when hands are not visibly soiled. Mechanical rubbing action is important to kill transient microorganisms. Hand washing with soap and running water is preferred when hands are visibly soiled because alcohol is inhibited by organic matter and mechanical action of washing, rinsing and drying removes most transient microorganisms(5,6). Today, most countries of Northern Europe recommend a hand rub for hand hygiene unless the hands are visibly soiled. Side effects are rare and are mainly related to dryness of the skin (7).

This study focusing on knowledge, attitude and practice on hand washing and associated factors among primary school children in Hosanna town and it is organized into five sections. The first chapter deals with introduction, background and statement of the problem. This section is followed by methodology and literature review. The findings and discussion of the paper are presented in chapter five and six where as conclusion and recommendations in chapter six.

1.2. Statement of the problem

Children's ability to learn may be affected by inadequate water, sanitation and hygiene conditions in several ways. These include helminth infections (which affect hundreds of millions of school-age children) , long-term exposure to chemical contaminants in water, diarrhoeal diseases and malaria infections, all of which force many schoolchildren to be absent from school(8–10).

Washing hands with soap at the right times - primarily after contact with faeces, but also before handling food or feeding an infant - can significantly reduce the incidence of childhood infectious disease(11). Schools, particularly those in rural areas, often completely lack drinking-water and sanitation and hand washing facilities; alternatively, where such facilities do exist they are often inadequate in both quality and quantity. Schools with poor water, sanitation and hygiene conditions, and intense levels of person-to-person contact, are high-risk environments for children and staff, and exacerbate children's particular susceptibility to environmental health hazards(10).

Even though proper hand washing is the most effective and easiest way to prevent many diseases, unfortunately many people do not practice hand washing correctly. The worldwide Global Hand Washing Day (October 15^{th}) campaign which targets school children as the most effective agents for behaviour change is both evidence of this problem and an attempt to address it(12).

Only about half the schools in low-income countries have provided access to water and sanitation facilities to their students. This means millions of children go to school either with the water that they will consume for the rest of the day, or with no water at all. (13)Many of these children lack access to safe water at home too, often suffering from chronic diarrhoea and are at risk to intestinal parasitic infestation(13–15).

The two biggest killers of children in the developing world today are diarrheal disease and respiratory tract infections(16,17). The simple act of washing hands with soap can cut diarrhoea risk by almost half, and respiratory tract infection by a third(16). There is improvement on morbidity and mortality rates but still diarrheal disease are responsible for 21%of all deaths and 2.5 million deaths per year which has either direct or indirect relation with poor hand washing. In developing countries, there were 3.2 episodes of diarrhoea per

child per year in under five children with mortality rate of 4.9 children per 1000 per year(15). Lack of knowledge on hand washing has association with prevalence of diarrhoea. (18,19)

Provision of clean water access to community(17) and health education for parents on hand washing with soap and appropriate hygiene show better out come on reduction of prevalence of diarrihea(20,21).

Proper hand washing with soap (HWWS) is important for school children health improvement and disease prevention which in turn reduces absenteeism due to illness. The practice is significant for schoolchildren, who might suffer a more severe burden of hygiene-related diseases compared to adults(22–24). Promotion of hand washing through education in school children and provision of safe and clean water supply as well demonstration of proper hand washing techniques in schools saves children from such life threatening but easily preventable illness (17,24–27).

The level of knowledge and practice of students in schools is relatively better in developed countries but it still needs more intervention in low income countries including Ethiopia (20, 23). The latest available evidences indicate that Ethiopia has made some progress towards access to basic sanitation by reaching 28% of the population in 2014, compared to a 3% baseline in 1990 but considerable number of children and mothers are still dying due to failure to reach them with high impact interventions(28).

Despite substantial evidence about the effectiveness of hand washing, especially using soap at all critical time, the practice is poor in developing countries including Ethiopia. The problem is not researched well on children who are major risk groups for diarrheal diseases, ARI and other hygiene related problems. Although hand washing after contact with faecal material (e.g. after defecation), before and after meal, before food preparation and cleaning baby provides important barrier to faeco-oral transmitted disease, cause of point of contamination in schools with poor hygiene and sanitation facilities are much more broader than these points means level of knowledge, attitude and practice as well as other associated factors of students need further studies to intervene areas with gap of HWWS in primary schools.

1.3. Significance of the study

Communicable diseases are worldwide health problem of school children especially developing countries like Ethiopia. Most of these diseases are preventable through effective personal hygiene mainly proper hand washing and environmental sanitation. This study provides a rigorous analysis of knowledge, attitude and practice pertinent to hand washing and associated factors among school age children. As a result the findings will inform evidence based policy and practice recommendations to plan and implement hand hygiene programs in schools.

The finding of the study will give baseline information for promotion of hand washing with soap both at school and at home and it will also help for planning and intervention of school health activities. The recommendations from this survey will also be utilized or helpful for local health planners , health administrators and those organization working on prevention of communicable disease especially on child health to consider during their planning and implementation. Findings from this study will help school health planners and school community as whole through providing basic information on knowledge attitude and practice of school children on proper hand washing. It will also provide baseline information and directions for further research activities in the area.

CHAPTER TWO

2. Literature Review and the Conceptual Framework

2.1. Literature review

2.1.1 Introduction

Water, sanitation and hygiene are a crucial but all too often underplayed part of the prevention and control of neglected Tropical diseases. Diseases including Trachoma, Soil-Transmitted helminthis and schistosomiasis all demand practical interventions so that their prevention, treatment and ultimately their elimination can be achieved by the international community as soon as possible(23).

According to study in Africa, promotion of hand washing resulted in a reduction of diarrhoeal episodes in communities in low- or middle-income countries (IRR 0.69, 95% CI 0.55- 0.87) and 29% reduction in diarrhoea episodes in institutions in high-income countries with (IRR 0.71, 95% CI 0.60 - 0.84) and this shows in average reduction of diarrhoea episodes by 30%(17).

Study on intestinal parasitic prevalence and related factors in school children of western Turkey revel that the prevalence was higher in rural area of Turkey in children with less than primary school educated mother, in children who use hands for washing anal area after defecation, and in children who use toilet paper sometimes or never.(29). But another study done in Nepal show that gender and age of the children, sanitary habits including toilet use, hand washing practice, and the use of the antihelminthic drug were not significantly associated with intestinal parasitosis(30).

Case control study on promotion of hand washing on children younger than 5 years show that households that received plain soap and hand washing promotion had a 50% lower incidence of pneumonia than controls (95% CI –65% to –34%). Also compared with controls, children younger than 15 years in households with plain soap had a 53% lower incidence of diarrhoea (–65% to –41%) and a 34% lower incidence of impetigo (–52% to –16%)(31)

According to cross-sectional survey done in Ethiopia on assessment of diarrheal disease prevalence and associated factors among under five children from the total 634; most of the households, 565(89.1%) were accessed with improved water source and the distance to collect water took 16-30 minute for the majority, 350(55.2 %) of households(32).

Study from Ariba Minch on Morbidity and associated factors of diarrheal diseases among under five children show that the prevalence of diarrhoea was 30.5%, which was significantly associated with mothers educational status (AOR = 1.89, 95% CI =1.35, 2.53) and poor hand washing practice (AOR= 2.33, 95%CI =1.80, 4.15)(25). According to study done in Gondar university odds ratio of intestinal parasitic infection in children who do not practice hand washing before eating is 6.45 times higher than those who practice it (p = 0.0076, 95% CI = 4.55-11.90)(9). Another study conducted in Ariba Minch Town also indicated that hand washing practice before meal, nail hygiene and children's mother educational have association with intestinal parasitic infection with [AOR = 5.7; 95% CI (3.4, 9.7)] , [AOR= 2.6; 95% CI (1.5, 4.4)] and [AOR =3.5; 95% CI (1.01, 11.4)] respectively(33).

According to study done in Eastern Ethiopia the two-week prevalence of diarrhoea among children under 5 years of age was 22.5% (95% CI: 20.3 - 24.6). Improper refuse disposal practices (OR = 2.22, 95% CI: 1.20 - 4.03), lack of hand washing facilities (OR = 1.92, 95%CI: 1.29 - 2.86), living in rural area (OR = 1.81, 95% CI: 1.12 - 3.31), the presence of two or more siblings in a household (OR = 1.74, 95% CI: 1.33 - 2.28), and age of the child (OR= 2.25, 95% CI; 1.5-3.36) were the major risk factors for diarrhoea(18).

In Northwest Ethiopia prevalence of diarrheal disease has association with care giver's hand washing with water only and vitamin A supplementation with (AOR: 1.61, 95% CI (1.04, 2.8 4)) and (AOR: 1.92, 95% CI (1.35, 2.74)) respectively(14).

2.2. Knowledge on hand washing

Studies in Middle School of Delhi showed that the level of knowledge of students was improved through education. Information on Hand washing with soap is one source of knowledge among efforts made to enhance knowledge and practice of students. Improvement of knowledge regarding hand-washing and frequency of hand-washing practices and after the intervention was high like 42% of children shared the information they got with their parents. The intervention proved effective in improving awareness and highlights the potential of school for hand-washing promotion activities(26). Parents were the most frequent human source of information on hand washing (91.86%), followed by health workers (50.0%), teachers (34.9%) and friends (2.3%) in Indonesia (12).

Study from on effectiveness of hand hygiene teaching on knowledge and compliance of hand washing among the students at a selected school in Mugalivakkam village, Kancheepuram District shows that promotion of hand washing increase in knowledge after provision of education. During the pre-test two (10%) students had moderately adequate knowledge and 18 (90%) students had inadequate knowledge and in the post-test, 13 (65%) of the students had adequate knowledge and seven (35%) had moderately adequate knowledge on hand hygiene. There was a highly significant difference in the mean value of knowledge between the pre-test and post-test at $p<0.001$ level(27).

Studies from Vietnam and Peru indicated that school children understood how to prevent communicable diseases like diarrhoea, bellyaches, and the flu through washing their hands using clean water and soap. (34). In South Africa the level of knowledge about waterborne diseases was relatively high (76.7 ± 1.75%), but knowledge on transmission routes was inadequate. The study also reviled that majority of the respondents had no knowledge when it comes to water-based diseases and their prevention (78.4 ± 1.71%)(35).

In Angolale, Northern Shoa of Ethiopia study conducted on KAP assessment of school children on hygiene about 52% of students were classified as having adequate knowledge of proper hygiene and the importance of hand washing after defecation was reported by 76.7% of students but actual practice was only 14.8%(19).

2.3. Attitude toward hand washing

School-based hand washing promotion program on knowledge and hand washing behavior of girl students in a Middle school of Delhi showed that after the program intervention, 95% of the girls felt that hand should be washed frequently(12).

Study conducted in South Africa reviled that the level of attitude on hygiene was high (91.40 ± 1.16%)(35). According to study conducted in Kenya having the habit of hand-washing at particular junctures during the day, the motivated need for personal or household cleanliness, and a lack of cognitive concern about the cost of soap use are all related with hand washing behaviour in Kenya. These factors each represent a different kind of psychological cause. A perceived link between clean hands and sexual attractiveness also appeared in the factor analysis, but was not a determinant of actual behaviour(11).Study in northern Ethiopia on knowledge,

attitudes and practices of hygiene among school children showed that overall, the preference for hand washing was 98.8% before meals and 53.1% after meals(19).

2.4. Practice toward hand washing

Study on factors influencing knowledge and practice of wash program area in Bangladesh indicate that washing hands spesificaly using soap after defecation was found to be a common practice among the study participants(21).

Another Study conducted in Vietnam on hand washing among school children indicates that the common time for hand washing was before eating (60%) but only 23% of schoolchildren reported HW after defecation and very few did before cooking (only 7). Only four students reported to hand washing at all critical times (before cooking, after defecation, and before eating). The same study showed, 66% report of HWWS. However, through the demonstration protocol, only 10 out of 319 school children, performed HWWS satisfactorily. The percentage of students who washed their hands at recommended times (30-60 sec) was 58%. This proportion increased by grade (from 34% among grade 1 to 67% among grade 7. Correlates of self-reported HWWS were more common in higher grades [grade 4 vs. grade 1: odds ratio (OR) =4.14 (2.00-8.56), grade 7 vs. grade 1: OR=7.76 (3.67-16.4)] and less common in ethnic minority groups [Xa Pho´ vs. Kinh-Tay: OR=0.28 (0.11-0.70)].(22).

Study in South Africa revel that washing of hands between the urban and rural schools was variable, 70.3% (urban) and 29.7% (rural) but was above 65% within the schools (rural or urban). Those who practiced hand washing pointed out that they did mostly before eating and after visiting the toilet. This practice was mostly affected by the fact that water was not always available in some rural schools(35).

According to study in Ghana on hand washing practices among school children from those who visit school toilet majority (90.2%) of students practiced hand washing with soap after defecation. Private schools were found to be 63% ($p = 0.02$) less likely to wash their hands after using the toilet, 51% ($p = 0.03$) less likely to wash their hands before eating and 77% ($p<0.001$) less likely to wash their hands with soap after eating compared to their public school counterparts(36). According to study in Egypt even doctors showed greeter (37.5%) compliance on HW than other HCW still only 11.6% done it appropriate way in Cairo(37).

Study in northern Ethiopia on knowledge, attitudes and practices of hygiene among school children show that nearly all participants reported washing their hands the day before the interview (99.7%), but only 36.2%) of children reported using soap. The day prior to the interview, 99% of students washed their hands before meals and 46% washed after meals, but only 15% washed after defecation. The majority of participants reported usually washing hands before and after meals (99.4% and 93.9%, respectively) (19).

According to study done in Babile town on prevalence of intestinal helminthic infections and associated risk factors among school children from the study partcipants four hundred eight (98.3%) of the children regularly practiced hand washing before meals, but 67 (16.1%) of them didn't know the purpose. Two hundred seventy-one (65.3%) and 302 (72.8%) of the children didn't trim their right and left-hand fingernails, respectively. Two hundred eighty-nine (69%) of the children had dirt in their right-hand fingernails, and all of them were right- hander's (8).

2.5. Factors that affect KAP of school children on hand washing

Competing priorities such as playing football and other factors like laziness, forgetfulness, lack of time or of desire to take time for washing, and seeing their friends' practice on hand washing are among factors limiting children's hand washing. School children also not feel to wash their hands unless their hands smelled bad or were clearly seen dirty(34). Another study on proper hand washing practices among elementary school students in Indonesia indicates that availability of clean water (AOR = 4.24, 95% CI = 1.92-9.35) and soap (AOR = 5.55, 95% CI = 2.36-13.08) at hand washing stands were found to be significant predictors of proper hand washing, when adjusted with other factor(12).

According to study done on wash program areas in Bangladesh home visits, posters, guide hand books, folk songs and street plays related to health and hygiene are among factors improving respondents' knowledge about hygiene-related behaviour(21). On another side television is used to promote hand washing practice of society as whole because of its status and of its interesting extracurricular activities(34).

School based inspection on national public schools in 2008, indicates that out of 697 total bathrooms, 88.8% had soap and 91.7% had paper towels or hand dryers. Hand sanitizer was reported in 1.2% of bathrooms and 15.2% of cafeterias. No difference was observed between boys' and girls' bathrooms, or primary and secondary schools, in the prevalence of soap or paper

towels/hand dryers. Hand washing supplies were generally available in public school bathrooms.(38).

Cross -sectional comparative study in Bangladesh indicate that multivariate analysis of socio-economic factors including education of household head and respondent, water availability and access to media have strong positive association with hand washing with soap(39). Study in South Africa revelled that the practice of hand washing was mostly affected by the fact that water was not always available in some rural schools(35).

Study on assessing hand hygiene practices in schools benefiting from the Ghana School feeding programme indicates that availability of hand washing facilities in most schools (79%; n = 53); high pupil-to-HWF ratio resulting in poor hand washing practices (Range: 15-372; average: 105); availability of soap for hand washing (83%; n = 42) but extensive use of shared containers (53%; n = 42); delays in acquisition of HWFs, fragmented private sector efforts in hand hygiene promotion and non-compliance with conventional hand washing practices are factors affecting hand washing (40). According to study in Ghana proper hand washing practice is affected by availability and accessibility of hand washing facilities such as soap, towel and clean running water(36).

Access to safe water, toilets and practicing good hygiene play major role in maintaining human health and dignity. In spite of this recognition, development professionals must still justify investments in water, sanitation, and hygiene, typically by demonstrating the health impacts of such investments. The WASH sector often uses reduced incidence of diarrhoea, trachoma, upper respiratory tract infection and other communicable diseases as the main indicator of improved health (23,24,41).

2.6. Conceptual framework

The proposed conceptual framework builds on existing evidence that addresses factors that affect knowledge, attitude and practice among school children's hand washing. It shows how dependent and independent variables are related each other. The dependent variables are knowledge, attitude and practice of hand washing. The dependent variables are affected by socio demographic conditions of the family which include age of the child, size of the family, area of residence, religion and sex of child. Other factors such as socio economic variables including family income, educational status of mother, and occupation of the family are also used to predict hygiene and sanitation related KAP among children. The conceptual framework also shows how learning environment and health system related factors like availability of water and soap and information source affects the dependent variable.

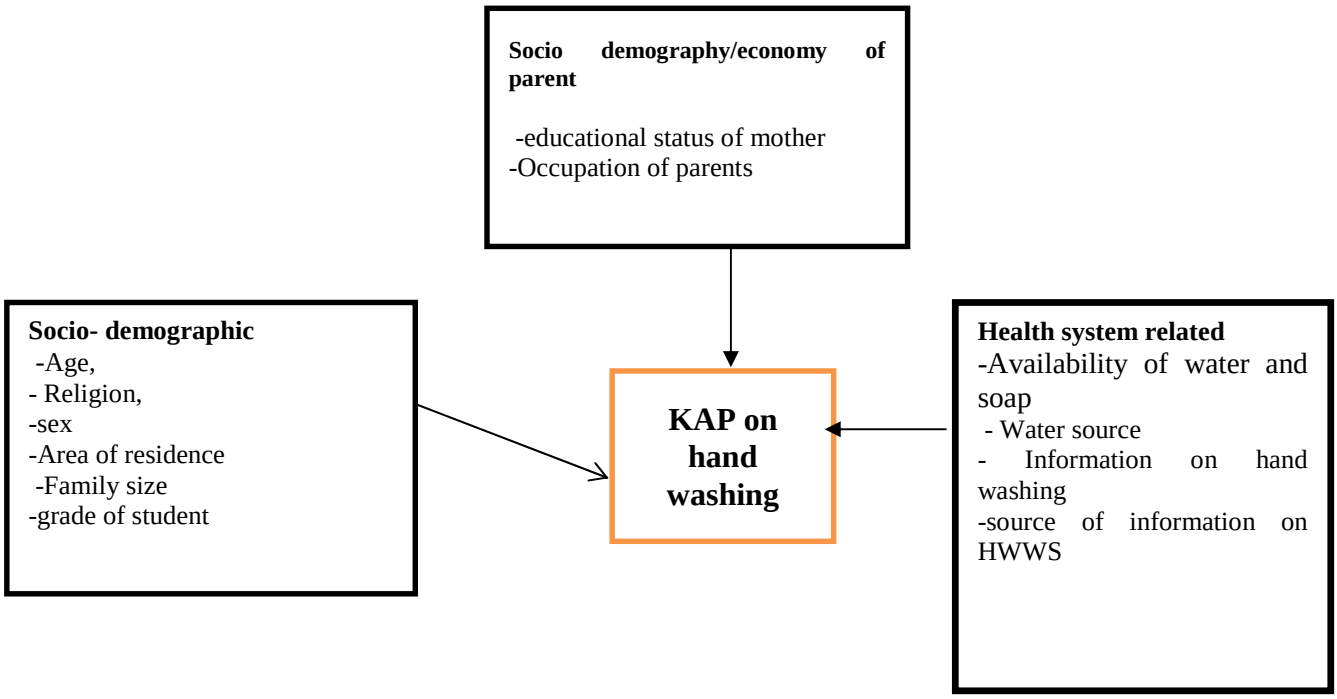


Fig. 1: Conceptual frame work of assessment of KAP on hand washing.

CHAPTER THREE

3. Objectives of the Study

3.1. The general objective:

To assess knowledge, attitude and practice of hand washing and associated factors among primary school children in Hosanna town, SNNPR, Ethiopia.

3.2. Specific objectives:

The specific objectives of the study are:

- To determine knowledge of hand washing among primary school children in Hosanna town, SNNPR, Ethiopia, in 2016.
- To assess the attitude towards hand washing among primary school children in Hosanna town, SNNPR, Ethiopia in 2016.
- To investigate the hand washing practice among primary school children in Hosanna town, SNNPR, Ethiopia in 2016.

CHAPTER FOUR

4. Methods and Materials

4.1. Study area:

This study is conducted in Hosanna town which is located in 232km South West from Addis Ababa. Hosanna a city alternatively called Wachemo is administrative centre of Hadiya zone with total population of 92,735 according to 2007 census. There are six public educational facilities in the Town Administration, among which three are primary schools, two high schools and one preparatory school. There are four governmental (one general hospital and there health centres) and 12 non-governmental health facilities in the town.

4.2. Study period

The study was conducted from April 15 to 30, 2016.

4.3. Source population

All children registered in public primary schools in Hosanna town in 2016.

4.4. Study population

All children registered in Grima Bekele primary school in 2016.

4.5. Study Design

School based cross sectional study was conducted in Grima Bekele primary school from April 15 -30.

4.6. Sampling procedure:

There are three governmental primary schools in the town. From these schools one was selected using lottery method. And in the selected school stratified random sampling method was used to determine number of students from each grade. Then each participant from representative class was selected using systematic random sampling. The sample size was calculated using the formula for single population proportion.

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

Where $z_{\alpha/2}$ = confidence interval.

P = estimated proportion for practice of hand washing (0.362) from Ethiopia

d=desired precision

$n = \frac{(1.96)^2\ 0.362(0.638)}{0.05^2} = 353$

Using correction formula for single population less than 10,000 (704) final sample size will be

$n_f = n/ (1+n/N)$

Where n_f= final sample size

n= calculated sample size

N= total number of students at that school.

$n_f = 353/(1+353/704) = 235$

Adding 5% for non-respondent n will be 246.

From the three schools located in the town administration, namely Erissa Adada, Alemu Woldehana and Girma Bekele, using a lottery method Girma Bekele primary school has been selected and number of students from each grade is obtained proportionally using the following formula.

$$nj = \frac{n}{N} * N_j$$

Where

j = 1, 2, k where, k is the number of students at that class and

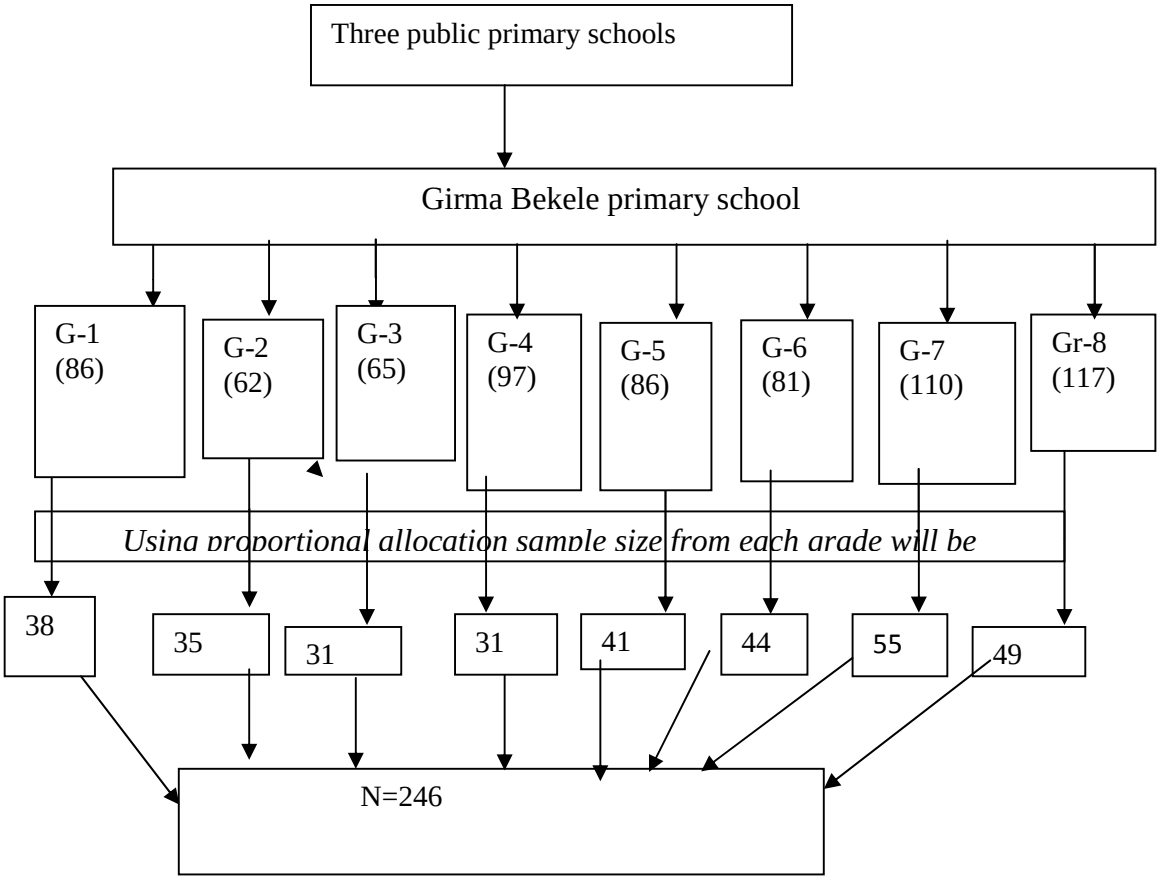
–nj is sample size of the j^{th} class

Nj is population size of the j^{th} class

–n = n1+ n2+ ...+ nk is the total sample size = 246

–N = N1+ N2+ ...+ Nk is the total population size = 704

And finally each study participate from each class will be obtained using systematic random sampling technique. The details of the samples and procedures are presented in the following diagram.



Where G- grade level of students

Figure 2.diagrammatic presentation of sampling procedure

4.7. Data collection process and tools

Data was collected using interviewer administered questionnaires at school and socio demographic and socio economic variables are completed with parents. Eight data collectors from three health centres participated in data collection. Each student was interviewed using a structured questionnaire in a safe room specifically dedicated for this study by the school administration. All study personnel were trained in interviewing skills, content of the questionnaire, data quality, and ethical conduct. Two graduate students supervised the overall process, assisted interviewers and collected completed questionnaires on daily basis. All completed questionnaire were checked for consistencies and completeness of the data. During the actual data collection process, supervisors have cross checked the data on randomly selected 10% of study units every day.

The questionnaire was initially drafted in English, and translated to Amharic, and then pre-tested in 10% of sample size in Erissa Adada primary school to assess the suitability with

regards to duration, language appropriateness, content validity, and question comprehensibility. Based on the feedback from the pilot test, corrections were made.

4.8. Data Quality Assurance

After data collection, each questionnaire was given a unique code by the principal investigator. The principal investigator prepared the template and entered data using Epi Data version 3.1 then exported to SPSS version 20. Five percent of the entered data was re-checked by comparing the entered data with the actual questionnaire. Frequencies are used to check for missed values and outliers. Any errors identified at this time were corrected after revision of the original data using the code numbers**.**

4.9. Data Analysis

The data has been cleaned for inconsistencies and missing values. Simple frequencies run to see the overall distribution of the study subject with the variables under study. Bivariate and multivariate analysis was used to determine the association between different factors and the outcome variable.

4.10. Inclusion and Exclusion Criteria

Inclusion Criteria: all children who are registered at Grima Bekele primary school for 2015/16 academic year.

Exclusion Criteria: The following exclusion criteria were used to identify the interviewee students. These include students with hearing and speaking disabilities; newly enrolled students with a less than six months of stay in the school, those students who are bellow five years and above 18 years of age, those students whose parents refused to sign on informed consent has been excluded.

4.11. Study Variable

4.11.1. Dependent Variable

- Knowledge
- Attitude
- Practice towards hand washing.

4.11.2. Independent Variables

Socio- demographic

- Age,
- sex,
- Religion,
- area of residence,
- grade of student,
- family size,
- educational status of parents

Socio economic

- Occupation of parents

Health system related at school and home

- History of illness
- Availability of water and soap
- Information on HHWS

4.12. Operational definitions

Hand washing at critical time: - it includes washing hand before preparing food, before eating food, after eating, after cleaning baby and after visiting toilet.

Good practice: - those students who scored at least sixty percent and above in practice questions.

Poor practice: - those students who answer less than sixty percent of practice questions.

Good Knowledge: - those students who scored at least sixty percent and above in knowledge questions.

Poor knowledge: - those students who fail to answer sixty percent of the knowledge questions.

Positive attitude: - those students who could answer/score at least sixty percent and above from the questions that measure attitude.

Negative attitude: - those students who couldn’t answer at least sixty percent of attitude questions.

Primary school: school where students from grade on up to eight attend their academic education.

First cycle: - students who are learning in grade 1-4.

Second cycle: - Stunts who are learning in grade 5-8.

4.13. Ethical considerations

Prior to data collection, written ethical clearance was obtained from research and ethics committee of AAU College of allied health sciences department of nursing and midwifery. During data collection, each parent of the child that participate in the study was informed about the purpose, scope and expected outcome of the research, and appropriate informed verbal consent was taken. Consented parents completed the socio demographic and socio economic information. During the interview all participating children were informed about the purpose, scope and expected outcome of the research, and appropriate informed verbal asset obtained.

4.14. Dissemination of results

After the study is accomplished, it will be presented to Addis Ababa University School of nursing and midwifery. Subsequently, attempts will be made to present it on the annual meetings of the Regional Health Bureau, and scientific conferences. Reports will be submitted to AAU College of Health sciences, Wachemo University and Hadiya Zone Health Department and other stakeholders.

CHAPTER FIVE

5. Results

5.1. Socio-demographic characteristics

A total of two hundred forty six school children, were recruited from the school giving a response rate of 97%. From the total students participated (239) in this study 116(48.5%) are males and 123(51.5%) are females with mean age of 11.66 years. Majority of families of respondents 160 (66.9 %%) were protestant religion followers whereas 17.2%, 12.6% and 3.3% are Orthodox, Muslim and other religion followers respectively.

Students are selected from each class proportionally and from those participated in this study 41(17.2%), 39(16.3%), 29(12.1%), 28(11.7%) are from grade 8, 7, 6 and 5 respectively and remaining 42.7% are from grade one up to grade four. Most of students 217(90.8%) are from Hosanna town and remaining 22(9.2%) are from local kebeles. From all mothers of study participant students, majority 106(44.4%) attended grade 1-8 and 45(18.8%) have completed diploma and above where as 36(15.1%) can't read and write.

Information collected from parents indicated that soap and water are available in 198(82.8%) households and the rest 39(16.3%) of the parents reported that household members utilize water only but only two families reported the availability of additional materials like towel. Families of students were asked about if there was any illness in the past two months prior to the survey date in their family. Accordingly, about 66(27.6%) reported that there was at least one episode of sickness. (Table 1)

Table 1: Socio demographic characteristics of the students in Girma Bekele primary school Hosanna Ethiopia, 2016

No	Variable	Category	Frequency (n=239)	
			Number	%
1.	Grade of student (n=239)	1-4	102	42.7
		5-8	137	57.3
2.	Area of residence (n=239)	Hosanna town	217	90.8
		Local kebele	22	9.2
3.	Educational status of mother (n=239)	Can't read and write	36	15.1
		Grade 1-8	106	44.4
		Grade 9-12	52	21.8
		Diploma and above	45	18.5
4.	Occupation of father (n=239)	Government employee	125	52.3
		Private employee	68	28.5
		Daily labourer	10	4.2
		Farmer	34	14.2
		Student	2	.8
5.	Occupation of mother (n=239)	Government employee	68	28.5
		Private employee	23	9.6
		House wife	146	61.1
		Student	2	.8
6.	History of illness (n=239)	Yes	66	27.6
		No	173	72.4
7.	Illness diagnosed (n=66)	Diarrhea	39	59.09
		RTI	7	10.6
		Intestinal parasite	7	10.6
		Other problems	13	19.71

5.2. Knowledge about hand washing

The global hand washing day as a movement is a critical initiative as a source of information as well as to enhance knowledge of individuals' on practice of hand washing. From the respondent students 158(66.1%) of students have information on global hand washing day but only 3 students reported the exact month in which global hand washing day is celebrated. From those students who have information on global hand washing day main sources of information is television 56.10% and others are discussed in the following pie chart.

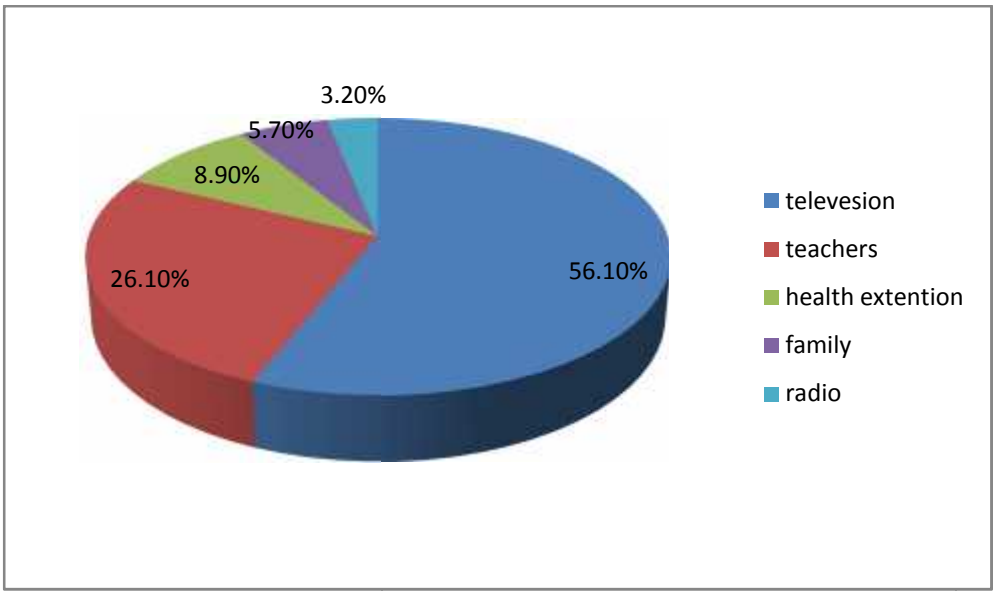


Fig 3:- Source of information on global hand washing day among Grima Bekele primary school students, 2016.

Benefit of washing their hands using clean water and soap is reported by 108(45.2%), 83(34.7%), 39(16.3%) to promote health, to prevent transmission of disease and to be seen beautiful respectively. (Table2)

Table: 2 Knowledge and Attitude of students on hand washing among Girma Bekele primary school children Hosanna, Ethiopia, 2016.

No	Characterstics	Category	Frequency (n=239)	
			Number	%
1.	Have information on HWWS(n=239)	Yes	239	100
		No	0	0
2.	Have information on global hand washing month (n=239)	Yes	158	66.1
		No	81	38.7
3.	Source of information on global hand washing day	Television	134	56.10
		Teachers	62	26.10
		Family	14	5.7
		Radio	8	3.2
		health worker	21	8.90
4.	Human faces contains disease causing microorganisms (n=239)	Yes	167	69.8
		No	6	2.5
5.	Unclean hands are way to transmission of disease. (n=239)	Yes	233	97.5
		No	6	2.5
6.	Hands become visibly dirty(n=239)	Before meal	68	28.5
		After meal	23	9.6
		After play	73	30.5
		After toilet	2	.8
7.	Risk to contaminate food and water if we don't wash our HWS (n=239)**	After toilet	27	11.3
		After playing	73	30.54
		Before meal	219	91.6
		After meal	223	93.3
		After work	193	80.7
8.	Needed to wash hand properly (n=239) **	Soap	98	41.00
		Clean water only	29	12.13
		Soap and clean water	106	44.35
9.	If you fail to wash your hands you will be exposed to disease. (n=239)	Strongly agree	112	46.86
		Agree	97	40.5
		Disagree	21	8.7
		Strongly not agree	9	3.7
10.	It is order of parents or teachers to wash your hands. (n=239)	Strongly agree	24	10.04
		Agree	31	12.97
		Disagree	124	51.9
		Strongly not agree	60	25.10
11.	If you fail to wash your hands you will be exposed to disease. (n=239)	Strongly agree	101	42.25
		Agree	40	16.7
		Disagree	50	20.92
		Strongly not agree	48	20.08

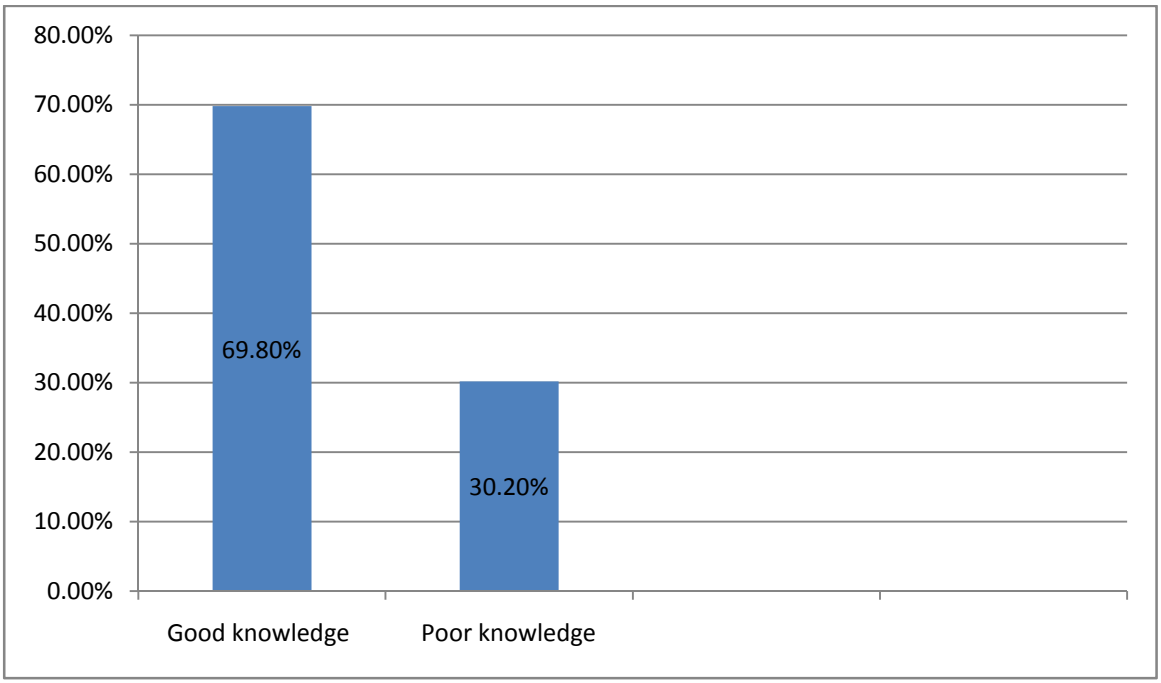

80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
69.80%
30.20%
Good knowledge
Poor knowledge

Table 3: Logistic regressions of factors affecting knowledge of hand washing among school children in Grima Bekele primary school, Hosanna Ethiopia April 2016.

Characteristics		Level of knowledge		P	COR (CI 95%)	P	AOR (CI 95%)
		Good	Poor				
Sex of student	Male	27(23.4%)	88(76.6%)	1			
	Female	43(34.7%)	81(65.3%)	.048	1.77(1.01-.3.13)	.259	0.355(-1.329)
Grade of student	1-4	48(49.02%)	54(50.98%)	1			
	5-8	119(88.3%)	16(11.7%)	.020	(4.37-16.04)	.000	8.70(4.36-.17.36)*
Area of residence	Rural	9(40.9%)	13(59.09%)	1			
	Urban	158(73.7%)	57(26.3%)	.003	4(1.62-.9.83)	.171	0.461(0.15-1.39)
Educational status of mother	Illiterate	16(44.4%)	20(55.6%)	1			
	1-8	77(72.64%)	29(27.36%)	.003	3(1.51-.7.26)	.396	1.59(0.544-4.66)
	9 - 12	39(78%)	11(22%)	.002	4(1.73-11.32)	.187	1.85(0.74-4.62)
	≥Diploma	35(77.7%)	10(23.3%)	.506	4(1.67-11.45)	.008	6.374(1.49-14.92)*

5.4 Attitude towards hand washing

Among the participant students 222(92.9%) and17 (7.1%) said that it is their own and their parents responsibility to wash their hands respectively. Based on six questions/scale to measure the attitude towards hand washing 142(59.4%) and 97(40.6%) have positive and negative attitude respectively. There is no statistically significant association with different socio demographic variables and attitude towards hand washing.

5.5 Practice of hand washing

From total respondents 237(99.2%) have washed their hands in the morning of interview day and only two students fail to wash their hands because of let arousal from their sleep. From those who have washed their hands in the morning of interview day about 204(85.4%) reported the use of soap and remaining 33(13.8%) used water only to wash their hands. Water and soap188 (78.7%) are more practiced materials in the families of students to wash

their hands followed by water only 50(20.9%).The usage of soap is elaborated in the following bar graph before and after some activities.

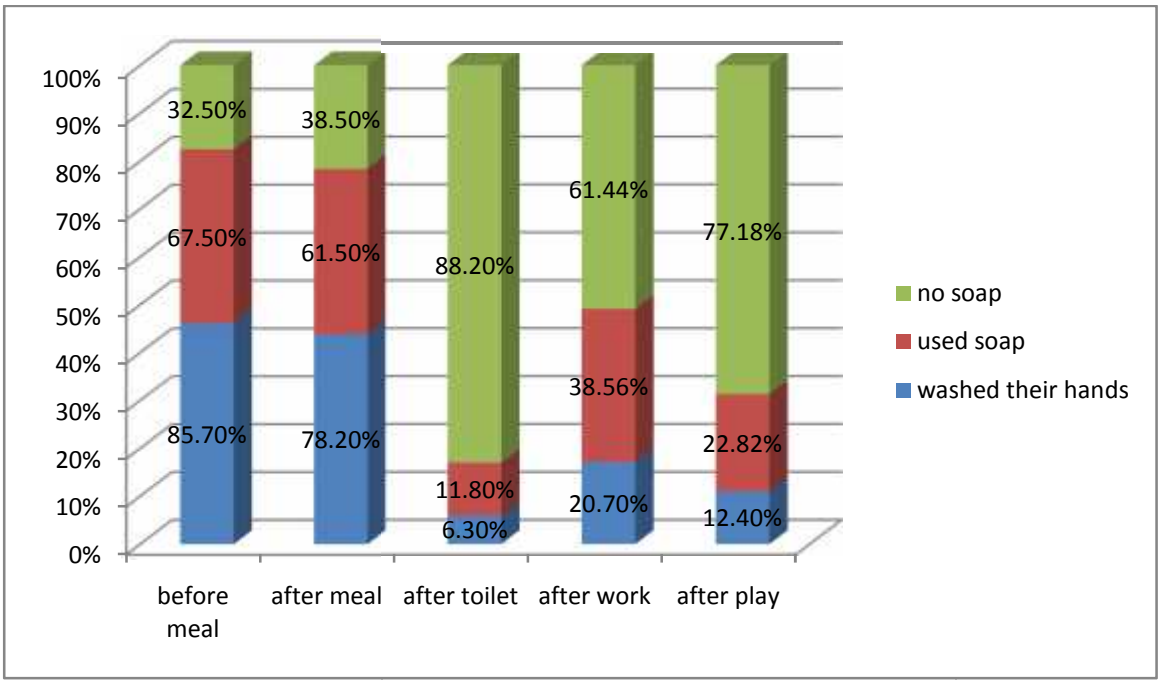


Fig 5: Hand washing times and soap utilization among Grima Bekele Primary school students, 2016.

Overall 172(71.97%) of students have good practice and 67 (28.03%) have poor practice toward hand washing. (Table 4)

Table 4: Practice of students on hand washing among Girma Bekele primary school children Hosanna, Ethiopia, 2016.

No.	Characterstics	Category	Frequency (n)	
			n	%
1.	Have you washed your hands today?	Yes	237	99.2
		No	2	0.8
2.	If yes for above question what material do you have used? (n=237)	Water only	33	13.8
		Soap and water	204	85.4
3.	Why you don't wash your hand today?(n=2)	Lack of water	-	-
		Lack of time	2	.83
		I don't found my hands dirty	-	-
4.	Which one is more practiced to wash your hand in your family?(n*)	Towel	2	.83
		Soap and water	188	78.7
		Water only	50	20.9
5.	When do you wash your hands?	Before meal	205	85.7
		After meal	185	78.2
		After work	49	20.70
		After play	30	12.40
		After toilet	15	6.30
6.	For how long duration do you wash your hand at a time?	For less than 30 sec	47	19.7
		30 sec-1min	37	15.4
		I don't know	155	64.9
7.	In average for how many times you wash your hands per day?(n=239)	six and above six times	121	50.6
		Blow six times	111	46.5
		I don't know	7	2.9

5.6 Factors that affect practice toward hand washing

From those factors that affect practice of elementary school children area of sex and grade of students are among major ones. (Table 5)

Table 5: Logistic regressions of factors affecting practice of hand washing among school children in Grima Bekele primary school, Hosanna Ethiopia April 2016

Characteristics		Level of practice		P	COR (CI 95%)	P	AOR (CI 95%)
		Good	Poor				
Sex of student	Male	81(86.9%)	13(13.8 %)	1			
	Female	138(95.1%)	7(4.9%)	.211	1.87(1.75-4.89)	.020	1.66(1.453-2.19)*
Grade of student	1-4	48(49.02%)	54(50.98 %)	1			
	5-8	119(88.3%)	16(11.7 %)	.010	3.92(2.36-5.06)	.000	8.56(4.35-16.83)*
Area of residence	Urban	175(90.2%)	42(9.8%)	1			
	Rural	8(36.36%)	14(63.64 %)	.012	1.78(1.511-1.97)	.044	.337(.116-.973)

CHAPTER SIX

6. Discussion

From those having information on HWWS television 81(33.9%) and teachers77 (32.2%) are main sources of information followed by health extension workers 40(16.7%) and family 23 (9.6%) in Girma Bekele primary school. In comparison this with study in Indonesia on hand washing practices among elementary school students where parents(91.86%) , health workers (50.0%) and teachers (34.9%) are major source of information (12) this study show that main sources of information is television followed by teachers. In south Africa main source of information are teachers and television(35). This variation could be due to access to television and other media's role in the home of students. In Bangladesh it is indicated that multivariate analysis of socio-economic factors including education of household head and respondent, water availability and access to media have strong positive association with hand washing with soap(39).

From reported medical diagnose in the family of student's diarrhea accounts about 39(16.3%) of all families and 59% of all cases. Even this large figure may be due to outbreak of acute watery diarrhoea in past two months in the area it has direct or indirect relation with hand washing especially with soap. In rural Bangladesh it is stated that promotion of hand washing resulted in a reduction of diarrhoeal diseases(17). Study in Ariba Minch also showed that that the prevalence of diarrhoea was significantly associated with poor hand washing practice (AOR= 2.33, 95%CI =1.80, 4.15)(25).

6.1 Knowledge about hand washing

Form study participant 158(66.1%) of students have information on global hand washing day but only 3 students reported the exact month in which global hand washing day is being celebrated and main sources of information about global hand washing day is television 89 (56.3%), teachers 41 (25.95%) and health extension workers14 (5.9%). This finding is better than that of South Africa where almost all of students don't have information on it and lack clue on global hand washing month(35). Even if there is time discrepancy between the studies this study shows better exposure for media.

From students participated in this interview in the Grima Bekele primary school over all 167(69.9%) and 72 (30.1%) students have good and poor knowledge toward hand washing respectively. When we compare this with knowledge of students report in University of Sri Jayewardenepura (77%)(42) the level is lower in the school showing slight variation of

current study students. But it is better in with case of Northern Shoa of Ethiopia where about 52% of students were classified as having adequate knowledge of proper hygiene including HWWS (19).

From the school students in Grima Bekele primary school 233(97.5%) know that unclean hands as a way for transmission of germs and 167(69.9%) know that human faces contains disease causing microorganisms but 70(29.3%) and 6(2.5%) of students not know that presence of disease causing microbes in faecal matter and unclean hands as a way of disease transmission respectively. When we compeer this with Bangladesh where 83% of the total respondents are aware that unhygienic practices facilitate growth and transmission of 'germs' (21) it is lower. In Angolale of Ethiopia the importance of hand washing after defecation was witnessed by 75% of students participated while the majority of the participants reported that hand washing before and after meals was important(19).

The benefit of washing their hands using clean water and soap was reported for promotion of health108 (45.2%), prevention of disease transmission 83(34.7%) and to be seen beautiful 39(16.3%). Studies also show that there is association between healthy seeking behaviour and sexual attractiveness concern on hand hygiene in Middle School of Delhi (26).

Over all 167(69.8%) and 72 (30.1%) students have good and poor knowledge respectively. In comparison this with the case of Northern Ethiopia with adequate knowledge of hygiene 52% (19) in this school there is more number of students with adequate knowledge.

6.2 Attitude towards hand washing

From 239 students in Grima Bekele primary school 142(59.4%) and 97(40.6%) have good and poor attitude respectively. In comparison this with study in South Africa with good attitude (91.40 ± 1.16%) (35) the level of attitude is lesser in this study. This finding is almost similar with finding from Lake Mereb district of Ethiopia with positive hygiene behaviour of 61.6% (43).

6.3 Practice of hand washing

From total respondent students in Grima Bekele primary school 237(99.2%) have washed their hands in the morning of interview day. From those who have washed their hands in the morning of interview day about 204(85.4%) reported the use of soap and remaining 33(13.8%) used water only to wash their hands. The practice is lesser than that of Ghana after toilet visit hand washing with soap (90.2%)(40); but better in comparison with that of Northern rural Vietnam where 319 (66%) student used soap to wash their hands (22). Studies

in northern Ethiopia also showed that nearly all participants reported washing their hands the day before the interview (99.7%), but only 36.2%) of children reported usage of soap (19).This good practice in the school may be due to awareness created by wash club in the school and different medias but utilization of soap still needs more intervention.

Most students wash their hands before meal 205(85.7%) and after meal185 (78.2%) whereas only 15(6.3%) after defecation. This finding has similarity with finding from South Africa interims of most frequent practice of hand washing before meal(35); but practice after toilet visit in this school is lower than that of South Africa. When we see the case in Vietnam common time for hand washing was before eating (60%) and after defecation 23%(22). In Babile town Ethiopia (98.3%) of the children regularly practiced hand washing before meals (8). This show better practice of hand washing in the school but those students fail to wash their hands prior to meal 32(13.5%),after toilet visit and those not use soap are high risk for food born disease.

On duration of hand washing 155(64.9%) don't know for how long duration they wash their hands at a time and from remaining 84 students 47(19.7%) and 37(15 %?) said as they used <30 seconds and 30sec-one minute to wash their hands respectively. The finding of inspection in Vietnam revel that only 10 out of 319 school children performed in required demonstration protocol(22) strongly agree with this self-reported practice in the school. The percentage of students who report practice of washing their hands at recommended times (30-60 sec) was only 15.1%. In comparison the case with 58% in Vietnam(22) the duration of hand washing once a time is very low in the school students this may promote transmission of disease causing microbes from wet hand and increased number of residual micro-organisms on hand.

The frequencies of wash per day show that the hand washing practice is mainly related with meal times. Overall 172(71.97%) of students have good practice and 67 (28.03%) have poor practice toward hand washing. From those factors that affect practice of elementary school children are area of residence, availability of hand washing materials and grade and sex of students are among major ones.

Females are 2 times (AOR, 1.66; 95%CI (1.45-2.19)) more likely to have good hand washing practice than that of males. This could be more concern of females toward hygiene and beauty issues (11). Students in second cycle are 8 times more with (AOR, 8.56; 95%CI (4.35-16.83)) to have good practice than those in first cycle. This finding has similarity with more common correlates of self-reported HWWS with increasing grade level of students in

Vietnam. [grade 4 vs. grade 1: odds ratio (OR) =4.14 (2.00-8.56), grade 7 vs. grade 1: OR=7.76 (3.67-16.4)](22).

CHAPTER SEVEN

7. Conclusion and recommendation

7.1. Conclusion

Majority of the study subjects have adequate knowledge about hand washing and about more than half of elementary school children have good attitude. Majority of students are not using soap even they report availability of the soap in their home. Hand washing with soap is also under reported practice after defecation. Maternal educational status, area of residence, age and sex of student, grade of student and availability of hand washing materials are among factors that affect KAP of school children toward hand washing with soap.

7.2. Recommendations

For Grima Bekele primary school; the school should have to provide basic information to improve knowledge attitude and practice of the students on hand washing. Wash club in the school should have to go further to improve accesses of hand washing facilities at school. The area should have to be further researched especially to identify where the gap is; because irrespective of good knowledge level of student the prevalence of diarrhea is still high in school children. Therefore other associated factors like hand washing habit of food handlers at home like mothers and/servants, conditions in the school including play environment, interpersonal contacts including shaking hands, observation of accessibility and availability of hand washing facility at home and other related factors should have to be investigated to come up with better findings with possible intervention.

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Annexes

Annex I: Subject Information Sheet (English Version)

Addis Ababa University, College of Health Sciences, Department of Nursing and Midwifery Graduate Studies

Dear participant!

Here, I the undersigned, at Addis Ababa University College of Health Sciences, School of Allied Health Science, Department of Nursing and Midwifery Graduate Study Program, currently I will be undertaking research on a topic entitled as assessment knowledge, attitude and practice of primary school children on hand washing. For this study, your child will be selected as a participant and before getting your consent, you need to know all necessary information related to the study which will be detailed as follows.

Purpose of the study: the purpose of this study is to assess knowledge, attitude and practice on hand washing and associated factors among public primary school children in Hosanna Town.

Benefits and risk of the study:

Benefits: For your participation in the study no payment will be granted or has no any special privilege to you but, responses to the following questions are beneficial to your child and other primary school children as input in improvement of their knowledge, attitude and practice on hand washing.

Risks: The study will be conducted through interviews and you are being asked for a little of your time to fill socio demographic data of your family and if you are willing on participation of your child he or she will be interviewed the rest of questions , a maximum of 20 min, to help us in this study. There is no possible risk associated with participating in this study except the time spent for responding to the questionnaire.

Confidentiality: Your or your Childs name will not be written in this form and any information you or your child tell us will not be disclosed to third party. Yours participation is voluntary and you or your child is not obligated to answer any question you or your child do not wish to answer. If you or your child feels discomfort with the question, it is your or your child right to drop it any time you or your child want. If you or your child have questions regarding this study or would like to be informed of the results after its completion, please feel free to contact the principal investigator.

Address of the principal investigator:

Alula Seyum

Cell phone: +251928747304, e-mail: alulaseyum@gmail.com

Are you satisfied with the information provided so far?

1. Yes…….. Continue to the next page

2. No …… I won't participate

Annex II: Consent form for parent and Questionnaire (English Version)

In undersigning this document, I am giving my consent to participate in the study entitled as "assessment of knowledge, attitude and practice on hand washing and associated factors among primary school children in Hosanna Town" I have been informed that the purpose of this study is to assess knowledge, attitude and practice on hand washing and associated factors among primary school children. I have understood that participation in this study is entirely voluntarily. I have been told that my answers to the questions will not be given to anyone else and no reports of this study ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer questions will have no effect on me. I understood that participation in this study does not involve risks. I understood that Alula Seyum is the contact person if I have questions about the study or about my rights as a study participant.

Respondent's signature_____

Interviewer

Name_____Signature_____Date_____

Part I. Socio-demographic and socio economic characterstics

NO.	Question	Choices	Remark
1.	How old are You?(age in years)	----------	
2.	Sex	1. Male 2. Female	
3.	What is your religion?	1.Protestant 2.Orthodox 3.Musilm 88. Other specify----------	
4.	Educational level of student?	----------	
5.	Where is your current residential area?	1.Hossana town 2. local rural area	
6.	Family size of the respondent?	Enter No----------	
7.	Educational status of mother?	1. Can't read and write 2. Grad 1-8 3. Grade 9 -12 4. Diploma and above	
8.	Occupation of father?	1. Government employee 2. Private employee 3. Daily labourer 4. Farmer 5. Student	
9.	Occupation of mother?	1. Government employee 2. Private employee 3. Farmer 4. Student 5. Daily labourer	
10.	Which one is available to wash your hands in your home?	1. Soap 2. Water 3. Other	
11.	Is there any history of illnesses in past month in you or your family?	1. Yes 2. No	If No skip to Q13
12.	If yes w/c problem is diagnosed on you or your family member?(you can give more than one response)	1. Diarrhoea 2. Respiratory tract infections 3. Intestinal parasite	

		88. Other specify.....	

Part II. Knowledge

NO.	Question	Choices	Remark
13.	Did you hear any information about hand washing with soap?	1.Yes 2.No	If no skip to 15
14.	If Yes for 13 from where/what source?	1. Television 2. Radio 3. Family 4. Teachers 5. Health extension worker	
15.	Do you know global hand washing day?	1. Yes 2. No	If no skip to 17
16.	If yes for Q16 from where do you hear it?	1. Television 2. Radio 3. Family 4. Teachers 5. Health extension worker	
17.	Unclean hand may be way of transmission for germs?	1.yes 2. no	
18.	Do you know human faces contain germs?	1. Yes 2. No	
19.	When does your hand be visibly dirty?	1. after eating 2. After eating 3. Before defecation 4. After defecation 5. After playing	
20.	Which one is risk to contaminate food and water if hands are not washed with soap ?(you can give more than one answer)	1. After visiting toilet 2. After plying 3. After working any work 4. Before preparation of food 5. Before feeding	
21.	Which one is needed to wash your hands	1. Soap	

	properly ?(you can answer more than one)	2. Clean water 3. Local herbs and ash 4. Soap and clean water 88. Other specify....	
22.	What is the benefit of washing hand with soap and water?(you can answer more than one)	1. To promote health 2. To halt transmission of disease 3. Te respect commends of parents or teachers 88. Other specify.....	

Part III. Attitude towered hand washing

23.	If peoples couldn't wash their hands appropriately they will be exposed to dieses?	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	
24.	Ageand Time are among factors that affect individual's hand washing with soap.	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	
25.	It is order of teachers or parents to wash your hands.	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	
26.	If you don't wash your hands with soap after any critical time you will be exposed to disease?	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	
27.	It is your responsibility to wash your hands?	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	
28.	It is your parents responsibility to wash your hands	1. Strongly agree 2. Agree 3. Not agree 4. Strongly not agree	

Part IV. Practice towered hand washing

NO.	Question	Choices	Remark
29.	Have you washed your hands today?	1. Yes 2. No	If No skip to 31
30.	If yes for above question what material do you have used?	1. Water only 2. Soap and water 3. Ash and water	Skip to 32
31.	Why you don't wash your hand today?	1. Lack of water 2. Lack of time 3. I don't found my hands dirty	
32.	Which one is more practiced to wash your hand in your family?	1. Ash and water 2. Soap and water 3. Water only 88. Others specify.....	
33.	When do you wash your hands usually?	1. Before meal 2. After meal 3. After work 4. After play 5. After toilet	
34.	For how long duration do you wash your hand at a time?	1. For less than 30 sec 2. 30 sec-1min 3. I don't know	
35.	In average for how many times you wash your hands per day?	1. Ones in the morning 2. Two to three time 3. Based on condition 88. Others specify.....	

Thank you! I have finished the interview.

I f you have any question_____

Annex III: Subject Information Sheet (Amharic Version)

በአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ የነርሲንግ እና ሚድዋይፈሪ ትምህርት ክፍል የድህረ ምረቃ መርሃ ግብር፡፡

የተከበሩ (ወላጅ)የጥናቱ ተሳታፊ!

እኔ በአዲስ አበባ ዩኒቨርሲቲ ጤና ሳይንስ ኮሌጅ በነርሲንግ እና ሚድዋይፈሪ ትምህርት ክፍል የድህረ ምረቃ መርሃ ግብር ተማሪ ስሆን በአሁኑ ወቅት በሆሳና ከተማ በሚገኙ የመንግስት አንደኛ ደረጃ ትምህረት ቤቶች የሚገኙ ተማርዎችን ስለ እጅ መታጠብ ያላቸዉን እዉቀት አመለካከትና ተግባር እንዲሁም ተጓዳኝ ነገሮች ላይ ጥናት እያካሄድኩ እገኛለሁ፡፡ በመሆኑም በዚህ ጥናት ዉስጥ እርስዎና ልጅዎ እንዲሳተፉ የተመረጡ ሲሆን ከመሳተፍዎ በፊት ግን የጥናቱን ጠቅላላ ይዘት እና ዓላማ እንደሚከተለው አብራራለዎታለሁ፡፡

የጥናቱ ዓላማ፡ ይህ ጥናት የሚያተኩረው በሆሳና ከተማ በሚገኙ የመንግስት አንደኛ ደረጃ ትምህረት በቶች የሚገኙ ተማርዎች ስለ እጅ መታጠብ ያላቸዉን እዉቀት አመለካከትና ተግባር እንዲሁም ተጓዳኝ ነገሮችን ማጥናት ላይ ነው፡፡

የጥናቱ ተሳታፊዎች ማንነት፡ በሆሳና ከተማ በሚገኙ የመንግስት አንደኛ ደረጃ ትምህረት በቶች የሚገኙ ተማርዎች በዚህ ጥናት ውስጥ ይሳተፋሉ፡፡

በመሳተፍዎ የሚያገኙት ጥቅም እና ጉዳት፡ በጥናቱ ስለተሳተፉ ቀጥተኛ የሆነ ገንዘብም ሆነ ሌላ ጥቅም አያገኙም፡፡ ነገር ግን የልጅዎ ድምጽ በአንደኛ ደረጃ ትምህረት በቶች የሚገኙ ተማርዎችን ስለ እጅ መታጠብ ያላቸዉን እዉቀት አመለካከትና ተግባር እንዲሁም ተጓዳኝ ነገሮችን እንድናዉቅ ይረዳናል በዝሁም መሰረት ለምመለከተዉ አካል አስፈላጊዉ መልዕክት እነዲተላለፍና ማስተካከያ እነዲደረግ ያደረጋል፡፡ በሌላ መልኩ በጥናቱ ስለተሳተፉ ቢበዛ 20 ደቂቃ ከመስጠት ዉጭ ምንም አይነት የአካል ወያም የስነልቦና ጉዳት በልጅዎ ለይ ጥአይደርስበትም/ባትም፡፡

የመረጃን ሚስጢር መጠበቅ፡ የእርስዎና የልጅዎ ስም በመጠይቁ ወረቀት ላይ አይፃፍም፡፡ የሚትሠጡን መረጃ በምንም መልኩ ለሶስተኛ ወገን አይታይም፡፡ በጥናቱ ዉስጥ የመሳተፍም ያለመሳተፍም እንዲሁም በፈለጉት ጊዜ የማቋረጥ መብትዎ የተጠበቀ ነው፡፡ስለጥናቱ ማንኛውም ዓይነት ጥያቄ ቢኖርዎት ወይም ስለጥናቱ የመጨረሻ ውጤት ማወቅ ቢያስፈልግዎት በሚከተለው የዋናው ተመራማሪ አድራሻ ማግኘት ይችላሉ፡፡

የዋናው ተማራማሪ አድራሻ

ስልክ፡ 0928747304፣ ኢሜይል.alulaseyum@gmail.com

የስምምነት ቅጽ ለወላጅ

እኔ ከዚህ በታች የምፈርመው ግለሰብ በሆሳና ከተማ በሚገኙ የመንግስት አንደኛ ደረጃ ትምህረት በቶች በሚገኙ ተማርዎችን ስለ እጅ መታጠብ ያላቸዉን እዉቀት አመለካከትና ተግባር እንዲሁም ተጓዳኝ ነገሮችን ለማወቅ በሚጠናው ጥናት ውስጥ እኔና ልጄ ተሳታፊ እንድንሆን መስማማቴን አየገለጽኩ ጥናቱ በፈቃደኝነት ላይ የተመሰረተ መሆኑንም ተረድቻለሁ፡፡ ከዚህ ቀጥሎ በሚገኘው መጠይቅ የምሰጠው መረጃም ሚስጢርነቱ የተጠበቀ እንደሚሆንም በሚገባ ተነግሮኛል፡፡ በጥናቱ ውስጥ ተሳታፊ መሆኔም አለመሆኔም በግል ሕይወታችን ውስጥ ችግር እንደማያመጣብን ተነግሮኛል፡፡ በመጨረሻም ስለ ጥናቱ እና የጥናቱ ተሳታፊ እንደመሆኔ ባለኝ መብት ዙሪያ ጥያቄ ቢኖረኝ አሉላ ሥዩም የተባለውን የጥናቱ ዋና ባለቤት ማናገር አንደምችልም ተረድቻለሁ፡፡

የተሳታፊው ፊርማ----------የመረጃ ሰብሳቢው ፊርማ----------ቀን----------

ክፍል አንድ -ማህበራዊ እና ስነ ህዝብ መረጃ መጠይ(በወላጅ የሚሞላ)

ተ.ቁ	ጥያቄ	ምርጫ	አሰተየት
1.	የተጠያቅ እድሜ	----------	
2.	ጾታ	1. ወንድ 2. ሴት	
3.	ሀይመኖት	1. ፕሮቴስታንት 2. ኦርቶዶክስ 3. ሙስልም 4. ሌለ	
4.	የተማሪዉ የትምህርት ደረጃ?	----------	
5.	መኖሪያ አድራሻ?	1. ሆሳና ከተማ 2. ከአገረበጎች ቀበሌ	
6.	የቤተሰብ ቁጥር?	----------	
7.	የእነት ትምህርት ደረጀ?	1. መንበብና መጻፍ አትችልም 2. ከ1ኛ-8ኛ ክፍል 3. 9ኛ -12ኛ ክፍል 4. ድፕሎመና ከዛ በለይ	
8.	የአበት ስራ ምንድነዉ?	1. የመንግስት ሰረተኛ 2. መንግስተዊ ያልሆነ ተቋም 3. የቀን ሰረተኛ 4. አርሶ አደር 5. ተማሪ	
9.	የእናት ስራ ምንድነዉ?	1. የመንግስት ሰረተኛ 2. መንግስተዊ ያልሆነ ተቋም 3. የቤት እመቤት 4. ተማሪ 5. የቀን ሰረተኛ	
10.	በቤተሰብ ደረጀ አሸጀችሁን ለመታጠብ ከኘዝህ የቱን ትጠቀመላችሁ?	1. ዉሃ እና ሰሙና 2. ዉሃ ብቻ 3. ሌለ	

11.	በለፉት ሀላት ወረት ዉሰጥ ከቤተሰብ አበለት የታመመ ሰዉ ነበር?	1. አዉ 2. አይደለም	2 ከሆነ ወደ 13
12.	አዎ ከሆና ችግሩ ምን ነበር?(ከ አንድ በለይ መልሰ ይቻላል)	1. ተቅመጥ 2. የመተነፈሻ አከል ችግ 3. የሆድ ዉሰጥ ትላትል 4. ሌላ	

የስምምነት ቅጽ ለተማሪ

እኔ ከዚህ በታች የምፈርመው ግለሰብ በሆሳና ከተማ በሚገኙ የመንግስት አንደኛ ደረጃ ትምህረት ቤቶች በሚገኙ ተማርዎች ስለ እጅ መታጠብ ያላቸዉን እዉቀት አመለካከትና ተግባር እንዲሁም ተጓዳኝ ነገሮችን ለማወቅ በሚጠናው ጥናት ውስጥ እኔ ተሳታፊ እንድሆን መስማማቴን አየገለጽኩ ጥናቱ በፈቃደኝነት ላይ የተመሰረተ መሆኑንም ተረድቻለሁ፡፡ ከዚህ ቀጥሎ በሚገኘው መጠይቅ የምሰጠው መረጃም ሚስጢርነቱ የተጠበቀ እንደሚሆንም በሚገባ ተነግሮኛል፡፡ በጥናቱ ውስጥ ተሳታፊ መሆኔም አለመሆኔም በግል ሕይወቴ ውስጥ ችግር እንደማያመጣ ተነግሮኛል፡፡በመጨረሻም ስለ ጥናቱ እና የጥናቱ ተሳታፊ እንደመሆኔ ባለኝ መብት ዙሪያ ጥያቄ ቢኖረኝ አሉላ ሥዩም የተባለውን የጥናቱ ዋና ባለቤት ማናገር አንደምችልም ተረድቻለሁ፡፡

የተሳታፊው ፊርማ----------የመረጃ **ሰብሳቢው ፊርማ----------ቀን----------**

በተማሪ የሚሞላ
ክፍል ሁለት፡እዉቀት

ጥ.ቁ	**ጥያቄ**	**ምርጫ**	**አስተየት**
13	የተማሪዉ የትምህርት ደረጃ?	----------	
13.	እጅን በሰሙና ስለመታጠብ ሰምተህ/ሽ ታዉቃለህ/ሽ?	1. አዎ 2. አይደለም	2 ከሆና 15
14.	ለ ጥያቄ 13 አወ ከሆነ ከየት ሰመህ/ሽ?	1. ከቴሌቪዢን 2. ከረድዮ 3. ከቤተሰብ 4. ከመምህረን 5. ከጤና ኤክሰቴንሺን በለመ	
15.	ስለአለመቀፍ እጅመታጠብ ቀን ሰምተህ ሰምቸሽ ተዉቃለህ?	1. አዎ 2. አይደለም	2 ከሆነ ወደ18 ዝለል
16.	አለመቀፍ እጅ መታጠብ ቀን መቼ / በምን ወር ነዉ ምከበረዉ?	----------ቀኑን ጣፍ	
17.	ለጥያቄ ቁ15 አወ ከሆነ ከየት ሰመህ /ሽ?	1. ከቴሌቪዢን 2. ከረድዮ 3. ከቤተሰብ 4. ከመምህረን 5. ከጤና ኤክሰቴንሺን በለመ	
18.	ንጹ ያልሆኑ እጆች ለበሽታ መተላለፊያ መንስኤዎች ናቸዉ?	1. አዎ 2. አይደለም	
19.	ሰገራችን በሽታ አመሸጭ ተወሰያንን እነደየዛ ተዉቃሌህ/ሽ?	1. አወ 2. አይደለም	

20.	እጆችህ/ሽ መቼ መቼ ነዉ የሚቆሽሹት?(ከ በለይ መልስ ይቸላል)	1. ከበለሁ በኃላ 2. ከተፀደደሁ በኃላ 3. ከስራ በኃላ 4. ምግብ ከመዘገጀት በፊት 5. ከተጨወትኩ በኃላ	
21.	ከነዝህ ዉስጥ እጃችንን በሰሙና ከለታጠብን ለበሽታ ልንገለጥ የሚንችለዉ በየትኛዉ ግዜ ነዉ?(ከ በለይ መልስ ይቸላል)	1. ከመጸደጀ መልስ 2. ከጨወታ መልስ 3. ከስራ በኃላ 4. ምግብ ከመዘገጀት በፊት 5. ከመመገብ በፊት	
22.	እጅህን በትክክል ለመታጠበ የትኛዉ አስፋላጊ ነዉ?	1. ሰሙና 2. ንጹ ዉሃ ብቻ 3. አመድና ዉሃ 4. ሰሙና ንጹ ዉሃ	
23.	አጅህን/ሽን በዉሃና በሰሙና በመታጠብ ምን ጥቅም ታገኛለህ/ሽ?(ከ በለይ መልስ ይቸላል)	1. ጤነማ ለመሆን 2. በሽታ እንደይተላለፍ 3. የወላጅን ትዕዛዝ ለማከበር 4. ቆነጆ ሆኖ ለመታየት	

ክፍል ሶስት፡- አመለካከት

24.	እጅህን በደንብ ከልታጠብከ /ሽ ለበሽታ ትገለጠለህ/ጪለሽ?	1. በጠም እሰማመለሁ 2. እስማመለሁ 3. አልስማም 4. በጠም አልስማመም	
25.	ከመመገቤ በፊት አንድ እጄን ብቻ ብታጠብም ችግር የለዉም?	1. በጠም እሰማመለሁ 2. እስማመለሁ 3. አልስማም 4. በጠም አልስማመም	
26.	አጄን የሚታጠበዉ የወላጅ/የማምህር ትዕዛዝ ስለሆነ ነዉ	1. በጠም እሰማመለሁ 2. እስማመለሁ 3. አልስማም 4. በጠም አልስማመም	
27.	ከመመገባችን በፊት ሁለቱንም አጆቻችን መታጠብ አለብህን?	1. በጠም እሰማመለሁ 2. እስማመለሁ 3. አልስማም 4. በጠም አልስማመም	
28.	በግለሰቦች እጅ መታጠብ ላይ ዖታና ግዜ ተጽኖ አላቸዉ	1. አወ 2. አይደለም	

29.	እጅህን/ሽን መታጠብ የማ ግዴታ ነዉ?	1. የራሴ 2. የወላጆቼ 3. የመምህራን	

ክፍል አራት፡- ልምድ

ተ.ቁ	መጠይቅ	ምርጫ	አሰተየት
30	ዘሬ እጅህን/ሽን ታጥበሃል/ሸል?	1. አዎ 2. አይደለም	2.ከሆነ ወደ 32 ዝለ
3ı.	አወን ከሆነ አጅህን/ሽን ለመታጠብ ምን ተጠቀምክ/ሽ?	1. ዉሃ ብቻ 2. ዉሃና ሰሙና 3. ወሃና አመድ	ወደ 33 ዝለል
32.	ዛሬ እጅህን/ሽን ያልታጠብከዉ ለምንድነዉ?	1. ዉሃ ስሌላ 2. ሰዓት አጥቼ 3. እጆቼን ቆሸሻዉ ስላላገኜሁ	
33.	በቤታችሁ ብዙን ግዜ እጃ ችህን ለመታጠብ የሚትጠቀሙት የትኛ	1. ወሃ ብቻ 2. ዉሃና ሰሙና 3. ሌላ	
34.	አብዘኛዉን ግዜ አጅህን የሚትታጠበዉ መቼ ነዉ? (ከሁለት በላይ	1. ከመብለቴ በፊት 2. ከበለሁ በኃላ 3. ከተፀደደሁ በኃላ 4. ከተጨወትኩ በኃላ	
35.	አንድ ግዜ እጅህ/ሽን ለመታጠብ መን የህል ግዜ ይፈጅል?	1. ከሠለሰ ሰከንድ በታች 2. 30ሰከን -አንድ ደቅቃ 3. አለዉቅም	
3 6 .	በአማከይ በአንድ ቀን አጅህን ስንት ግዜ ትታጠባለህ/ሽ?	- - - - - - - - - - - -	

አመሰግነለሁ!! ጥያቄ ከሌህ/ሽ_____

Declaration

I the undersigned declare that this is a research thesis and has not been presented in this or any other University and all sources of materials used for this thesis have been fully acknowledged.

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Date: _____

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This research thesis has been submitted to Department of Nursing and Midwifery for approval.

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Signature: _____

Date: _____

Reviewer: _____

Signature: _____

Date: _____