Assessment of factors influencing hygiene behaviour among school children in Mereb-Leke District, Tigray Region, Ethiopia 2013

By:

Mulubirhan Assefa (BSc in EnvH)

Advisor:

Dr Abera Kumie (MD, MSc, PhD; Associate Professor)

A Thesis submitted to school of graduate studies of Addis Ababa University in partial fulfilment of the requirement for Master Degree in Public Health

July, 2013

Addis Ababa, Ethiopia

Assessment of factors influencing Hygiene Behaviour among School Children in Mereb-Leke District, Tigray Region, Ethiopia

By:

Mulubirhan Assefa (BSc EnvH)

Advisor:

Dr Abera Kumie (MD, MSc, PhD)

June, 2013

Addis Ababa, Ethiopia

Acknowledgements

It gives me pleasure to express my heartfelt gratitude to Addis Ababa University, School of Public Health for financial and technical support. I would like to thank to my advisor Dr. Abera Kumie for his unrestricted guidance, envisioning and supporting from the period of instigation to this project.

I wish to express my appreciation to all whose efforts made the accomplishment of this thesis project possible. I gratefully acknowledge the contributions of Mr Worku Tefera from AAU/SPH, Mr Yaread and Mr Sileshi Taye from Federal Ministry of Health; Mr Gidey Desta from Mereb-Leke District education office, Mr Gidey from Mereb-Leke District Health office, and all school directors, study participants and research teams. Chiefly, I would like to acknowledge for Mr Abraham Mekonnen for his extrovert assistance and contribution during data collection process and for all data collector and supervisor.

Lastly not least, I express my strong indebtedness to my mother W/o Haymanot G/slasea and my fiancée W/t Rigbe Hagos for their encouragement from the beginning up to the end of the project work.

Table of content

List of tables

List of figures

Abstract

Background: Children are “agents of change” in pacing the behaviour and practice of their family and community at large. Hygiene and sanitation in schools is important, as it allows children to learn about hygiene at a receptive age, as well as having immediate and long term health benefits. Poor hygiene behaviour remains high risk behaviour increasingly responsible for high water and sanitation related diseases among primary school going children. Many outbreaks of gastrointestinal infections have been associated with primary schools

Objectives: assessing the factors influencing hygiene behaviour among school children.

Methods: A school children based descriptive cross sectional study was conducted. Five Primary schools was recruited from the list of primary schools with second cycle in the Woreda Education Office and a total of 528 School children were selected randomly selected from the list of every school based on the proportion to the size of grade six to eight of each school. Fifty percent of students‟ house hold was assessed for availability of hygiene enabling facilities.

All questionnaires and records were checked by the data collectors and supervisors before leaving the data collection area. Statistical analysis was done using SPSS Version 17.0 after the data has been entered using Epi-Info version 3.5.3. Logistic regression employed to identify factors influencing hygiene behaviour via crude and adjusted odds ratio.

Result: the study found that knowledge and awareness on water handling, and hand washing was significantly associated to hygiene behaviour. The likelihood that the child‟s knowledge on water handling issues and hand washing matters was 2.24 times (AOR, 2.24; 95%CI 1.54, 3.26) and 1.7 times (AOR, 1.70; 95%CI 1.12, 2.57) likely to have positive hygiene behaviour compared to those was not knowledgeable, respectively. Predictably, school children who had proper awareness on water handling matters 2 (AOR, 2.0; 95%CI 1.37, 2.90), hand washing practice 2.36(AOR, 2.36; 95%CI 1.62, 3.45) times more likely to have positive hygiene behaviour compare to those school children not aware.

Being a member of hygiene and sanitation club, parent‟s health package status, have ever trained on hygiene and sanitation and have ever visit model school had observed a significance difference in hygiene behaviour. The peer pressure measured by „what you think children are washing their hands‟ was observed a difference in handwashing behaviour. This was statistically significant with diseases avoidance $P < 0.05$.

Conclusion: we conclude that this study has shown that knowledge, awareness, ever training, being a member, visit model school, and parent‟s health package are factors to influence hygiene behaviour.

Introduction

Background

Impact on disease burden due to inadequate and unsafe water, lack of sanitation and poor hygiene behaviour is a complex issue [1]. Diseases related to inadequate water, sanitation and hygiene are a huge burden in developing countries. These are causing many people; children in particular, to fall ill or even die [2]. The number of deaths due to diarrhoeal illnesses exceeds that of AIDS, tuberculosis and malaria combined, and every week, 31,000 children in low-income countries die from diarrhoeal diseases which are approximately 4,500 deaths every single day [1, 3-5].

Schools and day care centers have repeatedly been implicated in the spread of infectious disease, both among the children themselves and among their families and communities [5]. Many schools serve communities that have a high prevalence of diseases related to inadequate water supply, sanitation and hygiene, and where child malnutrition and other underlying health problems are common [6].

The promotion of hygienic behaviors has been identified as a public health intervention likely to have considerable impact in the reduction of diarrheal diseases in young children in developing countries. Hence, Hygiene and sanitation in schools is important, as it allows children to learn about hygiene at a receptive age, as well as having immediate and long term health benefits. The earlier behaviour is changed in life, the longer the lifespan of the change [2, 4, 6, 7]. School based hygiene promotion approach hopefully can have a spill over effect on hygiene behaviour in their homes and families [2, 6, 8].

Ethiopia has made considerable progress to encourage increased access to and use of improved hygiene and sanitation. The promotion of improved sanitation facilities and safe hygiene practices is essential in schools and ideally should go hand-in-hand with community/household activities.

Statement of the problem

Poor school sanitation and hygiene is a major problem in developing countries [9]. Poor hygiene behaviour remains high risk behaviour increasingly responsible for high water and sanitation related diseases among primary school going children. Many outbreaks of gastrointestinal infections have been associated with primary schools [9-11].

Improvements in hygiene behaviour are the most important barrier to many infectious diseases, because with safe behaviour and appropriate facilities, people reduce their risk of becoming exposed to disease. Most water and sanitation related diseases can only be prevented by improving a number of hygiene behaviours [1, 3, 9]. The occurrence and severity of Hygiene related outbreaks in endemic areas is greatly enhanced by human behaviour with regards the practice of healthy hygiene. Improved hygiene practices are essential if transmission routes of water and sanitation related diseases are to be cut [2, 3, 12].

Schools provide a theory based approach on hygiene issues which are relevant to the school curriculum but may lack the practical dimension of equipping children with everyday life skills [10]. School staff was unable to teach children basic hygiene if the school did not have a sufficient number of latrines, lacked toilet paper and was not kept adequately clean [13].

Hygiene behaviour influences the pattern of diarrhoeal spread. The risk of pathogen spread from young children to other members of the family. The specific behaviours that have received most attention with regard to their role in promoting the transmission of enteric pathogens are water handling behaviour, latrine utilization behaviour, and hand-washing [14].

Among children for whom mainly positive hygiene behavior was recorded, the prevalence of diarrhea was 6.4 days per child-year, while it was 14.2 days per child year in children with mainly negative scores [15]. As hands are an important mode of transmission of infectious disease among school-aged children, hand hygiene is critical in reducing illness-related absences. Hand washing interventions have been shown to significantly reduce illness-related absences in elementary school students by as much as 26% [16].

Rationale of the Study

Why is it important to study those factors influence practicing hygiene behaviour among school children [2, 4-6, 10]

- Schools are most important places of learning and behaviour change for children since childhood is the best time for children to learn behaviour
- Schools are a stimulating learning environment for children and stimulate or initiate change
- Schools can influence communities through outreach activities
- School children can practice lifelong positive hygiene behaviour
- Children are “agent of change” impacting the behaviour and practice of their family and community at large.
- Children are future parents and what they learn is likely to be applied in the rest of their lives
- Children‟s knowledge, attitudes and beliefs largely depend on what they are taught be it at home or school

Due to the high proportion of facilities that are either non-functioning, or restricted to children, the overall impact on children‟s health and quality of education is reduced [17]. The mere provision of water supply and sanitation facilities is not enough to bring down morbidity and mortality rates: health-promoting hygienic behaviour is also needed [2]. Hygiene practices are often hard to change, and children on their own cannot be agents of change in the household if the family is not receptive [18].

Therefore, this study is designed to assess factors influence hygiene behaviour among school children. The study is significant to bridge the information gap on school WASH programs and to set evidence based intervention at school children setting that brings both health and non-health related benefits (indirect benefit from socio-economic development) to children and the community at large.

Literature review

Hygiene behaviour can be clarified as a function of the collective influence of several factors as behaviour is a multifaceted phenomenon. Children learn about hygiene at a receptive age, as well as having immediate and long term health benefits. Therefore, in order to assess these multifaceted phenomenon the Precede-Proceed model of behaviour determinants provide framework for our study and which categorizes factors into three broad categories, namely predisposing, enabling and reinforcing factors.

Predisposing (Knowledge, attitude)

The high incidence of diarrhoeal diseases and other communicable diseases among school children may be due to poor knowledge and practice of personal and environmental hygiene ([19]. Poor knowledge and practice of, and attitudes to personal hygiene, such as hand washing, has negative consequences for a child‟s long term overall development. Critical times for hand washing include after using the toilet, after cleaning a child, and before handling food [20].

Attitudes, knowledge, beliefs and self-efficacy are some of the measures which are thought to be on the causal pathway to behavior. That's why; Investments in water and sanitation linked with hygiene promotion have proven to be more effective in reducing diarrhoeal diseases as compared to investments in hardware alone [7, 9, 10].

A study conducted by the United Nations Children‟s Fund (UNICEF) and the Ethiopian Ministry of Health found that study participants in rural Ethiopia had poor status regarding knowledge, attitudes, and practices (KAP) of hygiene. Approximately 60% of children surveyed did not know about the possible transmission of diseases through human waste [21].

It is fundamental to understand that Awareness of health aspects of sanitation behaviour is important because it determines the degree of sustainability of an intervention in sanitation. When new latrines are constructed in a programme and sanitation behaviour is not addressed at the same time, people are unlikely to support the improvements with sustained behaviour change needed for improved health [7, 22, 23].

Past reviews about personal hygiene indicate that perception strongly influences one‟s hand washing beliefs and practices. Previous studies conducted in Ethiopia provide limited details about the hygiene KAP of populations rural areas. Additionally, few investigators

have examined hygiene KAP specifically among rural school children, a population especially susceptible to communicable diseases [24].

Hygiene enabling facilities

The hygiene behaviour that children learn at school made possible through sanitation and hygiene-enabling facilities [6]. One study indicated that even if schools have hygiene enabling facilities available, there is underutilization of the facilities. There was a lack of supervision of toilets as they were poorly used and maintained by the school children [10].

Adequate and well-functioning school sanitation and hand washing facilities play a major role in ensuring good hand washing practices**.** Simple hand washing with soap helps to protect children from the two biggest global pediatric killers: diarrhea and lower respiratory infection [23, 25, 26]. One of the most important hygiene behaviour to promote among schoolchildren is hand washing with water and soap (or ash) — at least before eating and after using the toilet [6]. A study conducted in Ghana indicates that having knowledge about hand washing does not always translate into practice inadequate opportunities and lack of sanitation facilities at schools and homes did not allow them to practice the hand washing knowledge they had acquired [25, 26]. These diseases kill >3.5 million children under the age of 5 every year. In addition to this, evidence from large studies in less developed countries shows that simple hygiene measures, especially hand washing, reduce respiratory infections and diarrhoeal diseases significantly [27, 28].

Lack of resources, namely soap and water, as well as inadequate sanitation facilities may be two of the main reasons why children do not wash their hands [29]. Study Findings on Hand washing with Soap Behaviour in Kenya Hand washing facilities in most schools are located far from the toilets, sometimes even in the opposite direction. This led to some pupils forgetting to wash hands; they would rush to class immediately after using the toile. This study indicates that the barriers to hand washing can be deduced from reasons why children in study classes refused to wash hands with soap. Overall, 81 percent of 587 children in the study, in upper primary classes, claimed that they used soap after placement while 19 percent did not use the soap [30]. Therefore, to promote hand washing, hand washing-facilities must be easily accessible and available at all times with the right materials necessary to make the process a success.

Among hygiene behaviors, the sanitary disposal of human feces, particularly those of children, has been less studied. Little is known about current practices, their determinants,

and the feasibility to change them. Some studies indicate that Children were reported or observed to defecate either in the soil inside the household, as well as in diapers, potties, latrines, and the backyard. Outside the household, they defecated in bushes in the open field, as well as directly into rivers [31]. Other studies have identified factors hindering latrine use by school children. Factors such as poor maintenance, smelly and dirty latrines [32] lack of sanitation facilities**,** overcrowding**,** and financial management , play a role on whether children will use the latrines [10].

Motivational/Supportive factors

The family institution seemed to play a more important role in life skills training and positive reinforcement compared to the school. This shows that 50% of positive reinforcement came from the home compared to 27.3% who identified the school as a motivator [10]. Washing hands with soap was found to be fun and provided a form of play for the children [33].

Head Teachers and other teachers are the main champions of hand washing with soap in the school environment. Teachers act as role models; they also provide leadership in hygiene related issues within the school [30]. School staff was unable to teach children basic hygiene if the school did not have a sufficient number of latrines, lacked toilet paper and was not kept adequately clean [13].

Based on the PPPHW study conducted in sub-Saharan Africa, motivating factors behind proper hand washing included avoidance of disgust (i.e. avoid dirt and smell of defecation), nurture (i.e. teach children to wash hands so they stay healthy), status (i.e. clean people are more accepted), affiliation (i.e. cleanliness is associated with better socioeconomic status), attraction (i.e. cleaner people are more attractive), comfort (i.e. hands feel and smell fresh), and fear (i.e. avoid the risk of disease) [33]. Students did not want to miss school due to illness because they would not be able to spend time with their friends. Also, if the children had clean hands, they would have clean books, resulting in better grades [32].

Conceptual framework

Educational and organizational approaches of the Precede-Proceed model was employed as theoretical agenda for categorising factors which are potential determinants of hygiene behaviours. This conceptual framework takes elements specially adapted for hygiene behaviour and considering resources limitation and the capacity of measurement and statistical analysis.

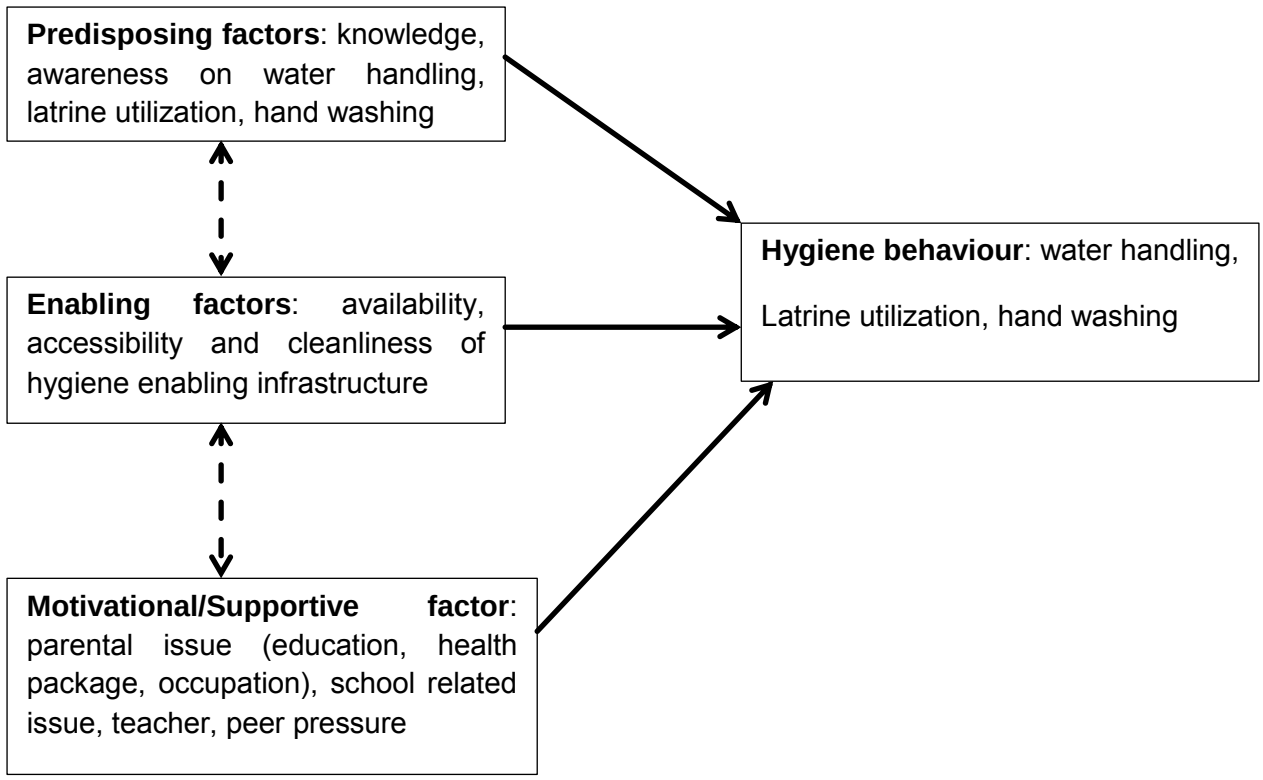

Figure 1: A conceptual framework for forthcoming determinants of hygiene behaviours adapted Green L. W. and Kreuter M. W [34].

Objectives

General objective:

To assess the factors influencing hygiene behaviour among school children in Mereb-Leke District, Tigray Region, Ethiopia

Specific objectives:

- To assess knowledge, and awareness of school children to wards hygiene behaviour
- To identify hygiene enabling facilities at school and home setting which influences the hygiene behavior of school children in Woreda Mereb-Leke
- To examine motivational factors that affect hygiene behaviour among school children in Woreda Mereb-Leke

Methodology

Study area:

This study was conducted in Tigrai Regional state, central zone Mereb-Leke district. The district is bounded in Southern by Adwa and Laelay-Michew Woreda, Eastern by Ahferom Woreda, Western by Tahtai Michew Woreda and Northern by Eritrea. This Woreda has a total Population of about 121,286 of which 19342 are school children enrolled in 53 primary schools according to 2004E.C Woreda annual report. Also, the Woreda has six health center and fifteen health posts.

Study design:

A school children based cross sectional study was conducted from July, 2012 to May 2013.

Source and Study population:

All children of primary school going age in Mereb-Leke district were served as source population while the study population consisted of those second cycle i.e. grade six to eight pupils attending school in the district as they are the more mature and most senior in primary schools and whom can respond the required information without any difficulties.

Sampling size:

The sample size was estimated by using two proportion equation statistical formulae;

$$\frac{\left[-\sqrt{\quad}\quad\sqrt{\quad}\right]^2}{(p1-p2)^2}$$

Where n= sample size

P1, the proportion of school children who have not aware that observe proper preventive behaviour was 45 % [35] :

P2, the population proportion school children who exposed to school reinforcement was 27.3 % [10]:

q1= 1-p1 and q2= 1-p2

Z= standard normal variable corresponding to the specific confidence level (**1.96**) for 95% confidence limit

$Z_{1-\beta=}$ 80% is the power of the study used to determine sample size which has a value of 0.84

Then after, the statistical formulae give a total of **264** school children. In order to maximize the response rate of our study multiplying design effect of **2**. Therefore, 528 school children were selected using systematic random sampling.

Sampling procedures*:*

The target participants for this study were school children in second cycle of every selected primary school in Woreda Mereb-Leke. A multi-stage probability sample procedure with three stages was used to select participated school. Five Primary schools were selected purposively from the list of primary schools which have second cycle i.e. grade six to eight in the Woreda Education Office. A total of 528 School children were randomly selected from students networking list of selected school based on the proportion to the size of grade six to eight of each school. The reason for the choice of school children in grade six to eight is because they are the more mature and most senior in primary schools.

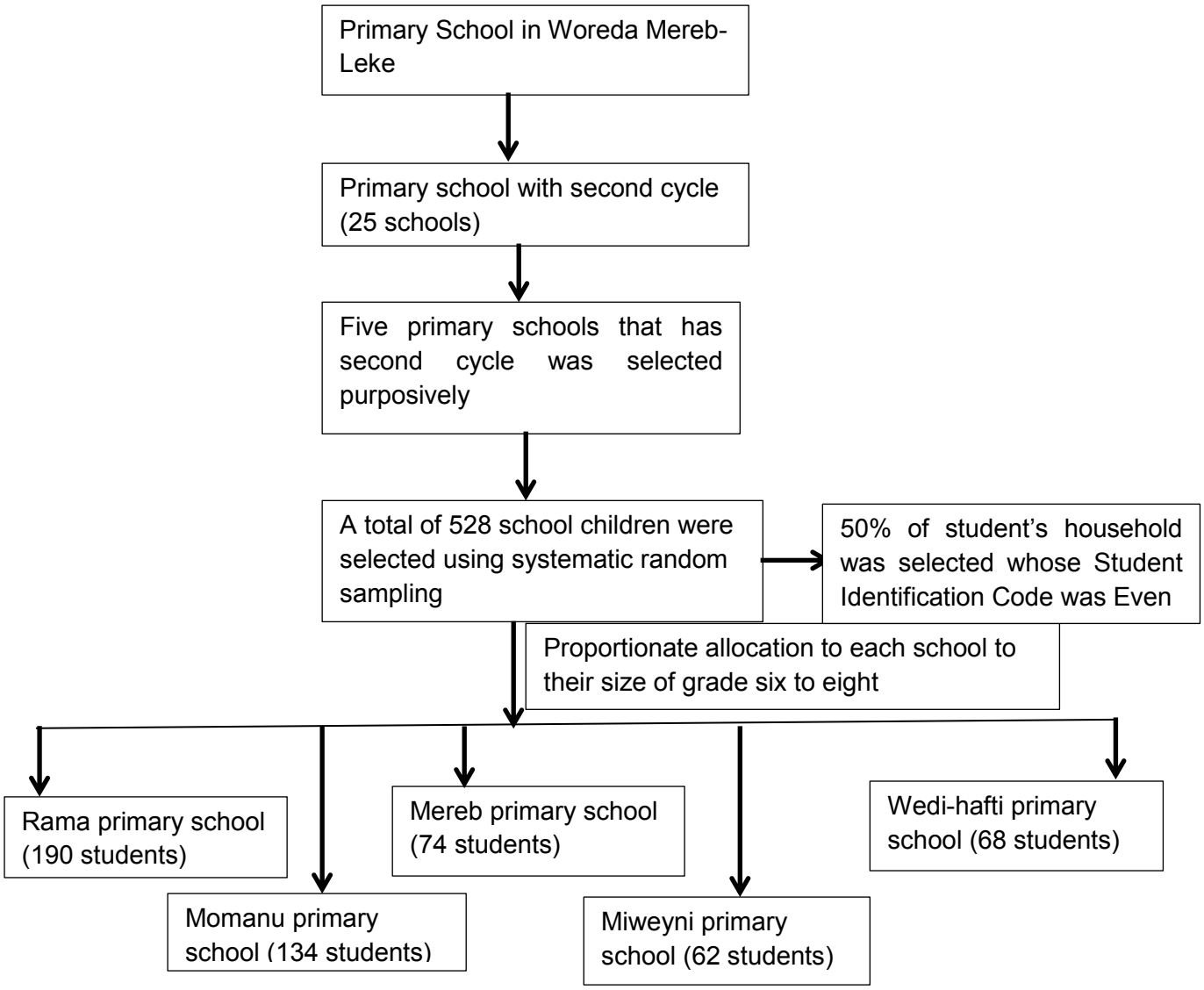

Figure 2: a diagram shown the sampling procedures of primary schools and school children, students" house hold participated in the study.

Data collection procedures:

Structured questionnaire and observational checklist at home and school setting was used to collect data. The questionnaire was initially drafted in English, translated to Tigrigna, and then pre-tested in similar primary School in Mereb-Leke Woreda which was not included in the study, conducted prior to the actual data collection time to assess the suitability of the questionnaire with regards to duration, language appropriateness, content, validity, and question comprehensibility. Some amendment had made after the pretest.

Five teachers as data collection coordinator at school setting and six health extension workers, as data collectors (house hold hygiene enabling facility) were recruited to facilitate and guide the data collection process. These study staff was given a training for two days by the principal investigator on the objective of the study, techniques of assisting study subjects whenever this come across difficulties in completing the questionnaire, in order to avoid incompleteness of the questionnaire.

The questionnaire had consisted of: demographic information (gender, age); parent‟s educational status (illiterate, primary/secondary, tertiary and more); parents‟ health package status (graduated, not graduated but participating, not participating). Students were queried as to whether they miss days at school in the two weeks (yes, no) and the reason to miss days. Knowledge about key hygiene behaviour was assessed. Students who answered “yes” to all knowledge questions were classified as having adequate knowledge of hygiene behaviour. The questionnaire includes awareness (perception) questions that were determining whether the school children believe that hygiene behaviour (hand washing, use and cleaning of toilet, handling drinking water) can actually help diseases prevention.

Variables

Independent Variables

Age, Sex, Knowledge, awareness

Mother‟s educational status, Father‟s educational status, Parent‟s occupational status,

Parent‟s health package status

Training, visit, membership

House hold enabling facility

Dependent Variables

Hygiene Behaviour (Water handling practice, latrine utilization, hand washing practice)

Operational definitions:

Behavior: is "what a child does" and which is observable and measurable. Scores were assigned to the variables for stated behaviour using the issue scores as mentioned below; Score issue is hygiene behaviour: 0- no/never, 1-yes/always.

- ✓ Water handling practice (Keeping drinking water free from faecal contamination): Students who answered usually/yes to at least **2** water handling practice questions was classified as having proper water handling practice
- ✓ Latrine utilization: Students who answered in latrine/always to at least **3** questions requesting about practice/skill of latrine utilization was classified as having proper usage of latrine.
- ✓ Hand washing practice: Students who answered yes/always to at least **5** questions requesting about practice/skill of hand washing was classified as having good hand washing behaviour.
- ✓ **Hygiene behaviour**: it is a composite score for students who answered yes/always to at least **9** questions requesting about practice/skill of Water handling, latrine utilization, and hand washing was classified as having positive hygiene behaviour.

Predisposing factors: knowledge, awareness required to do the desired behavior.

Knowledge: Comprehensive knowledge about hygiene behaviour, which defined as respondent‟s knowledge on the three key hygiene behaviour was used to assess children‟s knowledge. A student was classified as having adequate knowledge of:

- Water handling; answered yes to at least **3** questions entreating knowledge of water handling
- Latrine utilization; answered yes to at least **2** questions inquiring on the knowledge of latrine utilization
- Hand washing practice; answered yes to at least **4** questions asking on knowledge of hand washing

Awareness (perception): Students who answered „yes‟ to all awareness related questions was classified as having good awareness/perception of water handling, latrine utilization and hand washing practice.

Hygiene enabling factors: facilities available at both home and school that enable the children to do the desired behavior.

Reinforcing factors: factors affecting the students‟ ability to sustain certain behaviour, containing parental issue, school related issue, teachers and peer pressure.

Data management:

All questionnaires and records was checked for completeness by the data collectors and supervisors before leaving the area where data collection has done and then the data entered in to EPI info version 3.5.3 by the principal investigator. Ten percent (52 school children data) of the data was entered twice for consistency. Before commencement of analysis further data cleaning, outliers‟ assessment, and completeness was performed in data editors of SPSS statistical package.

Data Analysis procedures:

Statistical analysis was done using SPSS Version 17.0. Descriptive analysis has done by calculating frequencies (response rate) of the knowledge, awareness (perception), and skill (practical) questions. Frequency, percentages and proportion was cross tabulated by gender, school type (rural and urban), parents educational status, parents health packages status, member of health related clubs, for the answers was given by school children. Further analysis was done using chi2 test to identify the association or the relationship between these variables. The importance of knowledge, awareness, enabling factor as determinant of hand washing, latrine usage and Keeping drinking water free from faecal contamination was also analyzed.

Data on the level of respondent‟s knowledge, perception compared with what they stated about their hygiene practice and both will be compared with the recalled missing days at school. The recall period was two weeks prior to data collection. To gauge factors influencing hygiene behaviour, Specific analysis (sex based, key behaviour based) was also premeditated with respect to motivational/supportive factor, parents educational and health packages status, hygiene enabling facilities available to respondent.

Moreover, logistic regression was employed to identify factors influencing hygiene behaviour via crude and adjusted odds ratio. Primarily variables that had p-value <0.3 at bivariate analysis were used to develop logistic in order to identify predisposing factors which more strongly linked with the hygiene behaviour outcome.

Data quality management:

A Pre-test of questionnaire was carried out before data collection. The research team carefully examined the completed questionnaires every day corrected any logical mistakes, and checked the responses with the interviewees. 5 percent of subjects were re-interviewed for quality control by data collectors and supervisors. Five percent of the households" hygiene enabling facility was cross checked for its accuracy and completeness. This was strengthened by testing consistency of data during data entry by entering twice 10% participants" data.

Ethical consideration:

Before commencement of the actual activities, ethical clearance was obtained from Addis Ababa University, School of public health ethical review committee after reviewing the proposal. A written permission of the Woreda education office was obtained and a letter of support was written to all respective head of the selected schools. An additional informed verbal consent had obtained from school director on the behalf of school children.

The study has not any risk and no direct benefit to the participant for their participation. The purpose of the study as well its confidentiality (assign unique identification Code) of the information obtained was fully explained to school administrator. The participants had a right to withdraw from the study at any time also communicated and respected.

After the data collection a hand book designed for families health package was disseminated for each student participated in the study. This hand book has explained importance of proper hygiene on diarrhoeal prevention.

Dissemination of results:

The finding obtained from this project is in progress to submit for peer reviewed journals for publication and after approved by approval committee the abstract will be disseminated to Woreda health office and education office for intervention action.

Results

Five hundred twenty eight School children, who recruited from five primary schools, were participated in the study giving a response rate of 100%. The majority of the respondent was a female who accounts 52.5% of the study subject and the mean age of the children was 14.5 years. Out of the total, 31%, 34.3%, and 34.7% was grade six, seven, eight respectively.

According to the criteria defined in the method, Children were grouped according to whether positive or negative hygiene behaviour outcome which permitted identifying factor affecting of hygiene behaviour**.** Out of these, 326 (61.7%) who had positive hygiene behaviour while 202 (38.3%) had negative hygiene behaviour. Most of the respondents, 57.6% were from Urban and the remaining were from Rural**.**

Predisposing factors influencing hygiene behaviour

Knowledge: Out of the total study subjects 65% had adequate knowledge on water handling but more than 91.1% had not proper knowledge on latrine utilization, 71% had not adequate knowledge on hand washing. Of those school children who had adequate knowledge on hand washing water handling, and latrine utilization; 71.1%, 68.8%, and 53.2% was with positive hygiene behaviour respectively (table 1).

Awareness: The study revealed that more than half of the children were aware on hand washing and water handling accounts for 58.9% and 52.7%, respectively. The majority, however, 80.5% of the respondent was reported not aware to latrine utilization.

Among those who aware to water handling 71.6% had practiced positive hygiene behaviour whereas of those not aware had reported 50.8% had reported positive hygiene behaviour. According to the study a 24% difference in positive hygiene behaviour was shown among school children due the awareness of hand washing.

Table 1: The frequency of knowledge and awareness of school children in Mereb-Leke District, Northern Ethiopia March 2013

Characteristics	Frequency (n=528)	Percent (%)
Knowledge on water handling		
Know	343	65
Don‟t know	185	35
Knowledge on latrine utilization		
Know	47	8.9
Don‟t know	487	91.1
Knowledge on hand washing		
Know	149	28.2
Don‟t know	379	71.8
Awareness of water handling		
Aware	278	52.7
Not aware	250	47.3
Awareness of latrine utilization		
Aware	103	19.5
Not aware	425	80.5
Awareness of hand washing		
Aware	311	58.9
Not aware	217	41.1

Practice: The study indicated the skill/practice was grouped in to three according to the criteria defined in the method (i.e. Water handling practice, latrine utilization, and hand washing). Accordingly, 83%, 57% and 33% of the study subject had reported proper water handling, latrine utilization and hand washing behaviour.

More specifically, Respondents were asked if they treat their drinking water, overall 92.8% of the respondent reported that „yes‟. The majority of study subject, 75.2% had reported they have ever cleaning and covering water container but 42.2% of the study subject reported never touch drinking water by dirty hand. Out of those who boiled their drinking water, 67.8% (N=242) of the student reported that they boiled their drinking water the day prior to data collection.

Among the school children 73 % was reported to defecate in latrine. Out of the total, 53.6% of the participant reported always to „how frequent use latrine‟; 70.6% of the respondent reported to execrate in latrine the day prior to data collection.

Of the school children 78% were wash their hands before eating, 24.6 % after defecation and 22.2% after eating. The majority of participants reported usually wash hands and wash hands the day prior the data collection accounting for 87.7% and 85.2% respectively. But of the school children 97.2% reported that they did not use soap at critical time; more than 78% report that they didn‟t practice the correct procedure of hand washing.

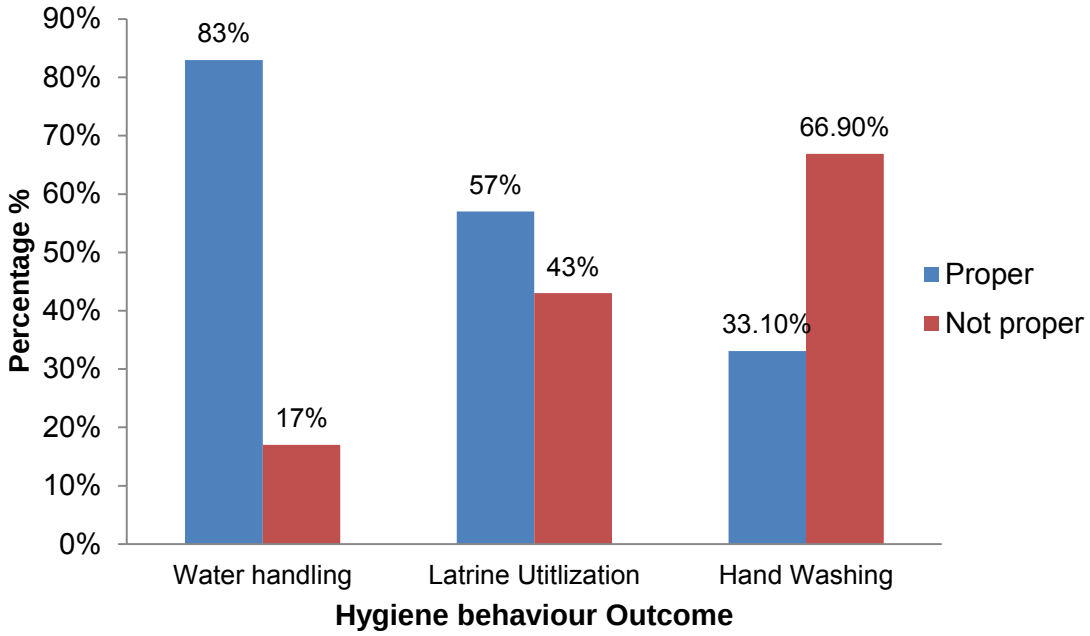

Figure 3: The distribution of hygiene behaviour among school children in Mereb-Leke District, Tigray Region, Ethiopia March 2013.

On crude bivariate analysis the knowledge aspects found to be significantly associated with positive hygiene behaviour (as shown on table 2): Knowledge on water handling 2.33 times (COR 2.33; 95%CI 1.61, 3.36), Knowledge on hand washing 1.78 times (COR 1.78; 95%CI 1.18, 2.68) were more likely to have positive hygiene behaviour as compared to those who did not know.

The study also point out that the awareness was found to be crudely significant associated with hygiene behaviour. Accordingly, those study subject aware on water handling and hand washing were 2 times (COR, 2.44; 95%CI 1.70, 3.50) and 2.8 times (COR, 2.81; 95%CI 1.95, 4.03) more to have positive hygiene behaviour

Predisposing factors influencing hygiene behaviour; primarily variables that had p-value <0.3 at bivariate analysis were used to develop logistic in order to identify predisposing factors which more strongly linked with the hygiene behaviour outcome. On multivariate logistic regression knowledge, awareness was found to be significantly associated to hygiene behaviour.

The likelihood that the child who knowledgeable on water handling issues and hand washing matters 2.24 times (AOR, 2.24; 95%CI 1.54, 3.26) and 1.7times (AOR, 1.70; 95%CI 1.12, 2.57) more likely to have positive hygiene behaviour compare those who did not knowledgeable, respectively. Predictably, the reported awareness level of key behaviour was closely related to the hygiene behaviour outcome; school children who had proper awareness

water handling matters 2 (AOR, 2.0; 95%CI 1.37, 2.90), hand washing practice 2.36(AOR, 2.36; 95%CI 1.62, 3.45) were times more likely to have positive hygiene behaviour compare to those school children not aware.

Table 2: Final logistic regression of predisposing factors influencing hygiene behaviour among school children in Mereb-Leke District, Tigray Region, Ethiopia March 2013

Characteristic(s)	Frequency of hygiene behaviour (n=528)		Crude OR (CI 95%)	Adjusted OR (CI 95%)
	Positive	Negative		
Knowledge on water handling				
Yes	236	107	2.33(1.61, 3.36) **	2.24(1.54, 3.26) **
No #	90	95	1	
Knowledge on latrine utilization				
Yes	25	22	0.68(0.37, 1.24)	0.85(0.46, 1.58)
No #	301	180	1	
Knowledge on hand washing				
Yes	106	43	1.78(1.18, 2.68) *	1.70(1.12, 2.57) *
No #	220	159	1	
Awareness for water handling				
Yes	199	79	2.44(1.70, 3.50) **	2.0(1.37, 2.90) **
No #	127	123	1	
Awareness for latrine utilization				
Yes	55	48	0.65(0.42, 1.01)	0.88(0.55, 1.40)
No #	271	154	1	
Awareness for hand washing				
Yes	223	88	2.81(1.95, 4.03) **	2.36(1.62, 3.45) **
No #	103	114	1	

Reference group, P<0.05*; P<0.01**

Hygiene Enabling factors influencing hygiene behaviour

As show on table 3, Out of the total five-hundred twenty eight sample respondents, 50% of study subject households were selected for assessing hygiene enabling factors. The study also showed that all the five schools had latrine facilities which were located within the school compound and all had gender segregated compartments for both students and staffs. Of the five schools, 4 schools had access to improved water source; but no one had functional hand washing facilities. The observation of each school reported that an average one seat per 73 student for boys, 80 for girls.

Of the school children, 35.4% and 37.3% reported that „always" whether toilet paper was available and cleanliness of toilet respectively**.** The study revealed that more than 47% of the respondent was reported „always" to whether queuing for using the latrine during break. 66.3% of 528 school children in the study delighted that they use soap and water to wash their hands while 33.7% needed to habit water only.

Table 3: Distribution of household hygiene enabling facility in Mereb-Leke District, Tigray Region, Ethiopia March 2013

House Hold Enabling Facility	Frequency (n=264)	Percent %
Main source of drinking water		
Protected	174	65.9
Not protected	90	34.1
Time spent for one trip		
< 30 minutes	193	73.1
>30 minute	71	26.9
Drinking water storage		
Narrow necked	142	53.8
Wide	122	46.2
Cover with lid		
Yes	197	74.6
No	67	25.4
Separate cub next to container		
Yes	124	47
No	140	53
Latrine availability		
Yes	155	58.7
No	109	41.3
Recommended Physical structure of latrine **		
Yes	81	52.3
No	74	47.7
Cleanliness of the floor		
Clean	72	46.5
Not clean	83	53.5
Cleanliness of latrine **		
Good	47	30.3
Not good	108	69.7
Obstacles in the path **		
Yes	36	23.2
No	119	76.8
Depth of faeces to slab **		
<50 cm	57	36.8
>50cm	98	63.2
Availability of hand washing facility		
Yes	145	55.3
No	119	44.7
Location of hand washing facility Near to latrine**		
Yes	54	37.2
No	91	62.8
Presence of soap at the facility**		
Yes	81	55.9
No	64	44.1
Where the family member wash their hands		
In the facility	145	54.9
Elsewhere	119	45.1

**Missing data excluded

Motivational/Supportive factors

Among those students observed positive hygiene behaviour (N=326), 59% and 27% of their mother and father educational status was unable to read and write respectively; 60.7% of their parents was graduate and/or involved in the health package and 64.4% was farmers.

Table 4: Distribution of respondent‟s by motivational factors in Mereb-Leke District, Tigray Region, Ethiopia March 2013

Characteristic	Hygiene Behaviour Outcome			
	Positive (%)		Negative (%)	
Mother educational status:				
Unable read and write	192	(64.6)	105	(35.4)
Primary/Secondary/Complete and above	134	(58)	97	(42)
Father educational status:				
Unable read and write	88	(60.3)	58	(39.7)
Primary/Secondary/Complete and above	238	(62.3)	144	(37.7)
Occupational Status:				
Farmer	210	(65.6)	110	(34.4)
Merchants and Gov‟t Employees	116	(55.8)	92	(44.2)
Parents health package:				
Graduated and/or Involved	198	(61.7)	123	(38.3)
Neither Graduated nor Involved	128	(61.8)	79	(38.2)
Training hygiene and sanitation:				
Yes	158	(60.3)	104	(39.7)
No	168	(63.2)	98	(36.8)
Visit model School:				
Yes	129	(62)	79	(38)
No	197	(61.6)	123	(38.4)
Hygiene and sanitation Membership:				
Yes	167	(61.2)	106	(38.8)
No	125	(61.6)	78	(38.4)

Being a member of hygiene and sanitation club had observed a significance difference to water handling practice (COR 0.42; 95%CI 0.26, 0.68); a significance difference in hand washing behaviour was associated with parent‟s health package (COR 0.62; 95%CI 0.43, 0.90), have ever trained on hygiene and sanitation (COR 1.99; 95%CI 1.37, 2.88), and have ever visit model school (COR 1.73; 95%CI 1.18, 2.54). As shown on table 6, 55.7% of the

respondent was reported self-initiation for who motivates to use latrine; 46.6 % of the respondents was reported a reason of separate toilet for boys and girls to what promote you to go to school latrine.

Table 5: Reasons commonly given for Motivation/supportive related questions among school children in Mereb-Leke District, Northern Ethiopia, 2013

Motivation/supportive related questions*	**Frequency**	**Percent %**
Reason to who motivates to use toilet		
Self-initiation	294	55.7
Parents	76	14.4
Pear pressure	54	10.2
Teacher	86	16.3
At least two of the above	18	3.4
Reason given to what promote you to go to school latrine		
Separate toilet for boys and girls	246	46.6
Cleanliness of toilet	180	34.1
Toilet privacy and safety	76	14.4
Toilet cleanliness, privacy, safety	26	4.9
Reason given to what makes you to wash your hands		
Fear	80	15.1
Comfort	116	22
Nurture	196	37.1
Other (Disgust, Status, Affiliation, Attraction)	136	25.8
What do you think children want to wash their hands (Measures the influencing of peer pressure)		
Conformity	72	13.6
Sensory benefit	66	12.5
Fun	25	4.7
Disease avoidance	315	59.7
Getting better mark	50	9.5

* Multiple responses was possible

Discussion

Children are “agent of change” in pacing the behaviour and practice of their family and community at large. The determinant of hygiene behaviours‟ of school children was inadequately studied in Ethiopia. The factors which may determine hygiene behaviour among school children are complex, interlinked and some are difficult to measure. In this study, the analysis and interpretation of the findings by comparing the key hygiene behaviour outcomes among school children provided a better understanding of the factors that influence hygiene behaviours.

Knowledge and awareness are some of the measures which are thought to be on the causal pathway to behavior [1, 7]. According to the present study, Knowledge of students‟ was gauged and the proportion of positive hygiene behaviour among school children was fairly high in those who had adequate knowledge. The logistic regression found that a difference in hygiene behaviour outcome was statistically significant with knowledge status of the students on water handling issues ($P=0.0001$) and hand washing matters ($P<0.05$). Accordingly, knowledge is important factor to have observed positive hygiene behaviour. Our study is consistent to the study conducted in India which indicated with improvement in knowledge level, respondent‟s exhibit better hygiene practices [1, 3, 10].

Awareness of health aspects of sanitation behaviour is important because it determines the degree of sustainability of an intervention in sanitation [22]. In this study, the awareness of those who had observed positive hygiene behavior was compared and a considerable gap has been observed. Among those who aware to water handling 71.6% had practiced positive hygiene behaviour and 24% difference in positive hygiene behaviour was shown among school children due the awareness of hand washing. The overall awareness level was significantly associated with hygiene behaviour ($P=0.0001$). Though a large proportion of positive hygiene behaviour was associated to awareness, the multivariate analysis suggested that the awareness of latrine utilization did not play an important role in determining both latrine utilization practice and positive hygiene behaviour. This difference (high positive behaviour and low awareness) may in part be related to the fact that some hygiene behaviours are customary, being sustained as usual practices for traditional reasons, not necessarily related to hygiene awareness.

We have assessed the hygiene enabling facilities both at home and school setting using structured observational checklist. The study suggests that the proportion of having hygiene enabling facilities was shown large in the key hygiene behaviour. The logistic

regression suggested that hygiene enabling factors did not play an important role in determining positive hygiene practices. Small sample size of the house hold may be one of the several potential reasons for these unexpected results. However, the crude analysis suggested that self-reporting of queuing during break time play important in determining the frequency of latrine usage. Moreover, the study revealed that 42.2% of the respondent had never touch drinking water by dirty hands. This was statistically significant with length of time for a trip (P=0.0001), main source and availability of drinking water at P<0.05.

Based on an understanding of the factors that influence hygiene behaviour; assessment of the motivational factor was addressed in this study. The large proportion of male student (82.5%) and female students (59.6%) had reported proper water handling practice and hand washing at critical time, respectively.

The motivational logistic regression suggested that the difference found in male student was significantly associated to have ever trained (P<0.05) and being membership (P<0.02). The study also found that the proportion difference observed in female student was associated with visiting model school. Moreover, this study indicated that parent‟s health package status and being trained on hygiene and sanitation were important in determining hand washing behaviour at P <0.02.

The present study revealed that teacher was found as motivator to initiate latrine utilization with a P-value of less than 0.05. The peer pressure measured by „what you think children are washing their hands‟ was observed a difference in handwashing behaviour. This was statistically significant with diseases avoidance at P <0.05.

. In Kenyan school Absenteeism is a major problem among school-aged children, with approximately 75% of all school absences attributed to illness ([36, 37]. Likewise, this study conferred that 79.8% of absence was due sickness and above 69.8% was from diarrhoea. According to the Bivariate and multivariate logistic regression model of the study, awareness on water handling and never touch drinking water by dirty hands were found as a preventive factor.

Strength and limitation of the Study

Strength: This study has employed both self-administered and observational data collection approaches as one of strong side; assessment of enabling facilities at household‟s level was strength of the study. Unlike some other studies, our study gives undistinguishable courtesy to the three key hygiene behaviours which are interlinked to each other. Moreover, the specific (sex based, key behaviour based, skill based) and overall analysis labouring are the potential specialty of this study.

Limitation: This study is not without limitations. Because of resource limitations, the study was unable to determine enabling factors that might have contributed to the hygiene behaviour of the students. An understanding of the factors that influence hygiene behaviour is complex issue that needed huge resources.

Conclusions and Recommendations

Conclusions

The study was carried out to assess the factors influencing hygiene behaviour. We conclude that this study has shown that knowledge and awareness on hygiene issues are an important predisposing factor to determine observed positive hygiene behaviour. The students observing considerable gap in practicing positive hygiene behaviour as result of adequate knowledge and awareness they had.

The study assessed the outcome of hygiene enabling facilities both at home and school setting on the school children‟s hygiene behaviour, but it has not shown significance association. However, this unexpected result may be due to small sample size of households and further research could be overawed the problem.

Based on an understanding of the factors that influence hygiene behaviour; the assessment shown that motivational factor is significantly associated with hygiene behaviour issues. Training for male students, being a member to hygiene and sanitation club, visit model school, and parent‟s health package has found associated to hygiene behaviour issues of the student.

Recommendations

Operational recommendations:-

The concerned body (School WASH programme) should give attention in improving the Knowledge of school children on both latrine utilization and hand washing; to advance awareness of student on latrine utilization; in the form of strengthen school health clubs, organizing and coordinating training for both students and teachers, visiting model school.

School Health improvement actors should invest their effort on health risk of touch drinking water by dirty hand; not washing hands after eating and after defecation; not using soap at critical times and incorrect procedure of hand washing.

For research recommendations: -

Further study that combined different methodological approach should be made to quantity the influence of enabling factors on hygiene behaviour of students; to understand further motivation/supportive issues; evaluate the effect of parents health package on the children‟s hygiene behaviour; effect of hygiene interventions to tackle school absence due diarrhoea.

References

1. Nath. PKJ PD, Chowdhury MB: Impact of Inadequate Sanitation and Poor Level of Hygiene Perception and Practices on Community Health. New Delhi: Sulabh International Academy of Environmental Sanitation 2009.
2. UNICEF: A manual on school sanitation and hygiene: Towards Better Programming Water, Environment and Sanitation Technical Guidelines; New York, 1998.
3. Njoh ME: The Cholera Epidemic and Barriers to Healthy Hygiene and Sanitation in Cameroon, Umea University, Epidemiology and Public Health, 2010.
4. WHO: Water, sanitation and hygiene links to health; In Facts and figures. Geneva 2004.
5. L. Rosen DZ DB, D. Engelhard and O. Manor The effect of a handwashing intervention on preschool educator beliefs, attitudes, knowledge and self-efficacy HEALTH EDUCATION RESEARCH 2009, 24 (4):686-698.
6. John Adams JB, Yves Chartier, Jackie Sims (Ed.): Water, sanitation and hygiene standards for schools in low-cost settings: World Health Organization 2009.
7. Water Aid: Sustainable hygiene behaviour change. A study of key determinants Kampala, Uganda: August 2003.
8. Thilde Rheinländer BE, Wim van der Hoek, Andy J. Peal and Flemming Konradsen Challenges in supporting hygiene behaviour change. Edited by Editor F; 2010.
9. Christine van Wijk and Tineke Murre Motivating Better Hygiene Behaviour: importance for Public Heath Mechanisms of Change. Edited by Esrey DS. The Hague, Netherlands: IRC International Water and Sanitation Centre 2003.
10. Blessing Dube JJ: Factors leading to poor water sanitation hygiene among primary school going children in Chitungwiza: Journal of Public Health in Africa, 2012; 3(e7).
11. Tambekar DH SS: Minimization of Illness Absenteeism in Primary School Students Using Low-Cost Hygiene Interventions: Online Journal of Health and Allied Sciences 2012, 11(2).
12. Pinar Okyay SE, Berna Gultekin, Ozlem Onen and Erdal Beser: Intestinal parasites prevalence and related factors in school children, a western city sample-Turkey: BMC Public Health 2004, 4(64).
13. Wagbatsoma V: Sanitary provision and helminthiasis among school children in Benin City, Nigeria. Niger Postgrad Med J 2008, 15(2):105-111.

14. FEACHEM RG: Interventions for the control of diarrhoeal diseases among young children: promotion of personal and domestic hygiene. In Bulletin of the World Health Organization, 1984; 62:467-476.
15. A. Strina SC, M. L. Barreto, C. Larrea, and M. S. Prado: Childhood Diarrhea and Observed Hygiene Behavior in Salvador, Brazil Am J Epidemiol 2003, 157(11):1032-1038.
16. Nandrup-Bus I: Mandatory handwashing in elementary schools reduces absenteeism due to infectious illness among pupils: a pilot intervention study. Am J Infect Control 2009, 37:820-826.
17. Joseph DeGabriele FP: Qualitative Research on Water, Sanitation and Hygiene Education in Elementary Schools in Ethiopia: In Final Draft UNICEF, FDRE 2007.
18. Breslin N: School-based Water and Sanitation: New Solutions to an Old Problem. In CONNECTIONS, Volume 1, Denver: Water for People; 2008.
19. Hoque BA: Handwashing practices and challenges in Bangladesh. International Journal of Environmental Health Research 2003, 13(1):81-87.
20. Scott B CC RT, N G. Health in our hands but not in our heads: understanding hygiene motivation in Ghana: Health Policy and Planning 2007, 22:225-233.
21. Abera Kumie AA: An overview of environmental health status in Ethiopia with particular emphasis to its organization, drinking water and sanitation: A literature survey. Ethiopian journal of health development 2005, 19(2):89-103.
22. Wegelin-Schuringa M: Public Awareness and Mobilisation for Eco sanitation. Bonn, Germany IRC International Water and Sanitation Centre 30-31 October 2000
23. Kinley Britt Taylor: Identifying and Modeling Perceptions of Risk Factors in Hand Hygiene during Healthcare Operations: North Carolina State University Industrial and Systems Engineering; 2011.
24. Alyssa Vivasa BG NA, Abera Kumie, Yemane Berhaneb, and Michelle A. Williams Knowledge, Attitudes, and Practices (KAP) of Hygiene among School Children in Angolela, Ethiopia. Prev Med Hyg 2010, 51(2):73-79.
25. Allison A, CR PV, et al: Effect of hand hygiene on infectious disease risk in the community setting: a meta-analysis. American Journal of Public Health 2008, 98(1372-81).
26. Rabie TC: Handwashing and risk of respiratory infections: A Quantitative systematic review Trop Med Int Health 2006, 11:258-267.

27. Fewtrell L CJ, Jr: Water, sanitation and hygiene in developing countries: interventions and diarrhoea -a review. Water Sci Technol 2005, 52(8):133-142.
28. Luby S AM FD, et al: Effect of handwashing on child health: a randomized controlled trial Lancet 2005, 366:225-233.
29. Oswald WE HG LA, Cabrera L, Leontsini E, Pan WK, et al.: Direct observation of hygiene in a Peruvian shantytown: not enough handwashing and too little water. Trop Med Int Health 2008, 13:1421-1428.
30. Jason Cardosi JM and Rufus Eshuchi: Are your hands clean enough. In Study Findings on Handwashing with Soap Behaviour: WSP-Africa Region Office 2007.
31. M. Steiner-Asiedu SEV-E MP, J. Setorglo, D.K. Asiedu and A.K. Anderson Hand Washing Practices among School Children in Ghana. Current Research Journal of Social Sciences 2011, 3(4):293-300.
32. Ana Gil CL EK, Mary Penny. Children‟s Feces Disposal Practices in Developing Countries and Interventions to Prevent Diarrheal Diseases: A Literature Review. Instituto de Investigacion Nutricional, 2004.
33. Myriam Sidibe VC: Can Hygiene be cool and fun? Insifghts from school children in senegal In Water and Sanitation Program March, 2007.
34. Lawrence W. Green MWK: An Educational and Environmental Approache, HEALTH PROMOTION PLANNING. Mayfield Publishing Company, 1991.
35. Tsukamoto K: Preventing behaviours among health promoting primary school children under soil transmitted helminthiasis control program in Nakhon Si Thammarat Province, Thailand: Mahidol University, ASEAN institute for Health Development, 2004.
36. Weitzman M KL LG, Menary J, and Alpert JJ: School absence: a problem for the pediatrician. Pediatrics 1982, 69:739-746.
37. Neuzil KM HC ZY: Illness among schoolchildren during influenza season: effect on school absenteeism, parental absenteeism from work, and secondary illness in families. Arch Pediatr Adolesc Med 2002 156; 986-91.

Annexes

Consent in English

Title of Study: Assessment of factors influencing hygiene behaviour among school children

Background:

You are being invited to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear of if you need more information.

Study Procedure:

Your expected time commitment for this study is: 25-30 minutes.

Risks:

The risks of this study are minimal. These risks are similar to those you experience when disclosing work-related information to others. The topics in the survey may shame some respondents. You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

Benefits:

There will be no direct benefit to you for your participation in this study. However, we hope that the information obtained from this study may be useful for planning an intervention measures at school setting.

Alternative Procedures: If you do not want to be in the study, you may choose not to participate and leave your answers blank, or you may read quietly at your desk.

Confidentiality: Please do not write any identifying information on your questionnaire. Your responses will be anonymous.

Costs to Subject: There are no costs to you for your participation in this study

Compensation: There is no monetary compensation to you for your participation in this study.

Consent:

I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I voluntarily agree to take part in this study.

Name of principal investigator: Mulubirhan Assefa

Address: Addis Ababa University, School of public health

Email: mulubirhanassefa@yahoo.com Mobile: +251910618385

Consent letter in Tigrigna

ናይዚ መፅናዕታዊ ፅሑፍ ሓፂር ገለፃን ስምምዕነትን

ርእሲ፡-

ኣብ ናይ ተማሃሮ ንፅህና ኣተሓላልዋ ተፅዕኖ ዘለዎም ነገራት ምድላይ

መእተዊ፡ -

ኣብዚ ዝካየድ ዘሎ መፅናዕታዊ ፅሑፍ ሓደ ኣካል ናይቲ መፅናዕቲ ንኽትኮኑ ብኽብሪ ይፅድም፡፡ ቕድሚ ኣብዚ መፅናዕቲ ምስታፍኩም ናይዚ መፅናዕታዊ ፅሑፍ ኣድላይነት፣ ንምንታይ ከምዘድለየ ምርዳእ ኣድላይ እዩ፡፡ ብተወሳኺ ካብዚ ንታሕቲ ዝተዘርዘሩ ሓበሬታታት ብዉን ብምንባብ ክትርድእዎም የድሊ፣ ዘይተረደኣኩም ነገር እንተሃልዩ ኣብ ቐረባኹም ዘሎ ናይቲ መፅናዕታዊ ፅሑፍ መተሓባባሪ ተወከስዎ፡፡

ዝወስዶ ግዜ፡-

እቲ ቅጥዒ ንምምላእ ከባቢ 25-30 ደቒቓ ይወስድ፡፡

ጉድኣት፡-

እዚ መፅናዕታዊ ፅሑፍ ምስታፍ ምንም ዓይነት ጉድኣት ኣየስዕብን፣ ሓደ ሓደ ንኡስ ኣርእስቲ ቐለልቲ መሲሎም ስለዝረኣዩና ሸለል ከይበልና ብምንባብ እዚ መፅናዕታዊ ፅሑፍ ንሕብረተሰብና ዝለዓለ ጥቕሚ ነሽበርክት እጃምና ነበርክት፡፡ ደስ ዘይበለኩም ተኾይኑ ኣብ ዝኾነ ግዜ ምቁራፅ ይካኣል እዩ፡፡

ጠቕሚ፡-

ኣብዚ ዝካየድ ዘሎ መፅናዕታዊ ፅሑፍ ሓደ ኣካል ናይቲ መፅናዕቲ ብምኻንኩም ቐጥታዊ ዝኾነ ጠቕሚ የብሉን፡፡ ይኹንእምበር ካብዚ መፅናዕታዊ ፅሑፍ ዝርከብ ሓሳብ ተማሃራይ ተኮር ዝኾነ ናይ ጥዕና ሓለዋን ምዕባይን ዕቅድ ንምውፃእን ስጉምቲ ንምውሳድን ኣበርክቶ ከምዝህብ ንኣምን፡፡

ዓርሰ-እምነት፡-

ኣብቲ ዝዋሃበኩም ሓተታዊ ፅሑፍ መንነትኩም ዝገልፅ ነገር ከይትፅሕፉ፣ እትህብዎ ሓሳብ ወይ መልሲ ብሚስጢር እዩ፡፡

ክፍያ፡-

ኣብዚ ዝካየድ ዘሎ መፅናዕታዊ ፅሑፍ ብምስታፍኩም ምንም ዓይነት ክፍያ የብሉን፡፡

ከሕሳ፡ ኣብዚ ዝካየድ ዘሎ መፅናዕታዊ ፅሑፍ ብምስታፍኩም ምንም ዓይነት ካሕሳ ኣየድልዮን፡፡

ሸም ዋና መፅናዕቲ መካየዲ፡ ሙሉብርሃን ኣሰፋ

ኣድራሻ፡ ኣዲስ ኣበባ ዩኒቨርሲቲ , ናይ ሕብረተሰብ ጥዕና ት/ቲ ክፍሊ

ኢ-መይል፡ mulubirhanassefa@yahoo.com

ሞባይል፡ 0910618385

Questionnaire in English

Self-administered questionnaire for school children
Student Identification Code: ___/___ , School identification code: ___/__

Q.No	Questions	Possible answer	skip
101	sex	1. Male 2. Female	
102	Your grade and age	_____	
103	Where did you live	1. Urban 2. Rural	
104	What is the Mothers educational status	1. Unable to read and write 2. Primary/secondary complete 3. College and above	
105	What is the Fathers educational status	1. Unable to read and write 2. Primary/secondary complete 3. College and above	
106	What is the Parents occupational status	1. Farmer 2. Merchant 3. Government Employees 4. If Others, specify it	
107	What is the Parents health package status	1. Graduated 2. Involved 3. Neither graduated nor involved 4. Don‟t know	
108	Have ever trained in hygiene and sanitation	1. Yes 2. No	
109	Have you visit model school in your surrounding	1. Yes 2. No	
110	Is there hygiene and sanitation club in your school	1. Yes 2. No 3. Don‟t know	112-If your Ans. is 2 or 3
111	If yes, Are you a member	1. Yes 2. No	
112	Have you miss a class in previous two weeks	1. Yes 2. No	→115
113	If yes, why you miss	1. Sickness from communicable	

		diseases 2. Family sickness 3. Reason other than illness	
114	Is the sickness from diarrhoea and /or water borne disease	1. Yes 2. No	
115	Do you know practicing hygiene activities reduce incidence of diarrhoeal disease	1. Yes 2. No	
Water handling behaviour			
201	Do you know that unclean/insanitary water can have health problem	a. Yes b. No c. Don‟t know	
202	Do you know drinking water should never be touched as your hands have dirty	a. Yes b. No c. Don‟t know	
203	Do you know Boiling water kills germs	a. Yes b. No c. Don‟t know	
204	Did you know Water container needs cleaning and covering	a. Yes b. No c. Don‟t know	
205	Do you think that keeping drinking water free from faecal contamination is important for preventing diarrhea	a. Yes b. No c. Uncertain	
206	Do you think that treating water in any way to make it safer to drink is important	a. Yes b. No c. Uncertain	
207	What do you usually do to the water to make it safer to drink	a. Boil b. Add bleach/chlorine c. Use a water filter	If b or c skip to 209
208	Have Boiled drinking water yesterday	a. Yes b. No	
209	Have you ever cleaned and cover water container	a. Always b. Sometimes c. Never	
210	Have you touched drinking water as your hands have dirty	a. Yes b. No	

Latrine utilization behaviour			
301	Do you know Human feces contain germs**:**	1. Yes 2. No 3. Don‟t know	
302	Can germs be transmitted from toilets by direct contact with or indirectly contaminated hands, or via insects	1. Yes 2. No 3. Uncertain	
303	Do you know importance of proper toilet usage for preventing diarrhea	1. Yes 2. No 3. Don‟t know	
304	Do you think proper latrine usage is better than getting medication for diarrhea	1. Yes 2. No 3. Uncertain	
305	Do you think Open defecation may cause germs to spread	1. Yes 2. No 3. Uncertain	
306	Is a latrine available at school	1. Yes 2. No	If 2 skip to 314
307	have you use the school toilet for a „poo‟	1. Usually 2. Only if desperate 3. Never	
308	Who Motivates for using the toilets?	1. Self-initiation, 2. Parents 3. Peer pressure, 4. Teacher 5. Others, Specify	
309	What assists you to go the toilet without coming contaminating school compounds	1. Separate toilets for boys and girls 2. Cleanliness of toilet 3. Toilet privacy 4. Safety 5. Others,_____	
310	Are you ever bully in the school toilets	1. Always 2. Sometimes 3. Never	
311	Is there toilet paper available;	1. Always 2. Sometimes	

		3. Never	
312	Are the toilets clean? N.B: **Clean** means no smile, no faecal material around pit on floor	1. Always 2. Sometimes 3. Never	
313	Is there Queuing for the latrine during your break	1. Always 2. Sometimes 3. Never	
314	Where do you usually execrate your faeces	1. Home latrine 2. School latrine 3. Communal latrine 4. Open field	
315	How Frequent you use a latrine	1. Always 2. Mostly 3. Rarely	
316	Where did you defecate yesterday?	1. Open field(river, bush, backyard) 2. Home latrine 3. School latrine	
Hand washing behaviour			
401	Do you know If you don‟t wash your hands after going to toilet, could you get germs?	1. Yes 2. No 3. Uncertain	
402	Do you know When it is important to wash your hands?	1. Washing after defecation 2. Washing before eating meals 3. Washing after eating meals 4. Don‟t know	
403	Do you know washing your hands with soap better than water only in diseases prevention	1. Yes 2. No	
404	Do you think hand washing is Important for disease prevention	1. Yes 2. No 3. Uncertain	
405	Do you think If people don‟t wash their hands more often they will get sick	1. Yes 2. No 3. Uncertain	
406	Do you believe that washing hands just with water and soap is as good as washing	1. Yes 2. No	

	hands with water?	3. Uncertain	
407	What do you think that children want to wash their hands?	1. Conformity 2. Sensory benefits 3. Fun 4. Disease avoidance and 5. Getting better marks	
408	When do you wash your hands	1. Before eating 2. After eating 3. After defecation 4. Never wash	If 4 skip to 416
409	How frequent did you wash?	1. Usually 2. Occasionally	
410	Have you wash your hands yesterday	1. Yes 2. No 3. Uncertain	
411	How do you wash your hands (rearrange the following) _____	1. Clean under your fingernails 2. Rinse your hands well with running water 3. Wet your hands with water and lather with a bar of soap 4. Rub your hands and scrub all surfaces up to your wrists 5. Dry them in the air 6. Continue for at least 30 seconds	
412	What makes you to wash your hands	1. Disgust 2. Fear 3. Comfort 4. Nurture 5. Status 6. Affiliation 7. Attraction	
413	What Materials used for hand washing	1. Soap/ash and water 2. Water only	→ 415
414	At what junctures would you be washing your hands with soap?	1. After defecation 2. Before eating 3. After eating	

415	What makes you not to use soap	1. Soap is not important 2. Unattractive soap 3. Unavailability of soap 4. Don‟t know	
416	Why not washing hands	1. Not important 2. Forgetfulness 3. Laziness 4. Lack of time 5. Lack of clean water 6. Lack of soap 7. Don‟t know	

School Observational Checklist Assessment form

School identification code: __/__

S.No	Questions	Possible answer	skip
School information			
S01	No of teacher,		
S02	No of Students	No of Boys No of Girls	
S03	School location	Urban Rural	
S04	Do the school have rules and procedures on hygiene behaviour	Yes No	
S05	Is there sanctions to stimulate hygienic behaviour	Yes No	
S06	Does the school have any hygiene promotion activities?	Yes No	
S07	Does a nurse, community health, or extension worker visit the school	Yes No	
S08	Does a health or development agent come to teach students about hygiene?	Yes No	
S09	Posters, other IEC materials with hygiene messages on walls?	Yes No	
S10	Is WASH activities at your school	Yes No	
S11	Have any teachers been trained in WASH teaching or activities?	Yes No	
Availability and Technical condition of water supply facility			
S13	Available	Yes No	
S14	Type	Protected (Hand pump, Protected Spring Well, tap) Unprotected source	
S15	How is drinking water distributed?	Using multiple faucets, Using one outlet, Using dipping containers	
S16	If multiple faucets are available, what is	Faucets__:	

	the proportion of faucets to students?	__ student	
S17	If multiple faucets are available, how many faucets are there	Functional Non-functional	
S18	Water point height	130 cm and less Above 130cm	
S19	Sanitary Condition of the facility	Diversion drain clean Standing water Free from waste Fenced	
Technical conditions and availability of excreta disposal facility			
S20	Is there an excreta disposal facility in the school?	Yes No	
S21	Is the toilet easily accessible to all	Yes No	
S22	Adequate latrine coverage	Yes No	
S23	Type of system (circle one)	Traditional pit latrine Improved traditional pit latrine VIP latrine	
S24	Are there separate facilities for boys and girls?	Yes No	
S25	Are there separate latrines available for teachers?	Yes No	
S26	Do facilities have doors or curtains for privacy?	Good Medium Poor	
S27	Is there wiping material available in the facilities?	Yes No	
S28	Number of squat holes available	For boys_____ For girls_____	
S29	Anal cleaning material on floor?	Yes No	
S30	Latrine smells bad?	Yes No	
S31	Latrine cleaning program?	Yes No	

S32	Fresh urine on pit	Yes No	
S33	Feces Inside Latrine Structure	Yes No	
S34	Feces Outside Latrine Structure	Yes No	
S35	No faeces in compound	Yes No	
S36	Faecal material around pit on floor	Yes No	
S37	Does open defecation happen around the school?	Yes No	
Hand washing facility			
S38	Is there HWF	Yes No	
S39	Location of hand washing facilities from latrine	Next to latrine Within walking distance Inside the house	
S40	What kind of facility	Sink and faucet (running) Bucket (hand poured) Tippy tap Other: _____	
S41	Right height	130com and less Above 130cm	
S42	Does HWF have:	Water inside Soap or ash next to it Ground wet from recent Hand washing	
S43	Is there water in the containers?	Yes No	
S44	Is there soap, ash, or other near the wash stand?	Yes No	
S45	Is there any reminder for hand washing near latrine?	Yes No	

House hold based questionnaire (interview and observation)

Student Identification Code: _____ Data collector: _____,

Date of collection: _____

S.No	Questions	Possible answer	skip
Water Supply facility			
201	What is the main source of drinking water	1. Piped water into dwelling 2. Public tap or standpipe 3. Tube well or borehole 4. Rivers	
202	How long does it take you to go to your main water source, get water, and come back	1. 30 minutes and less 2. More than 30 minutes 3. On premises 4. Don‟t know	If 3 or 4 skip to 205
203	Who usually collects water?	1. Adult women 2. School age female children 3. Adult men 4. School age male children	
204	Is there Queuing to fill container	1. Yes 2. No	
205	Is water available all the time or for several hours a day?	1. Yes 2. No 3. Don‟t know	
206	Is water usually available during the following times?	1. Morning 2. During the day 3. Evening	
207	Drinking Water storage	1. Narrow necked water container 2. Wide water container	
208	Covered with lid	1. Yes 2. No	
209	Separate cup next to container	1. Yes 2. No	
Latrine facility			
301	Do you have a latrine	1. Yes 2. No	If 2 skip to 401
302	Is it first latrine?	1. Yes	

		2. No	
303	Does latrine have	Hole cover____ If concrete slab: slant toward Hole____ Roof____ Wall____ Door ____ Wastebasket___	
304	Are there obstacles in the path(dense vegetation , waste or debris in its path, major crevices or holes, mud)	1. Yes 2. No	
305	Depth from faeces to slab >50cm	1. Yes 2. No	
306	What is the condition of the floors?	1. Solid and very clean 2. Cracking upswept 3. Dilapidated and dirty	
307	Fresh urine on pit	1. Yes 2. No	
308	Feces Inside Latrine Structure	1. Yes 2. No	
309	Feces Outside Latrine Structure	1. Yes 2. No	
310	faeces in compound	1. Yes 2. No	
Hand washing facility			
401	Is there hand washing facility	1. Yes 2. No	If 2 skip to 406
402	What kind of facility	1. Sink and faucet 2. Bucket 3. Basin 4. Tippy tap	
403	Is the facility near the latrines?	1. Yes 2. No	
404	Is there water in the containers?	1. Yes 2. No	
405	Is there soap, ash, or other near the wash stand?	1. Yes 2. No	
406	Where family members wash their hands	1. In the facility 2. Elsewhere in the compound	

Questionnaire in Local Language (Tigrigna)

አብ ቀደማይ ብርኪ አብያተ ት/ቲ ንዝርከቡ ናይ ካልኣይ ሳይክል ተማሃሮ ዝተዘጋጀወ መሕትት

ናይ ተማሃራይ መለለይ ኮድ፡_____/_____

ናይ ቤት ት/ቲ መለለይ ኮድ፡_____

ታ.ቁ	ሕቶታት	መማረፂታት	ዝዝለል ሕቶ
101	ፆታ	ወዲ ተባዕታይ ጓል አነስተይቲ	
102	ደረጃ ትምህርትን ዕድመን		
103	ትነብረሉ/ርሉ ቦታ	ከተማ ገጠር	
104	ናይ ኣዶ ተምህረቲ ደረጃ	ምንባብን ምፅሓፍን ዘይትከእል ቐዳማይ ወይ ካልኣይ ብርኪ ዝወደአት ኮለጅን ልዕሊኡን	
105	ናይ ኣቦ ተምህረቲ ደረጃ	ምንባብን ምፅሓፍን ዘይከእል ቐዳማይ ወይ ካልኣይ ብርኪ ዝወደአ ኮለጅን ልዕሊኡን	
106	ናይ ወለዲ ስራሕ ኩነታት	ሓረስቶት ነጋዶ ናይ መንግስቲ ተቐፀርቲ	
107	ናይ ወለዲ ጡሙር ጥዕና ኩነታት	ዝተመረቐ እቱዋት ዘይሳተፉ ኣይፈልጠን	
108	ኣብ ንፅህናን ፅሬትን ስልጢንካ/ኪ ትፈልጥ/ጢ ዶ	እወ ኣይፋል	
109	ሞዴል ት/ት ቤት ጎብኒኻ/ኺ ትፈልጥ/ጢ ዶ	እወ ኣይፋል	
110	ኣብ ቤት ት/ትኹም ናይ ንፅህናን ፅሬትን ክለብ ኣሎ ዶ	እወ የለን ኣይፈልጥን	መልስኹም 2 ወይ 3 ናብ 112 ዝለሉ
111	ብኣባልነት ትሳተፍ ዶ	እወ ኣይፋል	

112	ኣብ ዝሓለፈ ክልተ ሰሙን ካብ ት/ቲ ተሪፍካ/ኪ ይፈልጥ ዶ	1. እው 2. ኣይፈልጥን	መልስኹም 2 ናብ 115 ዝለሉ
113	ንምንታይ ተሪፍካ/ኪ	1. ብሕማም ምኽንያት 2. ብካሊእ ምኽንያት	
114	ናይቲ ሕማም ዓይነት ማይ ወለድ ወይ ተኾማጥ/ዉፅኣት ድዩ	1. እወ 2. ኣይኮነን	
115	ናይ ንፅህና ንጥፈታት ምትግባር ናይ ተኾማጥ /ዉፅኣት ሕማም ክስተት ከምዝቕንስ ትፈልጥ/ጢ ዶ	1. ይፈልጥ 2. ኣይፈልጥን	
ናይ ማይ ኣተሓሕዛ ፀባይ			
201	ረሳሕ ማይ ንጥዕናና ጠንቂ ከምዝኾነ ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
202	ዝስተ ማይ ርስሓት ብዘለዎ ኢድ ክንሕዝ ከምዘይብልና ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
203	ማይ ምፍላሕ ሕማም ዘምፅኡ ታህዋስያን ከምዝቕትል ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
204	ናይ ማይ መትሐዚ ኣቓሓ ምፅራይና ምኽዳን ከምዘድሊ ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
205	ዝስተ ማይ ብፍታን ወይ ብሸንቲ ካብ ምብካል ምሕላው ንሕማም ተኾማጥ/ዉፅኣት ዝከላከል ዶ ይመስለኩም	1. እወ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
206	ፅሩይ ዝስተ ማይ ንኽህልወና ንስትዮ ማይ ምሕካም ኣድላይ ዶ ይመስለኩም	1. እወ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
207	ኩሉ ግዜ ፅሩይ ዝስተ ማይ ንክህልወኩም ብከመይ ትፅዕሩ	1. ብምፍላሕ 2. ኩሎሪን ብምዉሳክ 3. ብምፅራይ 4. ምንም ኣይገብርን	መልስኹም 2፣ 3፣ 4 ናብ 209 ዝለሉ
208	ትስትይዎ ማይ ትማሊ ኣፍሊሕኹምዎ ዶ	1. እወ 2. ኣይፋል	

209	ማይ ተትሕዝሉ ኣቓሓ ተፅርዩን ትኸድኑን ዶ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. ብፍፁም	
210	ኢድኩም ኣብዝረሰሐሉ ግዜ ዝስተ ማይ ነኺእኩም ትፈልጡ ዶ	1. እወ 2. ኣይፋል	
ናይ ዓይኒ ምደሪ ኣጠቓቕማ ፀባይ			
301	ናይ ወዲስብ ፍታን ትሕዝቶ ሕማም ዘምፅኡ ታህዋስያን ከምዝሓዘ ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
302	ጀርምታት ካብ ዓይኒ ምደሪ በኢድና ወይ ብኻሊእ መልክዕ ከምሓላለፉ ከምዝኽእሉ ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
303	ኣግባብ ዘለዎ ናይ ዓይኒ ምደሪ ኣጠቓቕማ ካብ ተቕማጥ/ዉፅኣት ሕማም ከምዝከላኸል ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
304	ኣግባብ ዘለዎ ናይ ዓይኒ ምደሪ ኣጠቓቕማ ካብ ናይ ተቕማጥ/ዉፅኣት ሕማም ምስሓመምካ ምሕካም ዝሓሸ ዶ ይመስለኩም	1. እወ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
305	ካብ ዓይኒ ምደሪ ወፃኢ ምፍታን ሕማም ዘምፅኡ ታህዋስያን ንኽብተኑ ምክንያት ዶ ይመስለኩም	1. እወ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
306	ኣብ ት/ት ቤትኹም ዓይኒ ምደሪ ኣሎ ዶ	1. እወ 2. የለን	መልስኹም 2 ናብ 316 ዝለሉ
307	ናይ ት/ት ቤትኹም ዓይኒ ምደሪ ትጥቀምሉ ዶ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. በፍፁም	
308	ዓይኒ ምደሪ ንክትጥቀሙ ዘለዓዓለኩም	1. ዓርሰ ተለዓዓልነት 2. ወለዲ 3. ናይ መሰታ ተፅዕኖ 4. መምህር 5. ካሊእ፣	
309	ናይ ቤት ት/ትኹም ከባቢ ንዘይምርሳሕ ዓይኒ ምደሪ ንክትጥቀሙ ዘሓገዘኩም እንታይ እዩ	1. ናይ ደቂተባዕትን ደቂኣነስትዮን ዝተፈላለየ ዓይኒ ምደሪ ምህላው	

		2. ናይ ዓይኒ ምደሪ ፅሬት 3. ዓይኒ ምደሪ ድሕንነት 4. ዓይኒ ምደሪ ምቹዉነት	
310	ብናይ ቤት ት/ትኹም ዓይኒ ምደሪ ተከፊእኩም ዶ ትፈልጡ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. በፍፁም	
311	ኣብቲ ዓይኒ ምደሪ ንመማሶኒ ዝኸዉን ትረክቡ ዶ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. በፍፁም	
312	እቲ ዓይኒ ምደሪ ፅሩይ ዶ ሓበሬታ፡ ፅሩይ ማለት ዘይሸትት፣ ናይ ፍታን ንጥብጣብ ኣብ ዉሽጥን ከባቢን እቲ ዓይኒ ምደሪ እንተዘይሃልዩ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. በፍፁም	
313	ኣብ ዕረፍቲ ግዜ ዓይኒ ምደሪ ንኽትጥቀሙ ተደሊኩም ሰልፊ ኣለዎ ዶ	1. ኩሉግዜ 2. ሓልሓሊፉ 3. የብሉን	
314	ኩሉግዜ ፈታን ኣበይ ተወፁ	1. ኣብ ናይ ገዛ ዓይኒ ምደሪ 2. ኣብ ናይ ቤት ት/ት ዓይኒ ምደሪ 3. ኣብ ናይ ህዝቢ ዓይኒ ምደሪ 4. ኣብ ሜዳ፣ሽንጥሮ፣ ሩባ ኣከባቢ	
315	ክንደይ ዘኣክል ዓይኒ ምደሪ ትጥቀሙ	ነ. ኩሉግዜ 2. መብዛሕትኡ ግዜ 3. ሓልሓሊፉ 4. ኣይጥቀምን	
316	ትማሊ ኣበይ ፈቲንኩም	1. ኣብ ሜዳ፣ሽንጥሮ፣ ሩባ ኣከባቢ 2. ኣብ ናይ ገዛ ዓይኒ ምደሪ 3. ኣብ ናይ ቤት ት/ት ዓይኒ ምደሪ	
ናይ ኢድ ምሕፃብ ፀባይ			
401	ድሕሪ ምፍታንና ኢድና እነተዘይተሓፂብና ንሕማም ዘምፅኡ ታህዋስያን ከምንቃላዕ ትፈልጡ ዶ	1. ይፈልጥ 2. ኣይፈልጥን 3. እርግፀኛ ኣይኮንኩን	
402	ኢድ ምሕፃብ መዓስ ከምዘድሊ(ከምዝጠቕመኩም) ትፈልጡ ዶ	1. ድሕሪ ምፍታን 2. ቅድሚ ምምጋብና 3. ድሕሪ ምምጋብና	

		4. ኣይፈልጥን	
403	ብሳሙና ኢድ ምሕፃብ ካብ ብማይ ጥራሕ ምሕፃብ ዝሐሸ ናይ ሕማማት ምክልካል ዓቅሚ ከምዝህብ ትፈልጡ ዶ	1. እወ 2. ኣይፋል	
404	ኢድ ምሕፃብ ሕማማት ዝከላከል ዶ ይመስለኩም	1. ይመስለኒ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
405	ኢዶም ዘይሕፀቡ ካብ ዝሕፀቡ ሰባት በዝለዓለ ኩነታት ብሕማም ዘምፅኡ ታህዋስያን ዝቃልዑ ዶ ይመስለኩም	1. ይመስለኒ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
406	ብሳሙናን ማይን ኢድ ምሕፃብ ካብ ብማይ ጥራሕ ምሕፃብ ዝሓሸ እዩ ኢልኩም ዶ ትሓስቡ	1. እወ 2. ኣይመስለንን 3. እርግፀኛ ኣይኮንኩን	
407	ህፃናት ብሳሙናን ማይን ምሕፃብ ዝደልይሉ ምክንያት እንታይ ይመስለኩም	1. ምቾት 2. ጥዕም ሽታ 3. ንምዝንይናይ 4. ሕማማት ንምክልካል 5. ፅቡቕ ውፅኢት ንምርካብ	
408	ኢድኩም መዓስ ትሕፀቡ	1. ቅድሚ ምምጋብና 2. ድሕሪ ምምጋብና 3. ድሕሪ ምፍታን 4. ኣይሕፀብን	መልስኩም 4 እንተኾይኑ ናብ 416
409	ክንደይ ዝኣክል ኢክም ትሕፀቡ	1. ኩሉግዜ 2. ሓልሓሊፉ	
410	ትማሊ ኢድኩም ተሓፂብኩም ዶ	1. ተሓፂበ 2. ኣይተሓፀቡኩን 3. ኣየስተውስን	
411	ኢድኩም ከመይ ጌርኩም ኢኩም ትሕፀቡ (ብቐደም ሳዓብ አቐምጡ)	1. ትሕቲ ፅፍሪ ምፅራይ 2. ኢድና ብማይ ምልቓላቕ 3. ኢድ ብማይ ቐሊሉ ብሳሙና ምሕፃብ 4. ኢድ ምድራዝ ኢሉውን ሙሉእ ኢድ ክሳብ ክብዲ ኢድና ምድራዝን ምሕካክን 5. ብኣየር ምድራቕ 6. ን30 ሰከንድ ዝኣክል ምፅናሕ	

412	ኢድኩም ንክትሕፀቡ ዝገበረኩም ምክንያት	1. ፅሊኢት 2. ፍርሒ 3. ምኞት 4. ኣተዓባብያ 5. ደረጃየ 6. መበቆል 7. ሰሓቢነት	
413	ኢድኩም ንምሕፃብ ትጥቀምሎም ነገራት	1. ሳሙና/ሓሞኩሽትን ማይን 2. ማይ ጥራሕ 3. ካሊእ	መልስኩም 2 ን 3 ተኮይኑ ናብ 415 ተሻገሩ
414	ኣበየናይ ግዜ ኢድኩም ብሳሙና ትሕፀቡ	1. ቅድሚ ምምጋብና 2. ድሕሪ ምምጋብና 3. ድሕሪ ምፍታን	
415	ሳሙና ዘይትጥቀምሉ ምክንያት	1. ሳሙና ስለዘይጠቅም 2. ሳሙና ምጥቃም ስለዘይስሕበኒ 3. ሳሙና ስለዘይረክብ 4. ኣይፈልጥን	
416	ንምታይ ኢድኩም ዘይትሕፀቡ	1. ኢድ ምሕፃብ ኣይጠቅምን 2. ስለዝርስዖ 3. ስንፍና 4. ናይ ግዜ ሕፅረት 5. ናይ ማይ ሕፅረት 6. ናይ ሳሙና ሕፅረት 7. ኣይፈልጥን	

Support letter from District Education Office to School directors