

PUPILS' HEALTH PRACTICES AND THE HEALTH EDUCATION CURRICULUM IN PRIMARY SCHOOLS IN MIRIGA MIERU WEST DIVISION, MERU CENTRAL DISTRICT KENYA.

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SEPTEMBER , 2003.

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or any other award.

Kinoti Caroline Nkatha

Signature: CKinoti

Date: 4th Sept. 2003


We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

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Kenyatta University
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Date: 8-9-2003

DEDICATION

To my mother Marion Kinoti, my father the late Job Kinoti, my sisters Becky Karwitha and Julie Nkirote and brothers Franklin Munene and Kenneth Kaburu.

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I am gratefully indebted to my supervisors Prof. Alloys S. S. Orago and Prof. Romanus O. Okelo for their guidance and support in the course of this work. Their effort, advice and encouragement saw me through the study.

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God bless you all.

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LIST OF ABBREVIATIONS AND ACRONYMS USED IN THE THESIS

AIDS:	Acquired Immune Deficiency Syndrome
AMREF:	African Medical Research Foundation
B.ED:	Bachelor of Education
C-T-C:	Child To Child
Dept.:	Department
FAWE:	Federation of African Women Educationists
FRESH:	Focus Resources on Effective School Health
GOK:	Government of Kenya
HIV:	Human immune deficiency Virus.
KCPE:	Kenya Certificate of Primary Education
K.I.E:	Kenya Institute of Education
JKF:	Jomo Kenyatta Foundation
MOE:	Ministry of Education
MOEST:	Ministry of Education, Science and Technology.
MOH:	Ministry of Health
P.E:	Physical Education
ROK:	Republic of Kenya.
SHEP:	School Health Education Program
UN:	United Nations
UNICEF:	United Nations Children's Fund
UNESCO:	United Nations Educational Scientific and Cultural Organizations
U.S:	United States Of America

W.H.O: World Health Organization

8-4-4: Eight Years of Primary Education, Four Years Secondary Education
and Four Years University Education.

ABSTRACT

Health Education has been defined as any intentional activity that is designed to achieve health or illness related learning as reflected by some relatively permanent change in an individual's capacity or disposition. Similarly, a curriculum is a plan for action or a written document that includes strategies for achieving desired goals or ends. Health Education is taught in the Kenyan Primary School system in Science from standard one to eight and in Home Science from standard four to eight as a major unit. It is also taught as a component of other primary school subjects such as Agriculture and Physical Education. Health Education covers a wide range of topics including; personal hygiene, environmental sanitation, safety, nutrition, first aid, health hazards, health facilities, common ailments, poisonous substances, medicines and drugs.

There is no recorded information indicating that what pupils are taught in school in Health Education classes translates to the desired health practices at school, home and in the community. This study sought to establish the relationship between what was taught in the primary school Health Education curriculum and the pupils' health practices. A cross sectional study was carried out in Miriga Mieru West Division of Meru Central District among the urban, peri-urban and rural community. The sample population comprised Standard Two, Five, Seven pupils, and the teachers in the sampled schools who taught Science, Home Science, Agriculture and Physical Education. Data was collected using pre-tested questionnaires, interviews and observational checklists and analysed using Chi-square tests. Percentages, frequencies and means were used for data presentation. Results indicate that 85 % (115/135) of pupils in standard 2 acknowledged

having learnt different aspects of Health Education as are stipulated in the curriculum but only 41.1 % (56/135) practiced them. This was statistically significant ($\chi^2 = 1.599$, $df = 1$, $p = 0.379$). However, there was no significant difference between pupils in standard 5 and 7 who practiced what they were taught in Health Education ($\chi^2 = 0.298$, $df = 1$, $p = 0.585$). There was a statistical difference between the location of school and pupils health practices ($\chi^2 = 4.542$, $df = 1$, $p = 0.103$). This was because more pupils in the urban schools practiced what they had learnt in Health Education than their rural counterparts. Also, there was a significant difference between boys and girls who carried out health practices ($\chi^2 = 2.381$, $df = 1$, $p = 0.123$) with more girls than boys practicing what they had learnt. All the teachers interviewed ($n = 30$) taught aspects of Health Education and agreed that it's teaching enhanced the pupils' health practices. However, only 16 % (5/30) of the teachers said that pupils practiced what they were taught.

The results of the study could be useful to Health Education curriculum developers and other relevant stakeholders in monitoring, evaluation and in future designs of Health Education curriculums to ensure that their objectives are met.

CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

1.1 INTRODUCTION

School Health Education can be defined as an educational experience that is meant to foster the development of health related knowledge, attitudes and skills on various topics such as community health, environmental health, family life, nutrition, physical activity, personal health practices, injury prevention and substance use and abuse. (US Dept. of Health and Human Services, 1991). On the other hand, a curriculum is all that is planned to enable students acquire and develop the desired knowledge, skills and attitude (Oluoch, 1982).

It has been shown that a child starts learning some health habits and ways of avoiding certain undesirable or harmful practices from family members immediately after birth (Salazar, 1995). The learning exercise continues even after the child has gone to school. The more schools strive to encourage the development of positive health habits among children before they reach adulthood, the easier it becomes for health promoting agencies like the Ministry of Health and other voluntary agencies to achieve their goals. This is because they will be dealing with more enlightened and health conscious adults, parents and citizens (Ademuwagun, 1986). Other reports have also shown that the school environment can be dangerous unless teachers take proper precaution because children coming from different areas and homes can import infections and other diseases common in their home locations and vice versa hence the need for Health Education (McIntyre, 1996).

In the Kenya Primary School curriculum, Health Education should be taught in all classes and mainly in Science and Home Science (ROK, MOE, 1992) hence making the school a major setting for the provision of Health Education. This is because of the recognition of the significance of early acquisition of health related knowledge, attitudes and behaviour (UNICEF, 2000). Schools also provide an important forum for reaching a significant proportion of children and young people over extended periods. Furthermore, the children have been accorded the right to knowledge about health, formalized in the Universal Declaration of Children's Rights and they have a major role to play in providing for this (UNICEF, 2000). The success of Health Education programmes among children comes when there is positive change in behaviour and the knowledge acquired practiced at school, home and in the community. There is therefore need to ensure that pupils are taught aspects of Health Education which are then translated to health practices.

1.2 LITERATURE REVIEW

1.2.1 Health Education in the World

There is need for a global alliance to come together on behalf of children so that they start their lives when healthy. The alliance will also ensure that children are nurtured in a safe environment, have good nutrition, access to safe water and sanitation and are immunized against preventable diseases (UNICEF, 2000).

In the USA, 75% of school districts have antismoking education, 63% of school districts and private schools provide some instruction on alcohol and drug abuse and 32% of

children in grades one to six and 44% in grades seven to nine participate daily in physical education programs (US Dept of Health and Human Services 1990).

In Bombay, India, health classes are part of the curriculum while in Mexico, sex education is taught in schools in addition to radio broadcasts for young people combining music with information on sexuality, reproduction, family planning and human relationships. Topics on hygiene, coughs and colds, food needs and malaria control are taught in Myanmar (formally Burma), in addition to encouraging parents to read the children's material before signing that the children have completed their homework (McIntyre, 1996). Also in Jordan, health-teaching materials are developed, tested and teachers trained to ensure that they provide the health information needed. The curriculum in Peru includes subjects and aspects through which children initiate their education in hygiene and environmental health. This is in addition to teaching health and hygiene topics at the pre-school level, first and second grade. At other levels of learning, Health Education is integrated in the food and nutrition, environment, body and health and identity syllabi (Salazar, 1995). Different countries have recognized the need of teaching Health Education at different levels of Education.

1.2.2 Health Education in Africa

Africa is facing a challenge of empowering households and communities with knowledge (World Bank, 1994). This means that practical support is needed to reduce suffering, illness and mortality more effectively than in the past and Health Education can be hardy in provision of this support.

In Botswana, health subjects have been integrated in the school curriculum. Courses on Family Life Education are also conducted for teachers in addition to workshops on the needs of children especially promotion of school health (McIntyre, 1996). In Ethiopia, other than integrating Health Education in certain subjects, radio broadcasts are made to primary schools to enrich teaching of the health content. Zimbabwe's Health Education is taught in social studies, environmental sciences and in Agriculture. In Zambia, there are no separate health subjects but an integrated approach that involves daily health talks during assembly, daily health inspection and a prevention maintenance program is in place. The child-to-child (C-T-C) approach is also used and children are involved in preparation of materials and carrying out demonstrations in schools in addition to promoting health messages through songs, plays and poetry (McIntyre, 1996). This ensures that the children not only learn but also practice what they are taught in Health Education.

Uganda has a School Health Education Project (SHEP) that was set up in 1987 within the Ministry of Education (McIntyre, 1996). Health Education was integrated into the basic science course and materials to make lessons more effective and interesting provided by UNICEF and the Ministries of Education and Health. A health pack is also used for emphasize on how children can help each other learn and how they can tell their parents about health issues learnt in school. Teachers and pupils in Sudan are mobilized to promote health messages in addition to training teachers in interactive teaching methods (McIntyre, 1996). This makes teaching interesting and the pupils are able to apply what they learn.

1.2.3 Health Education in Kenya.

1.2.3.1 Importance of Health Education in Primary schools

It is documented that investment in primary education in Kenya has several social outcomes like reduction in fertility and infant mortality, improvement of family health and nutrition, increased awareness and participation in civic affairs (ROK, JKF, 1998). The health objectives of primary education in Kenya are to enable pupils grow into strong, healthy people and towards maturity and self-fulfillment as useful and well-adjusted members of the society (Republic of Kenya, MOE, 1992). This can be promoted through primary school Health Education that is considered a viable intervention to ensure healthy behaviour and practices by the people and hence better health (Munyiala, 2001). Health Education in Kenyan primary schools seeks to foster sound health practices both for the preventive and the sufficient curative value (Republic of Kenya, 1998). It also empowers people to improve their health seeking behavior and practices, change their lifestyle and use health services effectively (WHO, 1990). Primary School Health Education is also important when it is considered that the government's health services cover only about 20% of the population (Mwabu and Mwangi, 1986) and large numbers of children come from families that cannot afford the cost of private medical care (Creswell and Newman, 1993). This makes prevention of disease a major role for schools. By the year 2010, Kenya hopes to integrate nutrition and Health into the curriculum, put in place practical approaches to Health Education and adapt the curriculum to the local environment (ROK, JKF, 1998). Parents and communities around the schools are to be involved in this endeavor if this is to be achieved.

1.2.3.2 Health concerns in Kenya

Preventable water borne diseases are the main causes of morbidity and mortality nationwide (ROK, 1997). However, the Health Sector in Kenya is experiencing a resurgence of old and almost contained diseases such as cholera in Nyanza, Coast and North Eastern provinces, 'highland malaria' in Kisii and Rift Valley Fever in some parts of the Rift Valley Province (Owino, 1998), which can be prevented. Individuals' actions will continue to largely determine their health status since most of the diseases and illnesses that afflict people are preventable (Republic of Kenya, Kenya's Eighth National Development Plan, 1997-2001).

1.2.3.3 The primary school Health Education curriculum

Table 1. The Kenyan primary school curriculum on Health Education

(ROK, MOEST, 2001)

LEVEL	SUBJECT CURRICULUM CONTENT			
	Science	Home Science	Agriculture	Physical Education
Std 1	<ul style="list-style-type: none"> -Cleanliness of external parts of the body - Use of the handkerchief. -Collection and proper disposal of litter -Proper use of toilets and latrines 	Not taught	Not taught	<ul style="list-style-type: none"> -Ball games -Body movement -Specific skills in body Movement. -Activities with and without apparatus.
Std 2	<ul style="list-style-type: none"> -Cleanliness of the teeth, nose and bathing the whole body 	Not taught	Not taught	<ul style="list-style-type: none"> -Athletics

Std 3	<ul style="list-style-type: none"> -Cleaning the classroom -Cutting of finger and toe nails -Caring for teeth -Safety on the road. 	Not taught	Not taught	<ul style="list-style-type: none"> -Swimming - Dancing
Std 4	<ul style="list-style-type: none"> -Proper use of medicines -Care and disposal of drug containers, safety when handling and applying commonly used insecticides. 	<ul style="list-style-type: none"> -Proper use of toilets and latrines. -Personal and kitchen hygiene - Food handling, protective clothing, safety in the kitchen and preparing and serving different types of beverages. 	<ul style="list-style-type: none"> -Types of crops -Uses of crops -Grouping of crops 	<ul style="list-style-type: none"> -Games -Athletics -Gymnastics -Dance

Std 5	<ul style="list-style-type: none"> -Kinds of drugs, medicines, herbs, drugs from pharmacies/chemists and poisons. 	<ul style="list-style-type: none"> -Water and sanitation -Health hazards in the home and community. -First aid -Making cleaning equipment and agents using local materials and cleaning the house 		<p>Games</p> <p>Indicated at</p>
Std 6	<ul style="list-style-type: none"> -Caring for the ear. -Classification of drugs to curative, preventive, vaccines and stimulants. 	<ul style="list-style-type: none"> -Health facilities -Poisonous substances 	<ul style="list-style-type: none"> -Farm hygiene and safety. -Prevention of farm health hazards. -Clean farm produce and products. -Carcass disposal -Drainage 	

Std 7	-Drug abuse and its social and economic implications.	-Common diseases and ailments, stress, depression, home nursing, care of the home, nutritional needs of special groups -Food preservation and storage		
Std 8	-Drug abuse	-Childcare, maternal child health services childhood diseases. -Household pests, refuse disposal, care and cleaning of the compound -Meal planning, storage and use of left over foods		

1.2.4 Importance of Health Education

Human beings seek to protect their health by controlling disease, improving the environment, caring for the sick and protecting food and water supplies through passing of knowledge from one generation to another (Creswell and Newman, 1993). In this respect, children can be used as communicators and agents for passing knowledge about health due to their gifts of imagination, enthusiasm and innocence (UNICEF, 1997). The early years of a child are very important because there is a great possibility of breaking through the intergenerational cycles of chronic poor health (UNICEF, 2000) and it is also easier to prevent the initiation of some behaviours for example smoking, alcohol intake and drug abuse than to intervene once they are established. There shows the need to initiate health education at an early age

1.2.5 Health practices

During childhood, it is easier to establish indicators of good health habits like those related to basic hygiene, diet and physical activity. For instance, exercise habits established during childhood help in maintaining a physically active lifestyle throughout adolescence and adulthood (US Dept of Health and Human services, 1990). Children should also be made aware of the consequences of unhealthful actions especially those that do not seem to have immediate bad effects (Hawes, 1997) so that they find the need to correct them.

The essential health practices pupils need to adapt include boiling water and storing it in clean and covered containers to ensure that it is safe to drink. Many harmful germs die

when water is stored and the three pot method can be used for purification where by water is left overnight and poured off the top the following day leaving dirt, germs and worm eggs settled at the bottom (Nyamwaya and Oduol, 1994). Contaminated water can cause harmful diseases like typhoid, dysentery, cholera, diarrhoea and amoebiasis especially to children who are at a higher risk of infection than adults. On the other hand, regular washing of the body keeps it free from dirt and prevents infection from diseases carried by parasites while cleaning of the teeth helps prevent tooth decay, cavity and gum disease. A toothbrush and toothpaste can be used and where it is not available a chewing stick can be used (Nyamwaya and Oduol, 1994).

Washing hands with soap and water removes germs. This helps to stop germs from getting into food and the mouth. It is important to wash hands after visiting the toilet, before and when handling food and after handling animals. The spread of germs can be reduced by disposing feaces safely and ensuring that latrines are cleaned regularly and kept covered (Hawes and Scotchmer, 1993).

Games and sports help the body to do its work more effectively, create body strength and endurance, reduce depression and give relief. It also aids in keeping the body healthy, regulate blood pressure and build resistance hence reducing attacks from allergies and asthma (Young and Durston, 1987). The Health Education curriculum should cater for these areas of health among others.

1.2.6 Health concerns among children

Malaria, diarrhoea, acute respiratory infections (ARI) and malnutrition continue to afflict large numbers of children (UNICEF, 1998) with malaria and ARI contributing 50 % of the disease burden in public health facilities. Death of children aged 5–9 years due to infectious, parasitic and respiratory problems account for 40 % of all the deaths while for 10–14 year olds it is 33 % (Hahn and Payne, 1995). In addition, more and more children are obese and physically inactive today because their parents do not teach them about health issues or encourage them to participate in sport activities, hence leaving the burden to schools (Hahn and Payne, 1997). Worm infections are the greatest cause of disease among 5–14 year old children while Vitamin A deficiency is the single greatest cause of preventable childhood blindness (WHO, 2002). In children, iodine deficiency is the single most preventable cause of mental retardation and brain damage (Salazar, 1995). Similarly, injury causes most deaths and disability among school aged youth and one out of two young people who start and continue to smoke will die of tobacco related illnesses. Approximately 5% of all deaths of young people between the ages of 15 and 29 years are attributed to alcohol use and in some countries, up to 60 % of all new HIV infections occur among 15 - 24 year olds. The leading cause of child morbidity are respiratory diseases while malnutrition has been shown to affect 48 % of all children aged between 6 and 9 years attending first grade in Peru (Salazar, 1995). Millions of children are also affected by problems linked to inadequate access to clean water and sanitation, violence, substance abuse and the increasing burden of living with HIV/AIDS (FRESH, 2000). All the above health problems can be prevented or significantly reduced through effective school health programmes.

1.2.7 Schools as agents of Health Education

Schools are places where children and youth get attention to diseases, care and Health Education towards promoting a better individual (Salazar, 1995). Teachers transmit knowledge, inculcate habits, practices and values related to health care and the environment and are capable of modifying erroneous concepts in Health Education and detrimental traditional practices (Salazar, 1995). The teachers and students can also generate productive projects in health fields. The investment cost in Health Education and school sanitation is lower than that of curative health of all school children and their families (Salazar, 1995) as effective school health programmes contribute to the development of child friendly schools which promote education for all. Schools set standards of dress, moderate activity, advice on hygiene, diet and other healthful activities (Halstead and Walsh, 1985). The school environment can however damage the health and nutritional status of school children if not well managed. This is so if it increases their exposure to hazards such as infectious diseases that can be brought by the water and poor sanitation. Changes in social and behavioural factors can also lead to prominence of health related issues such as HIV/AIDS, early pregnancy, injuries, violence and substance abuse (FRESH, 2000). The school should therefore aim at promoting health not vice versa.

Schools are some of the places where large numbers of pupils spend a lot of time. Approximately 85 % of all eligible children enroll in primary schools with only 26% of these going to secondary schools (UNICEF, 2000). Primary schools should therefore provide the efficient means to attain all the eight components of primary health care and

ensure that young people are educated to have a good understanding of what health means; how to achieve it; how it contributes to social and economic development (WHO, 1978); understand that their health is closely linked to that of others and why it is important to spread the good health ideas to their friends, younger children and those children who have not gone to school (Hawes, 1997). Schools should also offer a good opportunity for Health Education, which not only reaches the child but also his/ her home and indeed the next generation (Young and Durston, 1999).

1.2.7.1 Characteristics of health promoting schools.

A health Promoting school fosters health and learning with all the measures at its disposal by engaging health and education officials, teachers, teachers' unions, students, parents, health providers and community leaders (WHO, 2002). Such schools strive to provide a healthy environment, school health education and school health services along with the community projects in health promotion, nutrition, food safety, physical education and recreation, counseling, social support and mental health promotion. They also aim to improve the health of the school personnel, families, community as well as pupils. Such schools also implement policies and practices that respect an individual's well being and dignity and they acknowledge effort, intentions and achievements that promote Health Education. Health promoting schools focus in caring for oneself and others by making healthy decisions and taking control over life's circumstances in addition to building capacities for peace, shelter, education, food and a stable ecosystem (WHO, 2002). This should be every school's goal.

1.2.7.2 School health policies

Health related policies should be introduced to ensure that schools are good agents of Health Education. For instance, policies dealing with practical based Health Education, provision of health services as they will help promote health, hygiene and nutrition of children. Such policies could also ensure a safe and secure physical environment, a positive psycho-social environment addressing issues such as drug abuse, sexual harassment, school violence and bullying. Policies regarding health related practices of teachers and students could also reinforce Health Education. This is because teachers can act as positive role models for their students, for example by not smoking in school. Such policies are best developed by involving the different levels of education, teachers, parents, children and community leaders (FRESH, 2000). It is through education that children will understand that health is a pre-requisite to individual and collective health.

1.2.8 Children as agents of promoting Health Education

Children are considered the best agents of change because of their vitality, creativity, mental alertness, lack of prejudices, concern about the environment and distance from tradition (McIntyre, 1996 and Salazar, 1995). Also, influential and popular groups of children can influence their peers in a language and style that is very effective and in a way that adults can never do and the younger children look upon them as role models and sources of information (McIntyre, 1996). Children in their innocence remind adults that their actions are unwise or unsafe (Hawes and Scotchmer, 1993). Children are influenced by their mothers, family, surroundings from an early age and they learn values, principles and norms of conduct that elevate their conscience and create the ethical spirit of their

behaviour making them more sensitive towards nature. For example at 9 years, children begin to appreciate the interaction between people and nature. They also recognize the implications of water and air contamination, inadequate disposal of effluents and garbage, hazardous substances, damages caused by pesticides and carbon monoxide emissions, global warming and loss of biodiversity (Salazar, 1995). Therefore teaching children positive behaviour on the benefits of a healthy environment at an early age produces long term effects capable of creating a trend of environmental protection and proper health practices.

1.2.9 Health Education instruction

Health Education in schools is delivered through health instruction in the classroom and playing field then translated to health actions around the school and in the community. Teachers can introduce activities and examples related to health in their teaching as it helps the children understand better and make teaching more interesting (Hawes, 1997). Pupils can sing, act or recite poems to their parents, friends and siblings regarding what they have learnt on health. Radios and newspapers can be used for promoting knowledge on health issues among health staff, community workers and schools (Nyamwaya and Oduol, 1994). By using different teaching methods, teachers make learning relevant to the pupils. Some of the methods that are used for Health Education instruction are illustrated in Figures 1 and 2 below.

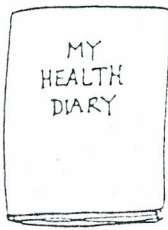
Figure.1 Methods of Health Instruction; children as agents of health

promotion (Adapted from Hawes and Scotchmer, 1993)

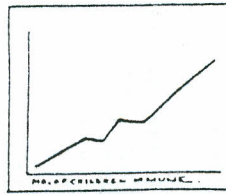
METHODS WHICH HELP CHILDREN TO EVALUATE THE EFFECT OF THEIR ACTIONS



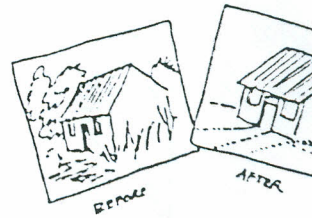
Monitoring and recording



Describing

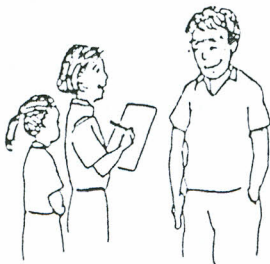


Measuring



Comparing

METHODS WHICH PROMOTE UNDERSTANDING



Surveys in the community



Discussing together



Practical activities

METHODS WHICH HELP CHILDREN COMMUNICATE MESSAGES



Campaigns, school fairs and open days



Picture- and poster-making



Story-telling/story-writing with discussion



WHAT IT FEELS LIKE TO BE BLIND

Role-playing



1.3 RATIONALE OF THE STUDY

1.3.1 Statement of the Problem.

The education system in Kenyan schools is examination oriented, meaning that the pupils' main aim of learning is to pass exams and the teachers really emphasize this, hence leading to rote learning without understanding (Kitsao, 1999). School health has also been under emphasized and neglected in the nations health care systems and it is often regarded as routine (Nader, 1990). However, Health Education entails the practical aspects of healthful living that students must know and practice if the objectives of such a curriculum are to be met. The present habit of examination emphasis seems not to benefit the pupils and by extension, the community. This is because pupils hardly practice what they are taught in Health Education, given that their teachers are pre-occupied with "drilling" them to pass exams. This may lead to producing highly learned individuals who may however, succumb to health problems (parasitic, infectious and vector borne diseases), some of which could have been prevented using proper health practices. There is therefore need to ensure that pupils are taught aspects of Health Education and that they practice them.

1.3.2 Research questions

- a) Are the pupils taught health related issues in the primary school curriculum?
- b) Do pupils carry out any health related habits in school?
- c) Is there a link between what is taught in the primary school Health Education curriculum and the pupils' health related practices in school?

1.3.3 Justification

According to the syllabus for the Primary Education in Kenya, Health Education should be taught in all classes. If whatever is taught is practiced then the burden of disease can be reduced because most of the diseases are preventable and many other health problems are caused by factors that are not responsive to medical solutions. For instance, there is no vaccine to prevent malnutrition or drug abuse. However, the morbidity and mortality from infectious, parasitic and vector borne diseases continue to rise. This is an indicator that some thing may not be right about what is taught and the health practices to be developed by the pupils. This study therefore attempted to fill this gap in knowledge by investigating what Primary School pupils are taught in Health Education vis-à-vis the Health Education curriculum and their health related practices.

Healthy children are better adjusted at school, are less absent from school, get along with their classmates and they make teaching a pleasure (ROK, JKF, 1998). Good health also ensures optimum physical, mental, emotional and social functioning. There is therefore need to ensure that what pupils learn in Health Education is put in practice to enhance their health as an end point indicator that the objectives of the Primary School Health Education curriculum are achieved.

The results of the study could be useful to Health Education curriculum developers and other relevant stakeholders in monitoring and evaluation of the curriculum and in assisting in future designs of the Health Education curriculum.

1.4 HYPOTHESIS

There is no relationship between what the pupils are taught in the Primary School Health Education and their health practices.

1.5 OBJECTIVES OF THE STUDY.

1.5.1 General objective

To establish whether there is a relationship between what is taught in the primary school curriculum on Health Education and the pupils' health practices in school.

1.5.2 Specific objectives

- a) To investigate what primary school pupils in the study area are taught in Health Education.
- b) To identify the health practices of the primary school pupils at schools in the study area.
- c) To establish if there is a link between what the pupils are taught in Health Education and their health practices.

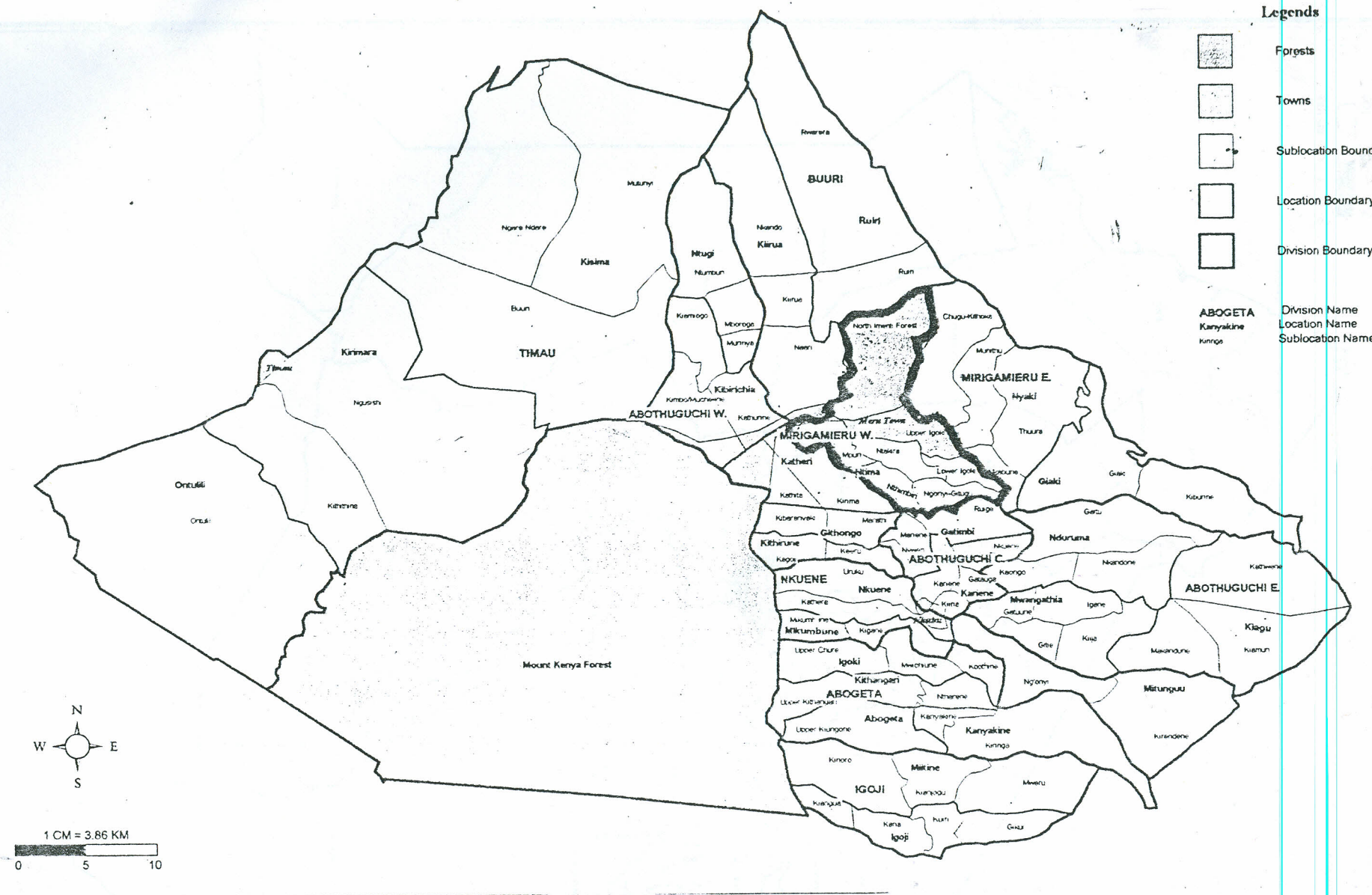
CHAPTER 2: MATERIALS AND METHODS

2.1 The study area

The study was carried out in Miriga, Mieru West Division in Meru Central District (Figure 3). Meru Central District is one of the thirteen districts in Eastern Province of Kenya and among the few that are centrally located in Kenya (Figure 4). The District lies to the East of Mt. Kenya, shares borders with Laikipia District to the West, Nyeri and Kirinyaga to the South West, Meru South to the South and Meru North and Isiolo Districts to the North. The District lies within the latitude $0^{\circ} 3' 45''$ North and $0^{\circ} 2' 30''$ South and longitudes 37° and 38° East. Coffee, tea and pyrethrum are the major cash crops in the district and the common food crops are maize, beans and potatoes. The three most prevalent diseases in the district are malaria, respiratory infections and intestinal worms (ROK, 1997).

Miriga Mieru West Division is one of the ten divisions in Meru Central district and the most densely populated with a population of 69 469 people. It is also the smallest division covering 53.2 square kilometers in a district with a total area of 2,983 square kilometers (ROK, 1999). The Division has five locations namely Ntima, Igoki, Ntakira, Municipality and Nthimbiri. The municipality and part of Igoki locations house Meru town or the urban population, Ntakira location comprises mainly the peri-urban population while Ntima and Nthimbiri have the rural population. The study covered all the locations apart from Igoki which had a mixed population.

Figure 3. Location of Miriga Mieru West Division on the Meru Central District Map



2.2 The study population

The study population composed of primary school pupils in standard 2, 5 and 7 and their Science, Home Science, Agriculture and Physical Education teachers. Standard 2, 5 and 7 were purposively chosen. Standard 2 is the lowest class in which to expect pupils to have learnt some aspects of Health Education in school because different teachers cover the standard one Health Education Unit at different times of the year. Standard 5 is a middle class and was therefore chosen to find out if there is progressive learning from the lower levels of learning to the high levels of the Primary School Education. Class 7 represented the highest level in the Primary School since the standard 8 pupils were engaged in the preparation of their final examination. The Science, Home Science, Agriculture and Physical Education teachers were purposively chosen because it is in these subjects that Health Education is covered. There were 53 primary schools in the Division; 30 public primary schools and 23 private schools of which 30 had from standard one to eight and with over 30 pupils per class. The study was carried out in six out of the 30 schools that had from standard one to eight. The total number of pupils in primary schools in this division was 12,769 out of which 6,264 were boys and 6 505 were girls (ROK, 2002). A total of 405 pupils (213 girls and 192 boys) were involved in the study.

2.2.1 Inclusion criteria

- a) Pupils in the sampled schools who were in standards 2, 5 and 7.
- b) Teachers in the sampled schools who taught either/ and Science, Home Science, Agriculture and Physical Education.

2.2.2 Exclusion criteria

- a) Pupils in the sampled schools who were not in standard 2, 5 and 7.
- b) Pupils in other schools that were not in the sample population.
- c) Teachers in the study schools who did not teach either/ and Science, Home Science, Agriculture and Physical Education.
- d) All the teachers in the other schools that were not in the sample population.

2.2.3 Ethical considerations

Permission to carry out the research was sought and granted from the Ministry of Education and from the head teachers of the study schools. The purpose of the study was explained to the head teachers, teachers and the pupils in the selected schools and their consent sought. Participation was voluntary and the pupils and teachers who did not wish to participate were exempted. The participants did not write their names on the questionnaires or interview sheets and were also assured that the information they gave was confidential.

2.3 STUDY DESIGN

A cross- sectional study was carried out in Miriga Mieru West division among primary school pupils in standard 2, 5 and 7 and teachers who taught Science, Home Science, Agriculture and P.E in the urban, peri-urban and rural areas. A cross- sectional study was chosen because the whole population was too large to be involved in the study and the focus was on what was happening at that point in time. For instance to find out if pupils were taught aspects of Health Education and if they carried out any health practices.

2.3.1 Sampling

The division was purposively sampled because it is the only one in the District that had the urban, peri-urban and the rural population. Cluster sampling was used to group the schools as urban, peri-urban and rural schools. The municipality location represented the urban cluster, as it is the only one, which wholly had the urban population. Ntakira location represented the peri-urban population because represented most of the peri-urban population and Nthimbiri and Ntima locations represented the rural population. Only schools that had from standard one to eight and with over 30 pupils per class were considered for the study because 18 or 27 (discussed later) pupils were needed per class. These were 30 schools; 15 in the urban cluster, 5 in the peri-urban and 10 in the rural cluster. To get the number of schools to sample, the ratio of the schools in the clusters was used hence coming up with three schools in the urban cluster, one in the peri-urban and two in the rural cluster. Random sampling using random numbers was used to get the three, one and two schools in each of the clusters respectively. Classes 2, 5 and 7 were considered and were purposively chosen as earlier discussed under the study population. To arrive at the number of teachers to sample, the standard 2 teachers in all the six schools were considered (they taught all the subjects), one teacher per school. Three teachers per class (all the streams inclusive) were considered for standard 5 and 7 and this gave a total 42 teachers; 7 teachers per school.

2.3.2 Sample size determination

The sample size for all the sampled schools was arrived at using the formula as used by

Fisher *et al.*, (1998) shown below

$$N = Z^2 pqD/d^2$$

Where, N = the Sample size

Z = the standard normal deviate (1.96), it corresponds to 95% confidence interval

p = the proportion of the target population estimated to have a particular characteristic (for this case being health practices in relation to what was taught in the Primary School Health Education curriculum).

$$q = 1 - p$$

d = the degree of accuracy = 0.05

D = the design effect = 1

$$\text{Thus, } N = (1.96^2 \times 0.5 \times 0.5) / 0.05 = \underline{384} \cong 400$$

To arrive at the number of pupils to take as the sample in each of the six schools (3 urban, 1 peri urban and 2 rural), equal numbers of pupils were considered for the urban and rural schools and half of this from the peri-urban school. Hence, there were 160 pupils from the urban schools who were later shared out among the three schools and each school got 54 pupils. The 160 pupils for the rural schools were shared out among the two schools and each school had 80 pupils. The 80 remaining pupils were drawn from the peri-urban school.

To get the number of pupils to sample in each of the three classes the 54, 80 and 80 pupils per school in the urban, peri-urban and rural clusters respectively were divided by 3 (the number of classes used in the study) giving 18, 27 and 27 pupils per class. For schools that had more than one stream the 18 and 27 pupils were divided by the number of streams. For instance the peri-urban school had three streams hence took 9 pupils per class. To get the proportion of boys to girls, probability proportional to size sampling was used and the pupils willing to participate in the study picked papers which were written yes or no, where yes meant one had been chosen to participate in the study. To come up with the seven teachers per school, those who were willing to participate in the study picked papers marked yes or no and those who picked a yes were considered for the study.

2.4 Research Instruments

2.4.1 Questionnaires

Data was collected using pre-tested questionnaires that were administered to the standard 7 pupils and teachers who taught Science, Home Science, Agriculture and Physical Education in the sampled schools. The questionnaires were different for the two groups and had been pre tested through a pilot study that had been carried out in Nairobi and its surroundings. The standard 7 pupils in two of the three urban schools, in the peri-urban and rural schools were guided in reading the questionnaire but the teachers were not.

2.4.2 Interviews

Interviews were carried out for the standard 2 and 5 pupils separately. For the rural population, Kimeru and English languages were used while for the peri-urban population, Kiswahili was used in addition to Kimeru and English. English and Kiswahili languages were used to interview pupils in the urban schools.

2.4.3 Observation Checklists

To establish whether the pupils washed their hands after visiting the toilet, the pupils who had been selected in each class were allowed to go to the toilet or latrine and the researcher watched from a distance those who washed their hands afterwards. This was repeated twice for each class and only those who washed their hands the two times had their questionnaires ticked that they washed hands after visiting the toilet. For easy identification of the pupils, the researcher noted them depending on who were less; those who washed their hands or those who did not. This also applied to collection and disposal of litter.

To establish if the pupils went for Physical Education (P.E), the researcher was around during the P.E lessons. The pupils who went or did not go for the lesson were noted and their questionnaires marked.

2.5 Data Management

All the data collected was cleaned, coded and entered in the computer using the statistical package for social sciences (SPSS). Percentages and frequencies were used to present data and show the proportion of pupils who acknowledged having learnt and/or practiced different aspects of Health Education. Mean was used to get the average number of pupils who had learnt some aspects of Health Education and the average number of pupils who practiced them. The relationship between the pupils' practices and what they learnt in Health Education was analyzed using Chi- square tests.

CHAPTER 3: RESULTS

3.1 Distribution of study subjects

Table 2 gives a summary of the study subjects. A total of 405 pupils were interviewed from 6 schools; 3 urban, 1 peri-urban and 2 rural schools. The pupils were from standard 2, which had a total of 135 pupils; 71 boys and 64 girls, standard 5 with 135 pupils; 66 boys and 69 girls and standard 7 which also had 135 pupils; 55 boys and 80 girls. The total number of girls interviewed was 213 while that of boys was 192 with the number of girls exceeding that of boys in standard 5 and 7. There were equal number of boys and girls in the urban schools while in the peri-urban and rural schools that of girls exceeded that of boys. Thirty teachers were interviewed from the six schools, 22 female teachers and 8 male teachers. About 87 % (26/30) of the teachers had the P1 qualification while the rest had the S1 qualification.

About 52 % (70/135) of the pupils in standard 2 were between 9 and 10 years old, 44.4 % (60/135) between 7 and 8 years old and 1.5 % (2/135) and 2.2 % (3/135); 6 years and below and 11 years and above respectively. Among the standard 5 and 7 pupils, 31.5 % (85/270) were 10 to 11 years old, 44.8 % (121/270) and 22.6 % (61/270) between 12 and 13, and 14 and 15 years respectively. Only 1.1 % (3/270) pupils were above 15 years old.

Table 2. The distribution of the study subjects by type of school, class and sex

		URBAN SCHOOLS			PERI-URBAN SCHOOL D	RURAL SCHOOLS		TOTAL
		A	B	C		E	F	
Std 2	Boys	9	10	11	12	16	13	71
	Girls	9	8	7	15	11	14	64
Std 5	Boys	10	8	10	15	10	13	66
	Girls	8	10	8	12	17	14	69
Std 7	Boys	9	8	6	11	10	11	55
	Girls	9	10	12	16	17	16	80
TOTAL		54	54	54	81	81	81	405
Teachers	Male	2	0	2	1	1	2	8
	Female	2	4	4	5	3	4	22

Key:

A: Consolata Primary

B: Meru Primary

C: D.E.B Township Primary

D: Gikumene Primary

E: Mitoone Primary

F: Mpuri Primary

3.2 Health Education Curriculum Content

3.2.1 What pupils are taught in Health Education

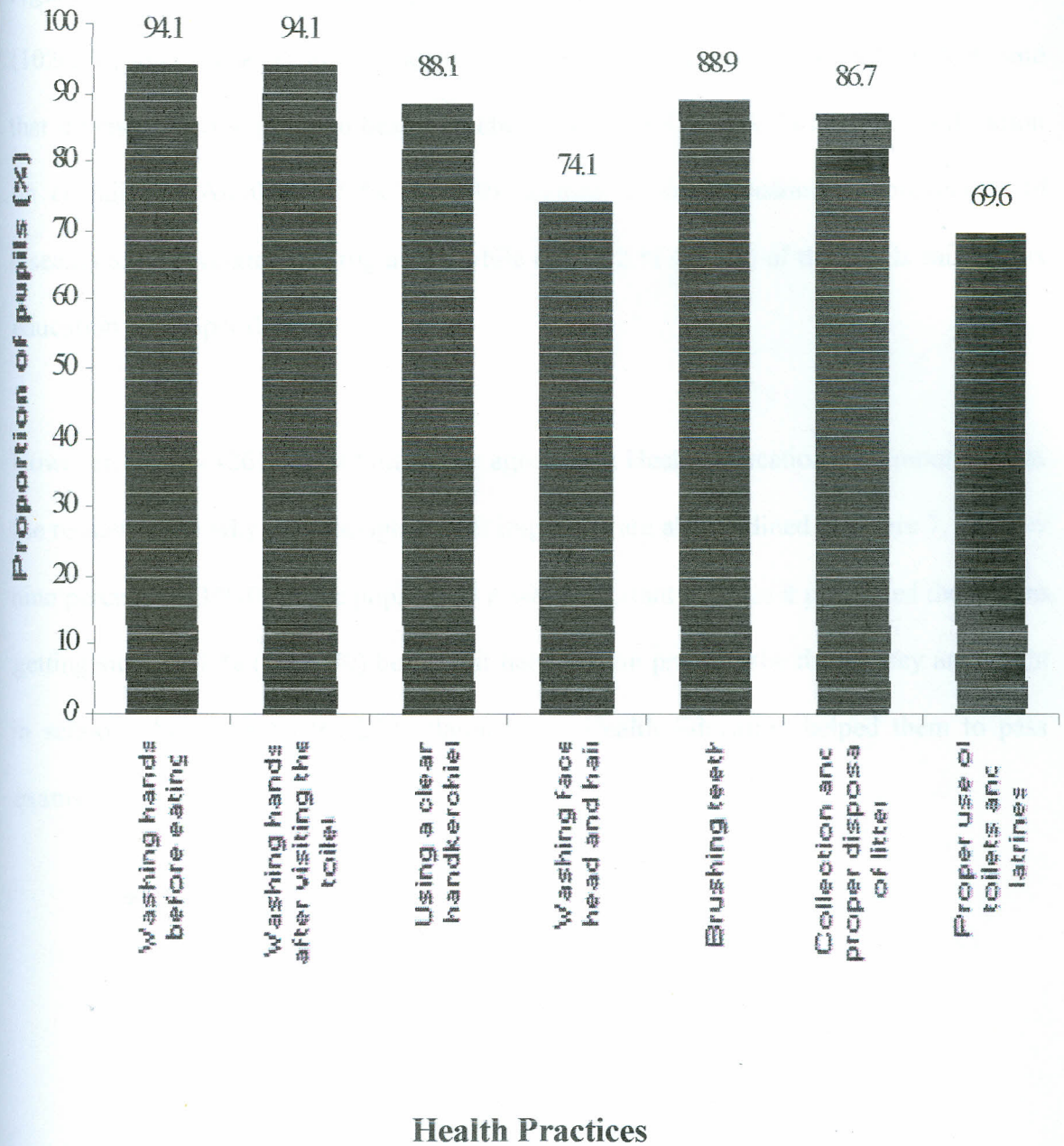
Health Education should be taught from standard one to eight according to the 8-4-4 curriculum. From standard one to three it is taught in science while from standard 4 to 8 it is taught in science, Agriculture, Home Science and P.E.

Pupils in standard two were asked what they had learnt in school in health education and their answers were matched to what is indicated in the Health Education curriculum.

Figure 5 shows a summary of what the pupils said they are taught in Health Education.

Approximately 94.1 % (127/135) of the pupils had been taught to wash their hands before meals and after visiting the toilet. It is also notable that an average of 88 % (119/135) of the pupils had been taught to use a handkerchief to blow the nose, to brush their teeth and to collect and dispose litter in the right places. About 74.1 % (100/135) of the pupils had been taught to wash their face, head and hair everyday. The lowest percentage, 69.6 was of the pupils who claimed that they had been taught to use the toilets, latrines or urinals properly.

Figure 5: Health education content

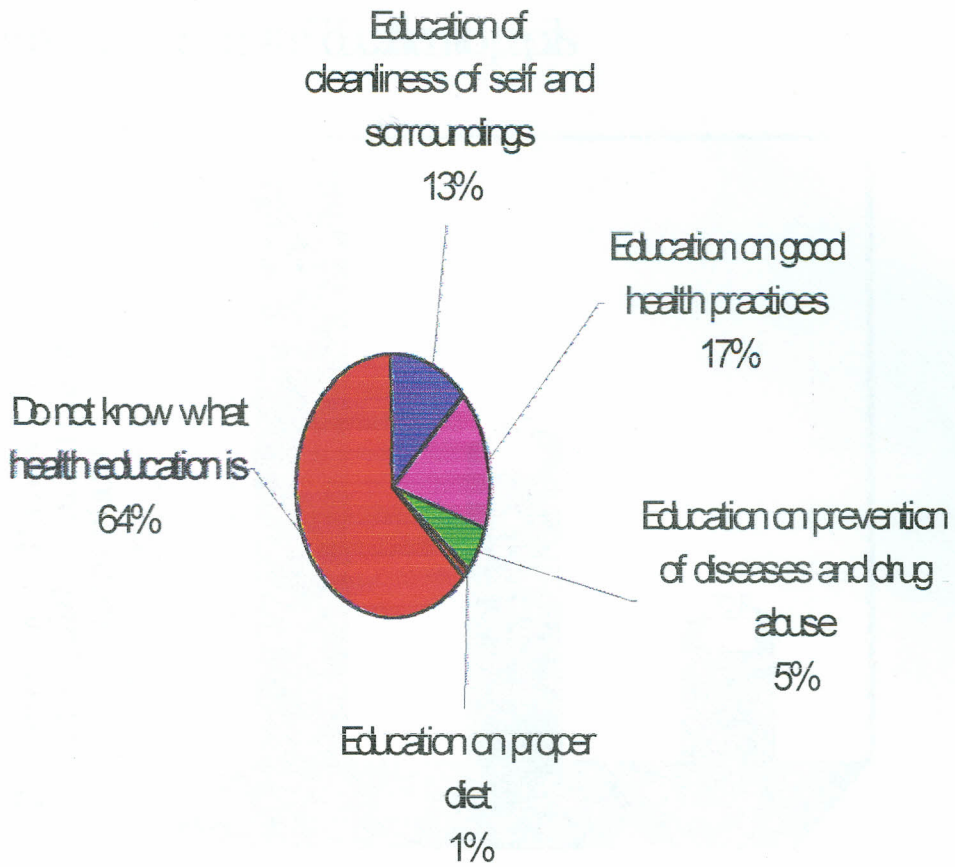


3.2.2 Pupils' perception of Health Education

Figure 6 shows an outline of the pupils' perception of Health Education. Only 37.8 % (102/270) knew what Health Education was. Seventeen percent (46/270) of them said that it was education on good health practices while 13.3 % (36/270) said it is education on cleanliness. Another 5.2 % (14/270) claimed it was education on prevention of diseases and prevention of drug abuse while only 2.2 % (6/270) of the pupils said it was education on proper diet.

However, 98.9 % (267/270) of the pupils agreed that Health Education was important and the reasons as to why they thought it was important are also outlined in figure 7. Seventy nine percent (213/270) of the pupils said it was important because it prevented them from getting sick, 45.7 % (123/270) because it helped them practice the things they are taught in school while 22.8 % (62/270) claimed that Health Education helped them to pass exams.

Figure 6: Pupils views on what health education was



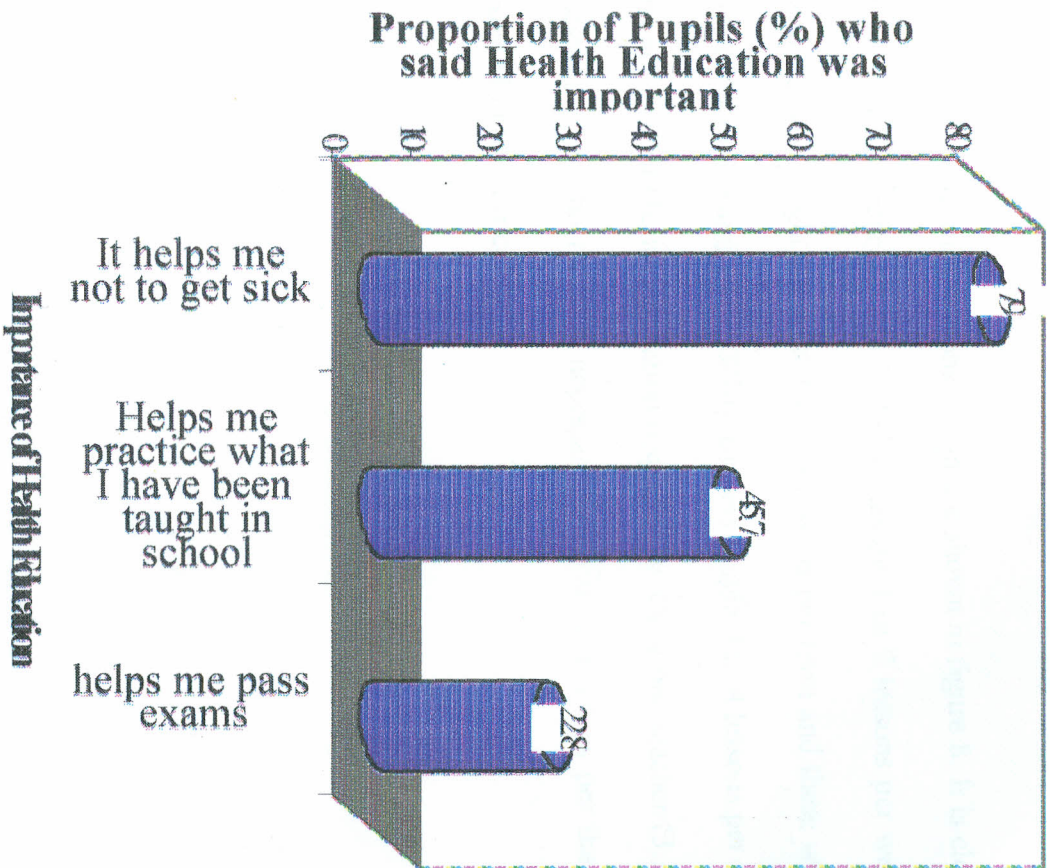


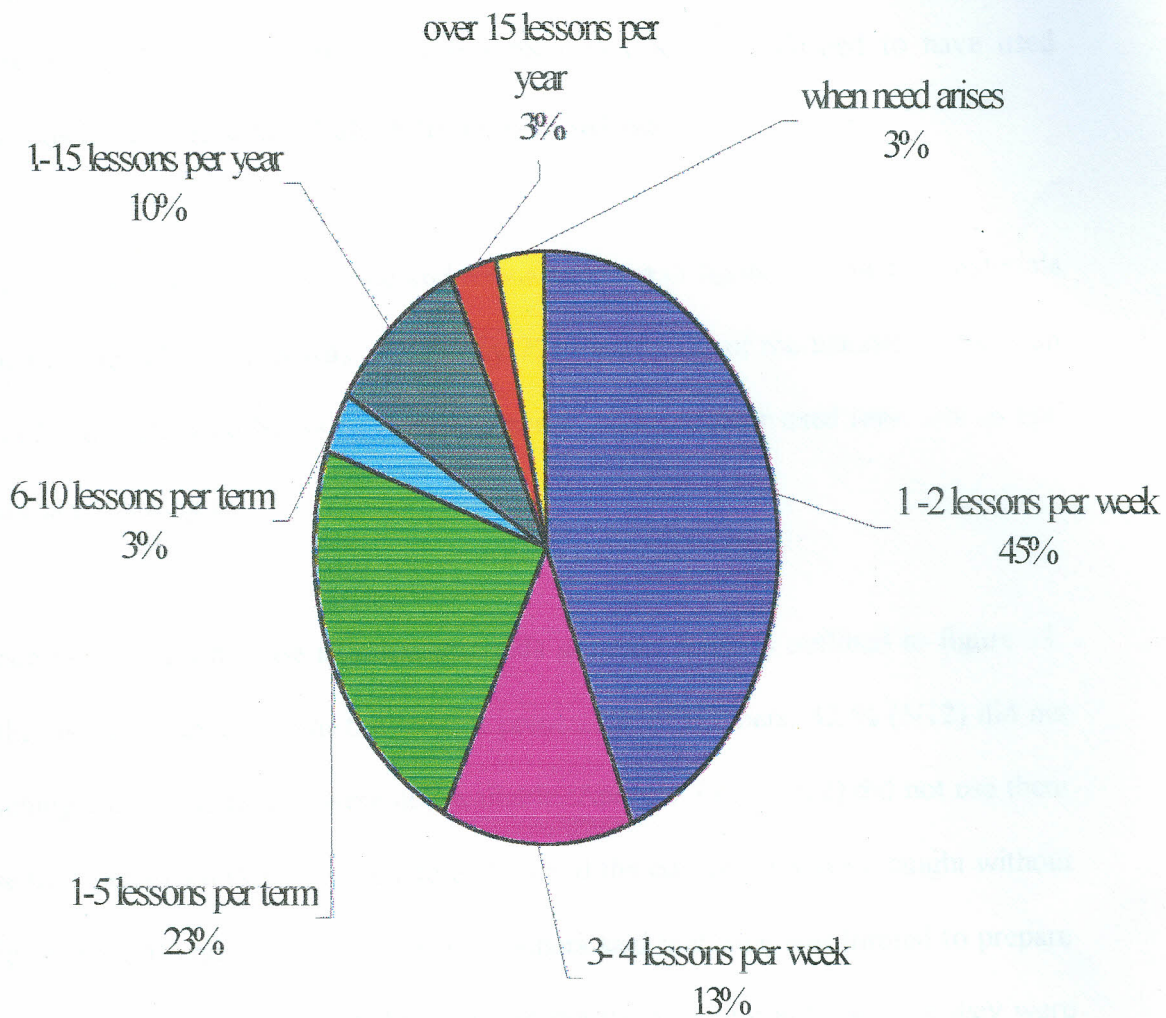
Figure 7: Importance of Health Education to pupils

3.2.3 Teaching Health Education aspects

All the teachers interviewed (n= 30) agreed that they taught aspects of Health Education as were indicated in Science, Home Science, Agriculture and P.E. However only 40 % (12/30) of the teachers followed what was wholly indicated in the syllabus when teaching. The others; 60 % (18/30) taught what they found to be of importance to the pupils.

The number of Health Education lessons taught are shown in figure 8. It is clear that the highest percentage of the teachers; 43.3 (13/30) taught 1 or 2 lessons per week. This is followed by those who taught between 1 and 5 lessons per term and these were 23.3 % (7/30). About 13 % (4/30) and 10 % (3/30) teachers taught 3 to 4 lessons per week and 1 to 15 lessons per year of Health Education respectively. Only one teacher (3.3 %) taught Health Education when she found it necessary to do so and not as per the number of lessons stipulated in the curriculum.

e 8: Health Education lessons



3.2.4 Teaching Aids

The proportion of teachers who used teaching aids during Health Education lessons is illustrated in figure 9 below. It shows that 58.6 % (18/30) confirmed to have used teaching aids in delivering the Health Education knowledge.

There were various teaching aids used and they are shown in figure 10. The real materials were the ones mostly used as was claimed by 72.2 % (13/18) of the teachers. Charts on the other hand were used by 44 % (8/18) teachers but no teacher used imitation of real materials as a teaching aid.

The teachers who did not use any teaching aids gave the reasons outlined in figure 11. From the figure, it is evident that the highest percentage of teachers; 42 % (5/12) did not use teaching aids because they were not available. Another 33 % (4/12) did not use them because they perceived that pupils could understand the content they were taught without the help of the aids and 25 % (3/12) of the teachers said that time was limited to prepare the teaching aids. No teacher said that they did not use teaching aids because they were expensive to come up with.

Figure 9: The teaching aids used by teachers

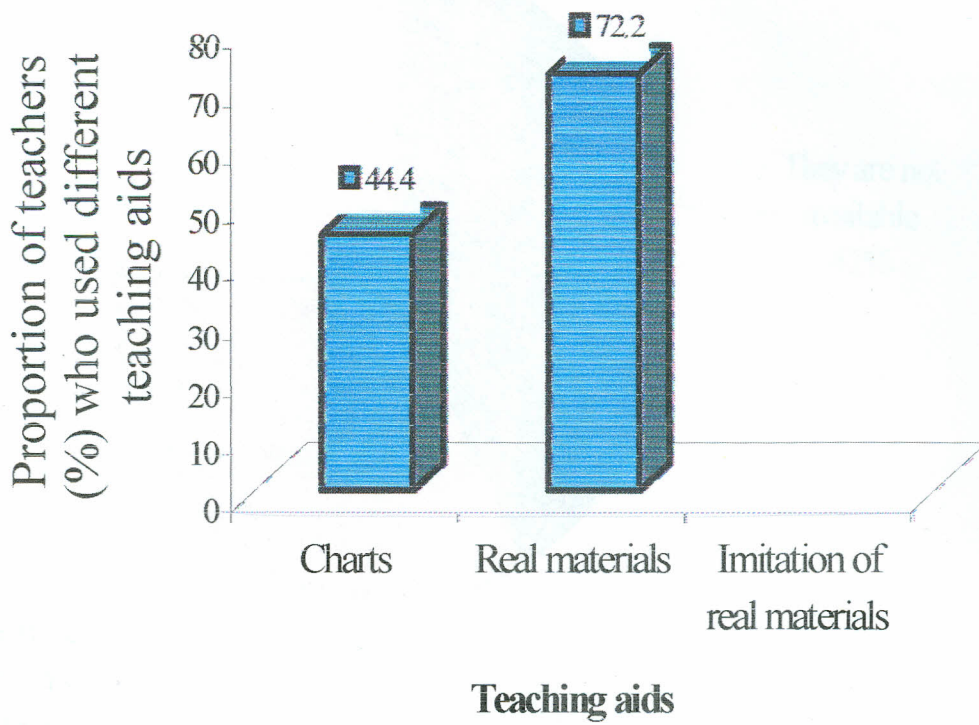
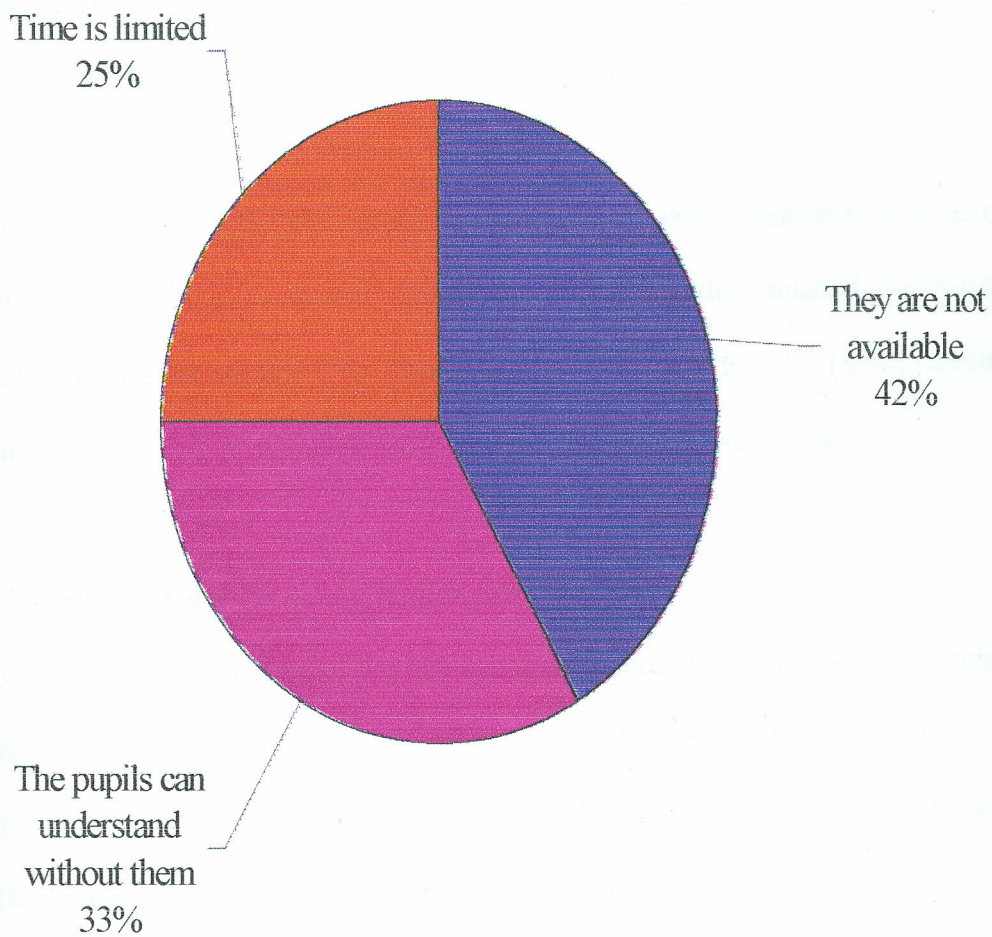


Figure 10: Reasons teachers gave for not using teaching aids



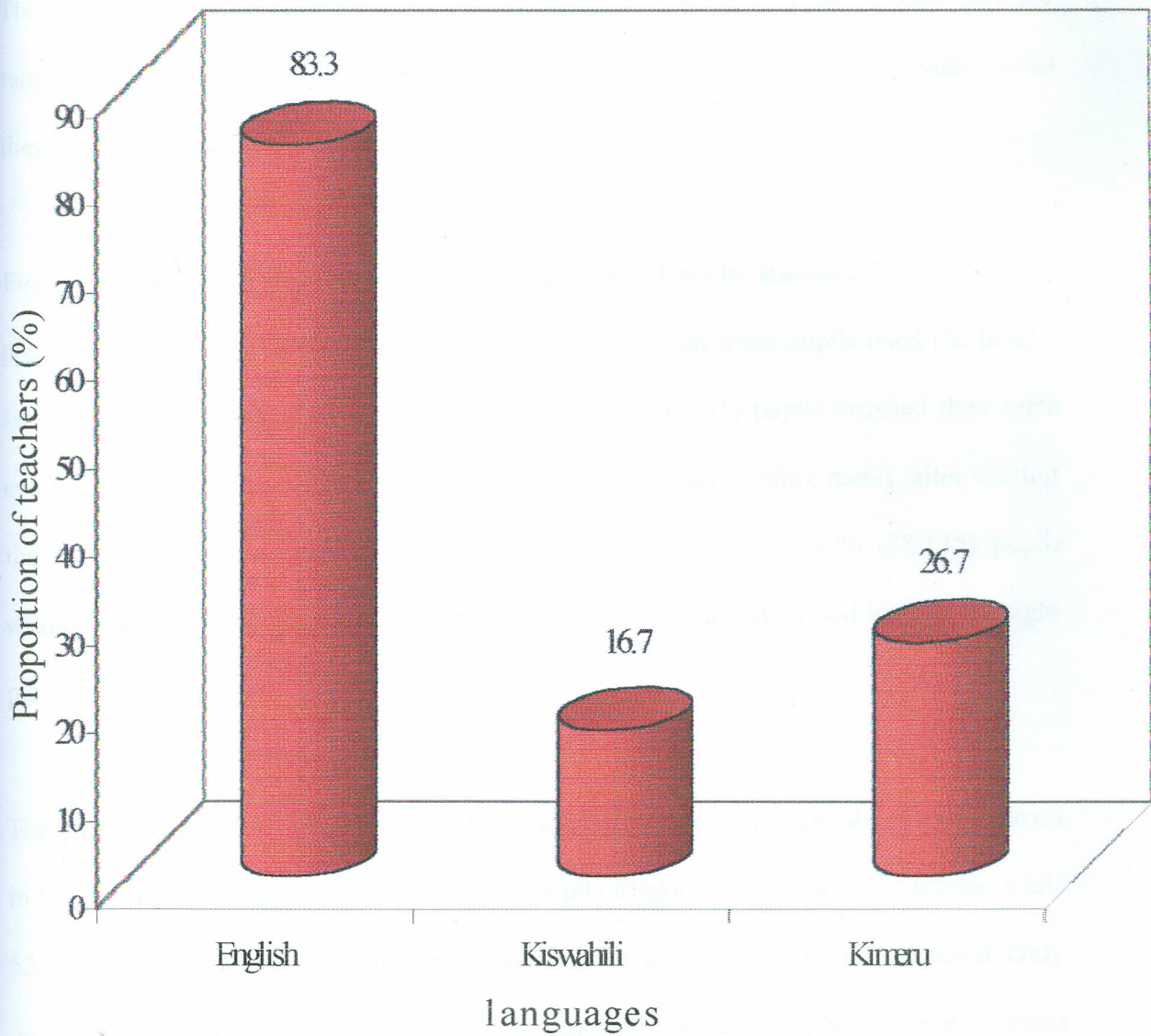
Half of the teachers; (15/30) agreed that there were recommended textbooks for teaching Health Education in primary schools. Primary Science by K.I.E had the highest percentage; 53.3% (8/15) of teachers who agreed that it was a recommended textbook. Learning Science by M. S. Patel was second with 40 % (6/15), followed by Primary Home Science by K.I.E, 33.3 % (5/15), Health Magazines, 26 % (4/15), Science Matters and Science Work book, 13.3 % (2/15) each respectively.

Only 36.7 % (11/30) teachers agreed that instructions were given on how to teach Health Education. The government and other education stakeholders ensured that teachers were updated in Health Education. This was claimed by 26.7 % (8/30) teachers who acknowledged to have attended health based seminars and workshops.

3.2.5 Languages used to teach Health Education

Figure 12 shows an outline of the languages that were used in Health Education delivery in schools and the proportion of teachers who used them. English language was used by majority of the teachers; 83.3 % (25/30) while Kimeru and Kiswahili were used by 26.7 % (8/30) and 16.7 % (5/30) of the teachers respectively.

Figure 11: Languages used to teach Health Education



3.3 Health Practices

3.3.1 Health Practices by standard 2 pupils

The aim of teaching Health Education is to ensure that the pupils practice what they are taught. The average number of pupils in standard two who practiced (everyday) what they were taught in Health Education was 41.1 % (55/135).

Figure 13 below indicates the different practices carried out by standard 2 pupils and the proportions of pupils who carried them out. It is clear that most pupils used the toilets, latrines and/ or urinals well. However, only 14.8 % (20/135) pupils brushed their teeth everyday. Between 20 - 40 % of the pupils washed their hands before meals, after visiting the toilet and used a handkerchief to blow the nose. About 57.8 % (78/135) pupils washed their face everyday and 54.8 % (74/135) collected and disposed litter in the right places.

The pupils who did not practice what they were taught everyday gave the reasons shown in figure 14. More than 92 % (74/80) of the pupils forgot to carry out the practices, while 52.6 % (42/80) said that their parents lacked money to buy the materials required. Only 34.1 % (27/80) of the pupils did not practice what they were taught because their parents did not ask them to do so. Another 2.2 % of the pupils did not find it important to practice what they had learnt in school while 11.9 % of the pupils claimed that the teachers had not asked them to practice what they had learnt in Health Education.

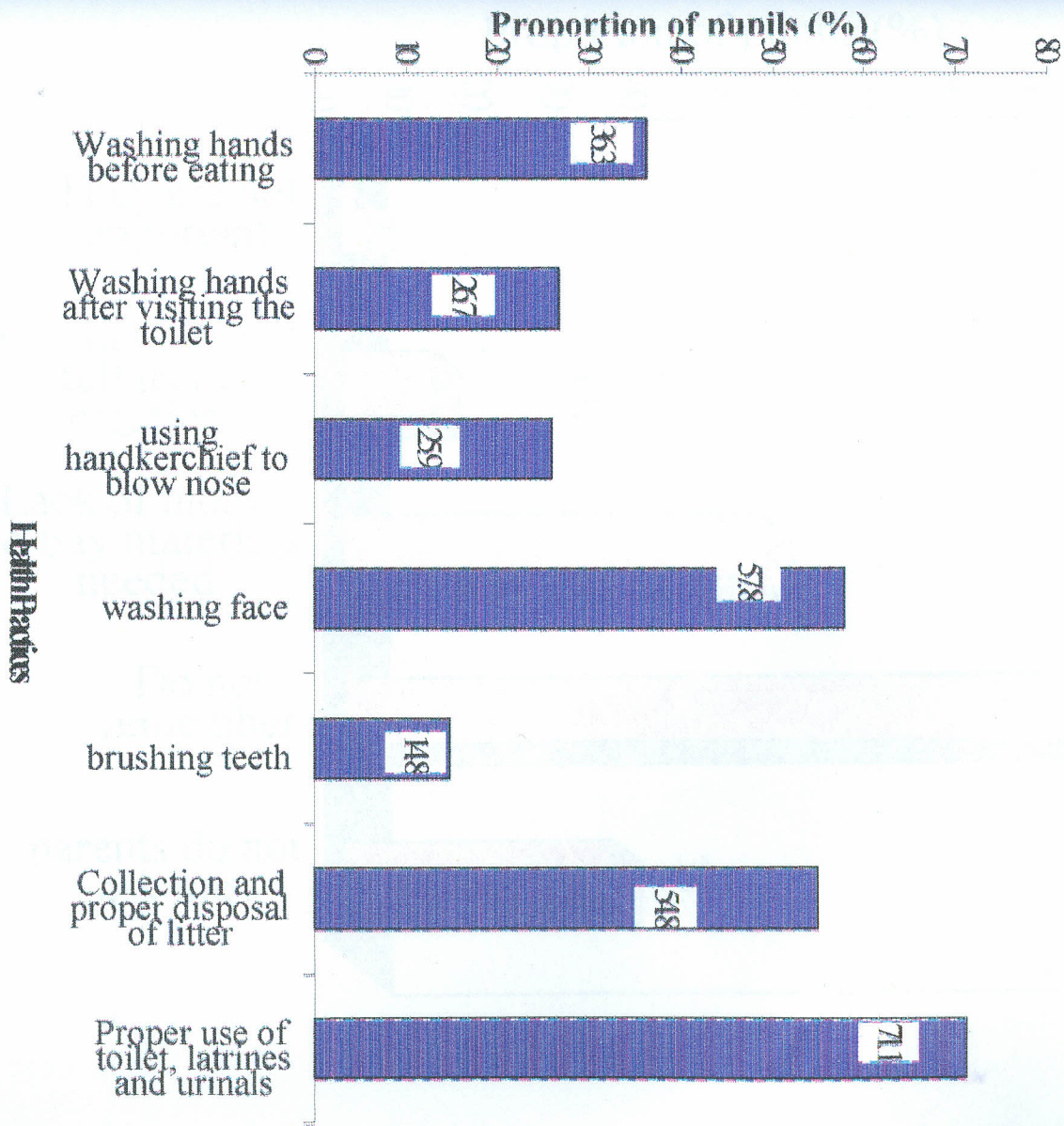
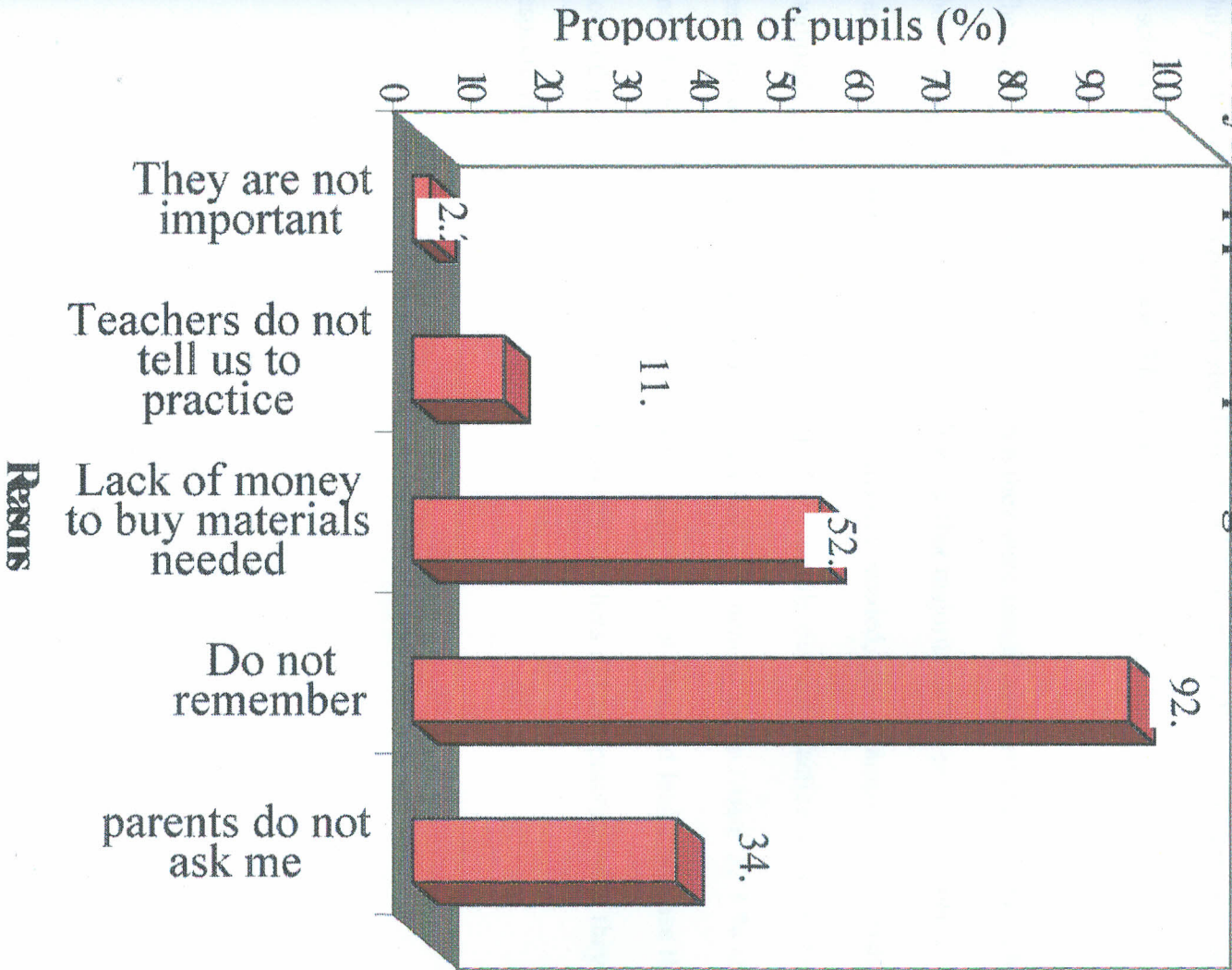


Figure 12: Standard 2 Pupil's health practices

Reasons why std 2 pupils didnt practice good health

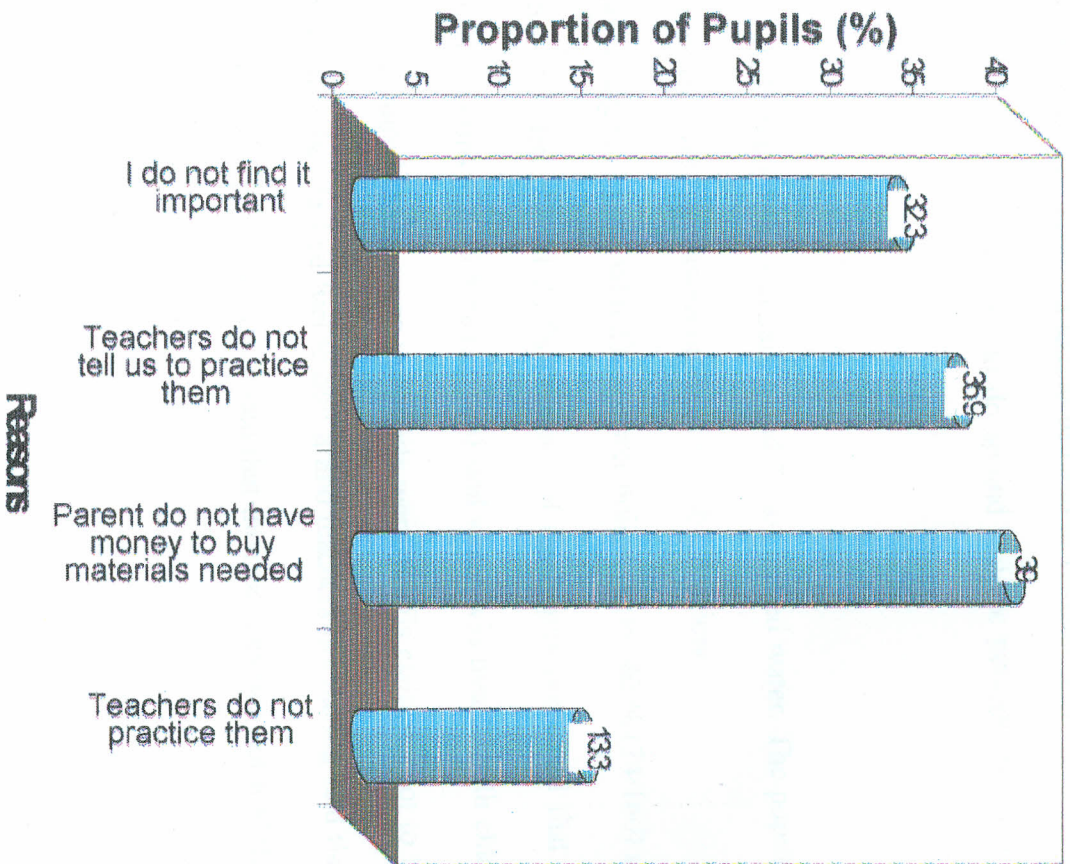


3.3.2 Health practices by standard 5 and 7 pupils

Only 27.4 % (75/270) pupils in standards 5 and 7 practiced all the things they were taught in school in Health Education. This is illustrated in figure 15.

The pupils who did not practice all what they were taught gave several reasons. These are shown in figure 16. From the figure it clear that majority of the pupils claimed that their parents lacked money to buy the materials needed, for example toothbrushes and toothpaste. More than 35 % (97/270) of the pupils did not practice all what they had learnt in school because the teachers had not told them to do so. Also, 32.3 % (87/270) and 13.3 % (36/270) of the pupils did not practice what they had learnt because they did not find it important to do so and because the teachers did not practice what they taught respectively.

Figure 14: Reasons by std 5 & 7 pupils for not practicing what they had learnt



About 88 % (238/270) of the pupils in standard 5 and 7 had brushed their teeth at least once, a month prior to the study. Out of these, 51.1 % (138/270) had brushed their teeth everyday while 10.7 % (29/270) could not remember how often they had done it. More than 11 % (32/270) of the pupils had not brushed their teeth at all. Fifty eight percent (19/32) of them because they lacked a toothbrush and/or toothpaste while 35.5 % (11/32) and 6.5 % (2/32) had not remembered to do so and had the perception that their teeth were healthy respectively.

Only 40.7 % (110/270) pupils in standard 5 and 7 took boiled water. The pupils who did not take boiled water gave the reasons outlined in Table 3 below.

The highest percentage of pupils who did not take boiled water; 46 % (74/160) said it was sweeter when not boiled. About 22 % (35/160) of the pupils perceived that un boiled water did not have germs and 13.8 % (22/160) said water was treated with chlorine. The two reasons that featured least among the pupils were; pupils claiming not to have taken boiled water because they lacked fuel to boil it and teachers not having told them to take boiled water. Only 9.4 % (15/270) pupils said that their parents had not told them to take boiled water.

Table 3: The reasons why pupils did not drink boiled water.

Reasons for not taking boiled water.	Frequency	Proportion (%)
It does not have germs	35	21.9
It is treated with chlorine	22	13.8
It is sweeter when not boiled	74	46.3
<i>The teachers have not told us to be boiling it</i>	7	4.4
There is no fuel to boil it	7	4.4
My parents do not say it should be boiled	15	9.4
Total	160	100

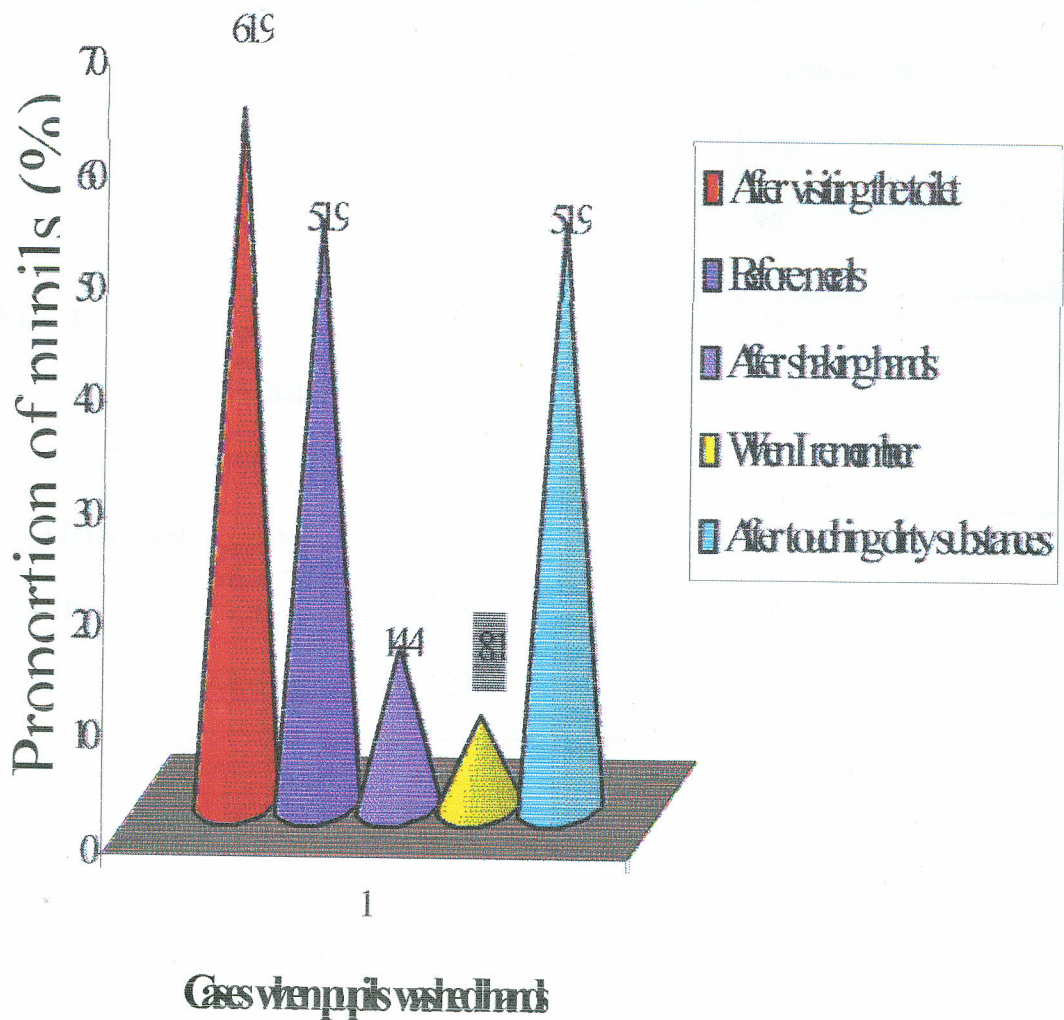
3.3.2.1 Cleaning activities carried out by the pupils

Fifty seven percent (154/270) of the pupils had been involved in the cleaning of toilets, latrines and /or urinals in school with the majority 41.7 % (113/270) having cleaned them once a term. Of the 43 % (116/270) pupils who had never cleaned the toilets, latrines and/or urinals, 67.5 % (78/116) of them was because someone was employed to do the cleaning. This was common in the urban schools. About 38.5 % (104/270) of the pupils had at any one time cleaned the classroom once a week using water. This was the highest percentage of pupils who had at one time cleaned the classrooms. Only 7.4 % (20/270) of pupils had never cleaned a classroom.

3.3.2.2 Incidences when pupils washed their hands

It was clear that all the pupils washed their hands at some time. Figure 17 shows an outline when the pupils in standard 5 and 7 washed their hands. The highest percentage of pupils; 61.9 % (167/270) washed their hands after visiting the toilet, followed by 51.9 % (140/270) pupils who washed their hands after touching dirty substances and before meals. About 14 % (39/270) and 8.1 % (22/270) pupils washed their hands after shaking hands and when they remembered to do so respectively.

Figure 5: Instances when pupils washed hands



3.3. Categorizing standard 5 and 7 pupils health practices .

Table 4. Standard 5 and 7 pupils health practices in different classes, gender and school location

		NUMBER OF PUPILS	
		Carried out health practices	Did not carry out health practices
CLASS	5	35	100
	7	39	96
GENDER	Male	27	92
	Female	47	104
LOCATION OF SCHOOL	Urban	34	74
	Peri-urban	18	36
	Rural	22	86

Class and pupils health practices: $\chi^2 = 0.298$, $df = 1$, $p = 0.585$. There was no significant difference between pupils in standard 5 and 7 who practiced all what they were taught in Health Education. Most of the pupils in the two classes did not practice what they had learnt in Health education.

Gender and pupils health practices: $\chi^2 = 2.381$, $df = 1$, $p = 0.123$. There was a significance difference between males and females who practiced what they had learnt in Health Education. More females than males practiced what they had learnt.

Location of school and pupils health practices: $\chi^2 = 4.542$, $df = 1$, $p = 0.103$. More pupils in urban areas practiced what they had learnt in school than their rural counterparts.

3.4 The relationship between what the pupils were taught and what they practiced

3.4.1 Health Education content and the pupils' practices

All the teachers (n=30) agreed that teaching Health Education enhanced the pupils' health practices. However, only 16 % of them agreed that the pupils practiced what they had been taught.

There were several reasons given by the teachers why pupils did not practice what they were taught. Fifty six percent (17/30) of the teachers believed it was because the pupils lacked money to buy the materials needed for example soap, toothbrushes and toothpaste. About 28 % (8/30) teachers said the pupils did not find it important to practice what they were taught in Health Education. Only 16 % (5/30) of the teachers believed it was attributed to not punishing pupils who failed to practice what they were taught.

Pupils in the upper primary were taught about cleaning classrooms and toilets but only 57 % (154/270) had ever cleaned them. Of those who had never cleaned toilets, latrines or urinals, 67.5 % (78/116) of them was because someone had been employed to do the cleaning. The pupils had also learnt in class that they should always drink boiled water, however, only 40.7 % (110/270) drank boiled water.

Table 4 below shows a comparison between what the pupils were taught in Health Education and what they practiced. An average of 85.1 % (115/135) pupils in standard 2 acknowledged to have been taught aspects of Health Education as are outlined in the curriculum. However, only 41.1 % (55/135) practiced them. The greatest difference of 74.1 % (110/135) was between the proportion of pupils who said they had been taught to brush their teeth and those who did it. The other percentage differences were 67.4 % for those claiming to have learnt to wash their hands and those who did it. A difference of 62.2 % for those taught to use a handkerchief and those who used it. Also differences of 57.8 %, 31.9 % and 16.3 % of those taught to wash hands before eating, collect and dispose litter in the right places, wash their face and those who did it respectively. However, more pupils used toilets, latrines and urinals well than the percentage of pupils who claimed to have been taught to do so.

Table 5: The proportional difference between what the pupils were taught in Health Education and what they practiced

Health practices	Proportion of Health Education content taught (%)	Proportion of Pupils who carried out health practices (%)	Significance
a) Washing hands before meals	94.1	36.3	$\chi^2= 2.083, df= 1, p=0.149$
b) Washing hands after visiting the toilet.	94.1	26.7	$\chi^2= 3.902, df=1, p= 0.079$
c) Using a handkerchief to blow the nose.	88.1	25.9	$\chi^2= 2.268, df= 1, p=0.605$
d) Washing the face.	74.1	57.8	$\chi^2=0. 236, df=1, p=0.627$
e) Brushing teeth	88.9	14.8	$\chi^2= 2.935, df= 1, p=0.087$
f) Collection and proper disposal of litter	86.7	54.8	$\chi^2=0.194, df=1, p= 0.659$
g) Proper use of toilets/ latrines/ urinals	69.6	71.1	$\chi^2=0.580, df= 1, p= 0.446$
Total	595.6	287.4	
Average	85.1	41.1	

From the table above it is evident that there was a significant difference between pupils who said that they had been taught different aspects of Health Education and those who practiced them. The differences were major among those who claimed that they had been taught to wash hands before meals, and after visiting the toilet and to use a handkerchief to blow the nose and those who carried out these practices. The highest difference however, was that of pupils who said that they had been taught to brush their teeth every day and those who did that.

3.4.2 The Perception of Health Education and Health Education practices

Among the standard 5 and 7 pupils, 37.8 % (102/270) had an idea of what Health Education was and 98.9 % (267/270) believed that it was important. However, only 27.4% (74/270) of the pupils practiced what they were taught yet more than 45 % (120/267) of the pupils said that Health Education was important because it helped them practice what they were taught.

Table 5 below shows an outline of what pupils in different classes, different school locations and the two sexes perceived Health Education to be.

Table 6: Standard 5 and 7 Pupils perception of Health Education.

		Number of pupils				
		A	B	C	D	E
CLASS	Class 5	20	16	2	5	92
	Class 7	16	30	12	1	76
GENDER	Male	12	24	5	3	75
	Female	24	22	9	3	93
LOCATION OF SCHOOL	Urban	10	33	6	0	59
	Peri- urban	3	8	4	3	36
	Rural	23	5	4	3	73

Key:

A – Education on cleanliness

B – Education on good health practices

C – Education on prevention of diseases and drug abuse

D – Education on proper diet

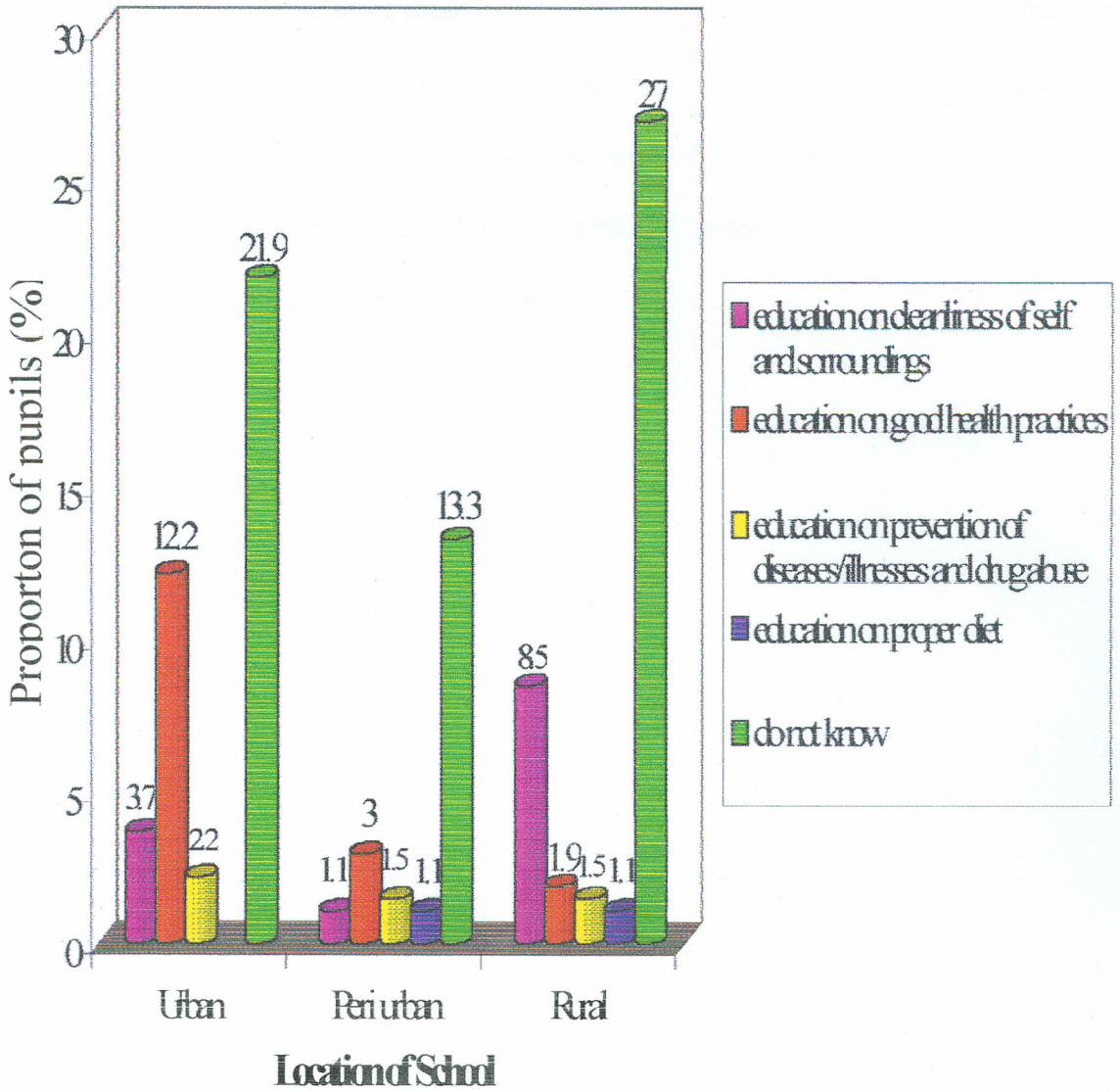
E – Do not know

Class and pupils perception of Health Education: $\chi^2 = 16.039$, $df = 4$, $p = 0.003$. This shows that there was difference between what pupils in standard 5 and 7 perceived Health Education to be. More pupils in standard 7 had an idea of Health Education entailed. However, more standard 5 pupils perceived Health Education to be about cleanliness and eating a proper diet.

Gender and pupils perception of Health Education: $\chi^2 = 3.414$, $df = 4$, $p = 0.491$. More boys had an ideal of what Health Education entailed. However more girls than boys perceived Health Education to be about cleanliness and prevention of diseases. Equal numbers of boys and girls perceived Health education to be about eating a proper diet.

Location of school and pupils perception of Health Education: $\chi^2 = 38.353$, $df = 4$, $p = 0.001$. There was a difference between pupils perception of Health Education in different school locations. Most of the pupils from the three clusters (urban, peri-urban and rural) did not know what Health Education was. The Rural cluster had the highest percentage; 27 % (73/270) of those who did not know, followed by the urban cluster. Among the pupils who had an ideal of what Health Education was, majority said that it was education on good health practices and the highest percentage was from the urban schools and the least from the rural schools. Most of the pupils in the rural areas considered Health Education to be education on cleanliness. However, none of the pupils in the urban schools considered Health Education to be on proper diet. Figure 19 below shows an illustration of the above.

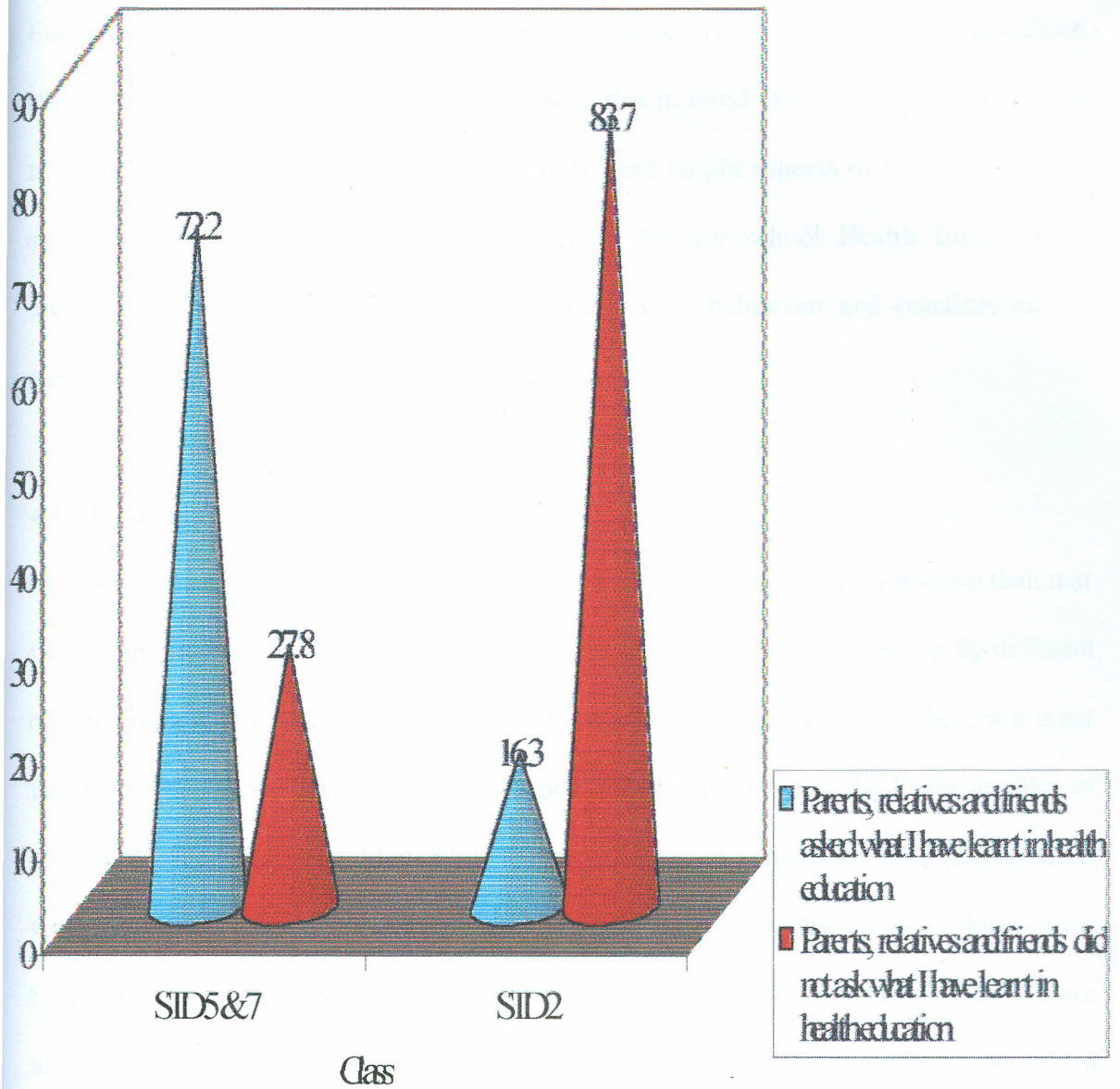
Figure 16 Pupils' perception of Health Education in different school locations



3.4.3 Passing on of knowledge and information learnt in Health Education

Only 47 % (127/270) of the pupils in the upper primary decided or gave suggestions on the foods they ate at home most of them being girls. Those who did not said that their mothers and sisters decided. When pupils were questioned on whether their parents, relatives and friends had asked them what they had learnt in school in Health Education, 16.3 % (22/135) pupils in standard 2 and 72.2 % (99/270) in standard 5 and 7 answered affirmatively. This is illustrated in the figure 18.

17: Proportion of pupils who were asked by parents what they had learnt in Health Education



CHAPTER 4: DISCUSSION

The literature suggests that pupils in primary schools in Kenya should be taught aspects of Health Education. Some of the objectives of the 8-4-4 curriculum of education in Kenya are to enable pupils to grow to strong and healthy people (ROK, 1992). Health Education has been incorporated in the primary school syllabus in Science, Agriculture, Home Science and Physical Education. Its with this in mind that a study was carried out to establish whether pupils in primary schools were taught aspects of Health Education and if they practiced what they were taught. Primary school Health Education is considered a viable intervention in promoting healthy behaviour and practices among pupils leading to better health (Munyiala, 2001).

4.1 Distribution of study subjects

More girls than boys were involved in the study. The number of boys was more than that of girls in standard 2 only. This may be as a result of the campaigns put up by different organizations like FAWE to promote the education of the girl child. Also there is a great possibility that more boys than girls dropped out of school hence the lower number of boys in the higher classes. Meru Central district being an agricultural area (ROK, Meru Central District Development plan, 2001) some boys earn their living by working in the farms. This is more so if their parents are faced with financial problems. Some boys are also involved in hawking snacks around the town while others are street boys, more so in this division because it houses Meru town. There are hardly any girls involved in hawking and only very few are street girls in the town. Girls are employed as house helps although most of them have completed their primary education. The Private schools were

not greatly affected, (Table 2, urban schools, school A) as parents who took their children to such schools in most cases are of the middle and upper classes and their children may not have to work out of home for upkeep.

Only 30 teachers instead of the intended 42 were willing to participate in the study most of them female teachers (table 2). The total number of female teachers in the division was also higher; for instance in one of the zones in the division there were 157 female teachers and 76 male teachers. Most of the male teachers are heads of schools and deputy head teachers (Only 2 primary schools in the division are headed by female teachers). Also more female students than males enroll in the teacher training colleges in the district.

4.2 Health Education curriculum's content

Health Education is mainly taught in Science and Home Science as these are referred to as the "doing subjects" (ROK, MOEST, 2001). In P.E, Health Education is incorporated in the form of physical activity and its included in the timetable for all the classes.

It is clear that Health Education was adequately taught in the lower primary as is indicated in table figure 4. An average of 85.1 % pupils said they had been taught aspects of Health Education as are outlined in the curriculum. This shows that pupils have been accorded knowledge on Health (UNICEF, 2000). Health Education may be adequately covered because it was the first unit in science in standard 1 (the lowest level of primary education). The standard 1 Health Education involves basic hygiene, which starts at home

through the influence of mothers, other family members and the community members (Mcintyre, 1996). However, this was not so for the upper primary school pupils where only 37.8% pupils had an idea of what was entailed in Health Education. This may be because the aim of learning is now focused on passing exams (Kitsao, 1999). The teachers concentrate on teaching other aspects of the syllabus, which are considered difficult as compared to Health Education, which they “perceived that pupils can easily understand and read on their own,” to quote what some teachers said.

Almost all the pupils acknowledged to have been taught to wash their hands before eating and after visiting the toilet. These are some of the practices that start at home and continue in school. Teachers find it important to start teaching the above aspects of health to ensure that they are instilled in the pupils early enough as this will promote the pupils health. Such aspects of health will help curb illnesses for instance diarrhea and related illnesses, which may be brought by using dirty hands (Hawes, 1997). Most of the pupils also said they had been taught to use a handkerchief to blow the nose. Such a practice is meant to help pupils stay neat, not to use their hands to blow the nose hence transferring germs to their hands which the children frequently put in the mouth hence promoting the cycle of illnesses (Nyamwaya and Odoul, 1994). Also by using handkerchiefs, the pupils will reduce the annoying act of “returning the mucus from where it came from” as they put it. A high percentage of pupils were taught to brush their teeth everyday. This would prevent tooth decay, cavities and gum disease (Nyamwaya and Oduol, 1994) that are common among the children because of eating sugary things like biscuits, sweets, soft drinks and cakes. Brushing of teeth will also stop bad breath. Many pupils were taught to

collect and dispose litter in the right places. This was done practically in most cases with the teachers or prefects directing the pupils on what to do. The pupils in the lower primary school were the ones involved in collection of litter while the older pupils cleaned classrooms. The least percentage of pupils in the lower primary said they had been taught to use the toilets, latrines or urinals well and teachers may not have found it important to teach this in class since it was not an issue of concern.

Majority of the pupils did not know what Health Education was (Figure 6). This is because when the content is introduced, it is taught as a unit in Science and Home Science and as part of other units in Agriculture. This makes the pupils not to differentiate between Health Education and the content in the other units in the different subjects. Of the pupils who had an idea of what Health Education was, most of them said it was education on good health practices, which include washing hands before eating and after visiting the toilet. The pupils learnt these common hygiene practices at home before enrolling in school and after enrolling in school. Other pupils considered Health Education to be prevention of diseases and of drug abuse. This is because of the belief that one is healthy when not sick or taking drugs.

Almost all the pupils agreed that Health Education was important mainly because it prevented them from falling sick. The pupils believed that if they follow the basic hygiene practices they would not fall sick. However not many of them indicated that Health Education helped them practice what they had learnt in school. This may be due to their perception of a school as a place where they learn, do exams and proceed to the next

level of education. Therefore when majority of the students acknowledged that Health Education was important, their idea of Health Education is what they learn from their homes and family members, not necessarily what they learn in school. Hence, very few pupils acknowledged that it helped them to pass exams.

All teachers agreed that they taught aspects of Health Education as they were outlined in the Science, Agriculture, Home Science and P.E syllabus. They could not avoid teaching Health Education altogether as the students were to be examined in it, being a component of what they were to cover in the syllabus. However, the question most of the teachers asked when they were questioned whether they taught Health Education was “ In which subject is it?” Others still confused it with Home Science or HIV/AIDS. This showed that they considered it just like any other unit and did not lay any emphasis in its delivery.

From the results in Figure 8, it is evident that Health Education was adequately covered (majority of the teachers taught 1 or 2 lessons per week). The curriculum allows for three Science lessons in a week, two Home Science, two Agriculture and 5 and 3 P.E lessons for the upper primary and lower primary classes respectively. The Health Education unit takes around two weeks to cover in each class (ROK, 2001). The teachers may have covered more Health Education lessons because they found them enjoyable to teach and relating to the daily issues which affected them and the pupils. Also, in subjects like Home Science and P.E, the teachers interpreted the whole subject as Health Education instead of the specific units.

Half of the teachers interviewed agreed that there were recommended textbooks for Health Education. The Kenya Institute of Education, K.I.E, had a list of textbooks, which they had recommended for the different subjects. The teachers who indicated that there were none expected specific books only on Health Education. Such teachers used any book they found important and rich in the content they wanted, for example “where there is no doctor and lets talk about Aids”. The texts produced and recommended by K.I.E to be used other than the specific subject texts were on HIV and AIDS. The teachers may have failed to know the recommended books because of poor communication from the Ministry of Education and K.I.E to the schools. However, even though there was effective communication, the schools may have been unable to purchase the required books especially the public schools, which were faced with financial problems (ROK, 2001).

There was little done to ensure that teachers were updated in Health Education issues. The Ministry of Education and other education stakeholders were not involved in ensuring teachers were updated in Health Education issues. Teachers had not gone for any in-service training as far as Health Education was concerned and only a few had gone for seminars, most of who had gone on their own initiative. This may be because Health Education was taken as part of other subjects and no emphasis was placed on it alone. This does not support literature, which suggests that teachers from countries such as Botswana and Uganda attend workshops on family life education and trainings, which equip them on health promotion in schools (McIntre 1996).

The common teaching aids used in Health Education were the “real materials”. These were displayed at the back of the classrooms in the lower primary classes. They were placed there as part of creativity and “nature corner” not necessarily to enhance Health Education. Charts were also popular although they were relatively few compared to those in other subjects and units. Charts on languages prevailed showing where emphasis was. None of the teachers interviewed used imitation of real materials to enhance teaching. Time and money are usually required to prepare them and teachers were very demotivated to work after the government failed to improve their terms of service, (this happened during the study). They therefore did not feel the need to go an extra mile for the pupils and they mostly used textbooks as teaching aids. Also most of the schools had a tight budget and spending a little more on Health Education teaching aids was out of question. The schools also had other priorities especially in the “difficult subjects like Mathematics” geared to ensure that pupils perform well in the final exams. Teachers may have had difficulties too on how to teach some aspects of Health Education by use of charts or imitation of real materials. For example, washing hands before eating and after visiting the toilet and using a handkerchief to blow the nose. Teachers also perceived that pupils can carry out these health aspects when asked to do so and teaching aids like charts are not important. In Ethiopia, radio broadcasts on health promotion are aired in addition to teaching Health Education in schools (AMREF, 1988). Zambia too has an integrated approach to Health Education. Health talks are held everyday in schools and daily health inspections carried out (McIntre, 1996).

English language was used by most of the teachers. This is because the Health Education textbooks and the syllabus are written in English. The teachers therefore read and wrote what was written then translated it to the pupils either in Kimeru or Kiswahili. In the rural schools, most of the pupils in the lower primary classes communicated in Kimeru and understood it better than the other languages. Kiswahili was used in addition to the English language in the urban schools as it was the most popular and the teachers used it to expound on what was written in English. The three languages were used in the peri-urban schools to cater for all the pupils. Majority of the teachers were from the community, therefore they did not have a problem in delivering the Health Education content in Kimeru.

4.3 Pupils' health practices

Very few pupils practiced what they were taught. For instance, only a small percentage of the pupils brushed their teeth everyday, most of who were from the rural schools. These pupils used chewing sticks or charcoal to brush their teeth as they walked to school in the morning because this is when they had the opportunity to do so (Nyamwaya and Oduol, 1994). This was not so in the urban schools where most of the pupils were taken to school (vehicles) and for those who walk to school, there were hardly any bushes along the way. If there were, the pupils do not know the ones that can be used as chewing sticks or if they do then they (bushes) are dirty due to dust and other pollutants. Most of the pupils in the urban and peri-urban schools said that one should use a toothbrush and toothpaste to brush the teeth. These were however not always available and the pupils opted not to brush their teeth. Other pupils linked tooth decays and cavities to eating sugary things

and not to brushing teeth. Most of the times the consequences of not brushing teeth are not immediate and this may have led to laxity to do so.

Most of the pupils did not take boiled water as its illustrated on table 3, because it was sweeter when not boiled. In the study area, people believed that water lost its taste after it was boiled. The consequences of drinking water that is not boiled (which are not immediate) are pushed at the back of the mind and what matters then is to take “good tasting water”. Other pupils considered that unboiled water was safe because it was rainwater, even though the containers it was harvested in were dirty. Water from the wells was considered to be safe because many generations had been taking it for a long time “without falling sick” and it was from underground, pure, cold and had a good taste.

Only a small percentage of the pupils washed their hands before eating and after visiting the toilet especially in the rural and peri-urban schools. In one of the rural schools, there was no source of water in the school compound although a stream passed near by. However, the pupils were not allowed to go there apart from on Friday afternoons when they went to fetch water for cleaning the classrooms. In the other rural school, there was piped water at only one point in addition to a storage tank. The stored water was for drinking and the pupils were not allowed to use the piped water to wash their hands as they would “waste it”. In the peri-urban school water was available but the source was behind the classrooms while the toilets were some distance on the front side of the classrooms and playing field. This did not promote washing hands because the pupils found it difficult to go wash hands especially if they wanted to hurry to class or go to the

field. The situation was different in the urban schools where the water source was in the sanitation block in two of the schools and outside the classrooms in the other school and this promoted washing hands. Literature suggests that the best health resources a school can provide are adequate clean toilets/ latrines, clean drinking water and water for washing hands. When these are lacking or are in adequate its possible to improve the hygiene practices by ensuring that the simplest and safest rules are made and children made to follow them (Hawes, 1997).

A high percentage of pupils used the toilets, latrines and urinals well. This may be as a result of fear of intimidation from other pupils or punishment from the teachers. Finding out the pupil who had messed the toilets would have been easy because the pupils usually went to the toilets in groups especially during break time.

Not many pupils used or had handkerchiefs. They had several reasons on what they did when they felt the need to blow the nose, some used their jerseys, hands and others "returned the mucus from where it came from." The pupils did not have the handkerchiefs because the teachers did not question them especially if the pupils did not have running noses near the teachers.

The pupils collected and disposed litter in the pits or bins. This was more so among the pupils on the lower classes who did this as part of their cleaning exercise while the older pupils cleaned the classrooms. The curriculum expects the pupils to collect litter and dispose it well.

Many pupils did not practice what they were taught because they did not remember to do so. For instance, some forgot to brush their teeth in the morning while others forgot to wash their hands after visiting the toilet. The pupils too said that their parents lacked money to buy the required materials. A large population of the division are subsistence farmers. The farm products do badly in the market sometimes hence very little income for the parents to purchase items like toothbrushes, toothpaste and soap. Parents did not ask the pupils to practice what the teachers had taught and this left the entire burden to teachers and schools (Hahn and Payne, 1997). The parents felt that since the teachers were paid to teach and are with the pupils most of the time, they should ensure the pupils learnt and did what they taught. On the other hand, the teachers expected a helping hand from the parents as far as implementing what was taught. This left the pupils with no one to guide them.

The lifestyle in the urban areas may have enabled many pupils to practice what they were taught than their rural and peri-urban counterparts. In the rural areas pupils have more house hold and farm duties and may not have time at their disposal to carry out what they were taught. Also most of the rural folk do not carry out some of the health practices like bathing as this is done when one is going out of the home. However, in the urban areas most of the people work out of home and they clean themselves before leaving and the pupils emulate this.

The pupils did not practice what they were taught because they did not find it important to do so. Their main aim of learning is to pass exams (Kitsao, 1999). They knew the Health Education content and if asked in an examination they would answer correctly. The consequences of not doing what they have been taught are not immediate too, for instance if one does not brush their teeth, they do not get a cavity or tooth decay then therefore they can brush their teeth another day. The pupils also argued that others had not been practicing certain aspects of health yet they had never fallen sick.

The pupils in the urban areas were not involved in the cleaning of toilets, latrines or urinals as the schools had employed a cleaner. Parents in such schools pay extra money for such activities. If this was introduced in the peri-urban and rural schools, then many pupils would be forced to drop out of school because their parents are already faced with financial problems for instance, purchasing uniform. The parents would also object to employing someone to clean the classrooms and the toilets because they find their children capable of doing the cleaning. Some of the pupils said that they were not involved in the cleaning of the classrooms because other pupils did it. Others who did not do the cleaning were either school prefects, with other responsibilities or they had health problems like asthma, hence were excused from carrying out the cleaning activities.

More girls than boys practiced different aspects of Health Education. This is as result of a stereotype in the community that expects the girls to be neat and to carry out cleaning and other household duties. Boys on the other hand are excused for being untidy and for not carrying out household duties. This is why in the study more girls than boys had

handkerchiefs, brushed their teeth, used toilets and latrines well and collected and disposed litter in the right places. When it came to cleaning the classrooms, the boys fetched water while the girls wiped the floors.

4.4 Relationship between what pupils were taught in Health Education and what they practiced.

All the teachers agreed that teaching Health Education enhanced the pupils' health practices. The teachers were expected to teach the Health Education content as it was outlined in the curriculum with the objective of enabling the pupils to show through practice and discussion that they have understood principles of hygiene (ROK, 2001). However, most of the teachers said that the pupils did not practice what they were taught because their parents could not afford some of the materials needed. The curriculum allows the teachers and pupils to substitute and construct the materials they do not have (ROK, 2001), but this was hardly done. There was a common belief that what was indicated in the textbooks was to be followed fully. Therefore, if the pupils did not have toothpaste and toothbrushes they opted not to brush their teeth than use a chewing stick, which can be used as a substitute (Nyamwaya and Oduol, 1994). The teachers also indicated that the pupils failed to practice what they were taught because they were not punished for failing to carry out the health practices. Corporal punishment was banned in all Kenyan schools; before then it instilled fear in pupils and they did what the teachers asked them to do. However, making the pupils understand why they are taught different aspects of health can be more beneficial because the pupils will carry out the practices for their own good and not to please the teachers.

More pupils in standard 2 acknowledged that they had learnt different aspects of Health Education than those who practiced what they were taught. There was a statistical difference between what pupils had learnt and what they practiced. This implies that the Health Education curriculum content was well covered. The objective of the curriculum that was to enable pupils to show through practice and discussion that they have understood the principles of hygiene (ROK, 2001) was however not achieved.

The pupils were taught that they should clean their classrooms, toilets, latrines and urinals. However, in the urban schools, workers were employed to do the cleaning and in schools where the pupils carried out the cleaning, the procedures they used were different from those learnt in class. This changes the concept of Health Education from practical to theory.

The pupils were expected to pass the information they learnt in school to their family and community members. This way they would act as agents of health promotion (McIntyre, 1996 and Salazar, 1995). In school, pupils were taught about good nutrition among other health aspects. However, from the study, only a few pupils decided or gave suggestions of the foods they ate at home. Their mothers and sisters decided on the foods and carried out the cookery. This is because of the stereotype in the community that dictates that women should do household chores. Young girls are not involved in cookery especially if they have older sisters or house helps. Therefore, although the pupils have learnt

important aspects in nutrition, they end up not being useful and the family members may eat unhealthily even when the solution is near by.

Schools should serve as avenues where what is learnt reaches the pupils' parents and the community at large (Young and Durston, 1999). However, from the study, parents, relatives and friends of the pupils in the lower classes did not find out what the pupils had learnt in school in Health Education and the pupils did not inform them either. This may be because the parents and relatives are illiterate and felt that the content the pupils learnt in school is beyond what they can understand. They may also have thought that it was the teachers' duty to deal with all what went on in school and what they required from pupils were good grades as the pupils confessed. The parents too perceived that what the pupils learnt in schools is for their benefit not the parents'.

The results of this study support literature which suggests that integrating Health Education in the school curriculum does not guarantee that young people are taught to think and act critically (UNICEF, 1996). Therefore the examination-oriented approach to education should be revised to avoid rote learning without understanding.

CHAPTER 5: A SUMMARY OF CONCLUSIONS.

Regarding teaching Health Education, results of the study show that;

- a) All the teachers in the urban, peri- urban and rural schools taught aspects of Health Education as they were outlined in the curriculum.
- b) Forty percent of the teachers followed what was wholly in the syllabus when teaching while the rest taught what they found to be important to the pupils.
- c) All the teachers agreed that teaching aspects of Health Education enhanced the pupils' health practices.
- d) Half of the teachers interviewed said that there were no recommended textbooks to teach Health Education.
- e) Eighty five percent of the pupils in the lower classes acknowledged having been taught aspects of Health Education outlined in the curriculum.
- f) About 98 % of the pupils in standard five and seven said that Health Education was important but only 37.8 % of them could outline what Health Education was.
- g) Majority of the pupils in the rural schools assumed Health Education to be about cleanliness while in the urban and peri- urban schools most of the pupils said it was education on good health practices.
- h) Most of the pupils who did not know what was entailed in Health Education were from the rural school. This was statistically significant ($\chi^2= 38.353$ df = 8, $p=0.001$)
- i) More boys than girls knew what was entailed in Health Education. ($\chi^2=3.414$, df=4, $p= 0.491$)

Regarding pupils' practices, the findings indicate that;

- j) Forty one % and 27.4 % of the pupils in the lower primary and upper primary classes respectively displayed health related practices.
- k) Sixteen percent teachers agreed that pupils practiced what they were taught in Health Education.
- l) About teaching other children aspects of Health they had learnt in school, 40 % of the pupils had taught on cleanliness, cooking and eating healthy foods, ways of disease prevention and participation in physical activities.
- m) Approximately 45 % of the pupils did not practice what they were taught due to financial problems. While in standard two only, 92.6 % of the pupils did not practice what they were taught because they forgot to do so.
- n) More girls than boys displayed health related practices ($\chi^2=2.381$, $df= 1$, $p= 0.123$)
- o) More pupils in standard 7 practiced what they were taught than those in standard 5 and this was statistically significant

Regarding the relationship between what was taught and practiced, findings show;

- p) The pupils had learnt what was indicated in the Health Education curriculum but they did not practice it.
- q) All the teachers acknowledged that teaching Health Education enhanced the pupils' practices but only 16 % agreed that the pupils practiced what they were taught.
- r) About 44 % of the pupils had been asked by their parents, friends and relatives what they had learnt in school in Health Education.
- s) There was a significant difference between what pupils were taught in Health Education and the health practices they displayed.

CHAPTER 6: RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE

RESEARCH WORK.

6.1 Recommendations

- a) All the education stakeholders should come together and work out ways of ensuring that education is not examination and theory based. Health Education can still be incorporated in other subjects, but the teachers and other education stakeholders should emphasize its importance.
- b) Teaching should be made more interesting by involving pupils and different teaching methods. For instance, games (snakes and ladders), figure 2 can be used and the pupils can come up with others. The teachers should also teach using the locally available materials and offer substitutes. Actions too, should be put in place to ensure that teachers are updated in health issues through seminars, training and provision of Health Education materials.
- c) Teachers should not only pass the Health Education information to pupils but also offer an explanation why it is important to practice such health aspects. Good examples should also be set, for instance if the curriculum gives suggestions on ways of carrying out different activities, these should be followed. The schools that had one source of water can use it by asking pupils to fetch it in containers, which are then placed at strategic positions.

- d) The curriculum developers should involve all education stakeholders when developing it. This way they will tackle the community's needs and everyone will feel it is their duty and not only that of teachers to promote Health Education. They should also include health aspects that are a burden to the community. For instance diseases such as acute respiratory infections (ARI) and malaria are a community concern but are not addressed in the curriculum.
- e) Schools should act as avenues of health promotion through setting good examples. For instance if the curriculum expects the pupils to learn how to clean classrooms and toilets, then they should be given the chance to do so. The teachers should also ensure that the pupils carry out the correct procedures.
- f) Teachers need motivation. The government should improve the teachers' terms of service. During the study, teachers gave their sentiments that if this was done, they would improve their service delivery.
- g) Parents should take more responsibility and help in health promotion. They should find out what pupils learn in school and ensure that it is translated to health practices both in school and at home.
- h) The curriculum should be revised so that it addresses all the aspects of health. The current curriculum focuses more on Environmental health.

6.2 Suggestions for further research

- a) This study did not involve pupils with special needs especially those in the integrated schools, a study can be done for comparison with this one.
- b) A study on the pupils' health practices in the community and at home can be carried out and linked to what they are taught in school. This study mainly dealt with the health practices at school.
- c) A study can be carried out to find out the parents and communities view on Health Education and their role in its design and implementation.
- d) An assessment of the community health needs and the schools' role.

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APPENDICES

APPENDIX 1: RESEARCH INSTRUMENTS

a) Questionnaire for standard 7 pupils and Interview Questions for standard 5 pupils

Introduction

- The purpose of this study is to find out if there is a relationship between what is in the primary school curriculum on Health Education and the pupils' health practices.
- The goal can be achieved if you contribute to it by giving the information asked and also by giving honest answers.
- The information you give will be kept confidential and will be used for the purpose of the study only with no follow up or punishment. You do not need to write your name on this questionnaire.
- Please tick the appropriate answer or fill in the blank spaces.

Pupils' Demographic information

1. In which class are you?
2. How old are you?
3. Your Gender a)Male() b)Female()
4. Location of the school a) Urban() b) Peri-urban() c) Rural ()

Practices Assessment

5. What do you think Health Education is?

6. Is Health Education important?

a) Yes () b)No()

7. If yes, why do you think it is important? (You can tick more than one answer).
- It helps me not get sick()
 - It helps me practice the things I have been taught in school ()
 - It will help me pass exams()
8. Are there some practices you have learnt in school in Health Education that you have taught others ?
- Yes()
 - No ()
9. If yes, list some of them. (Not more than five).
10. Do you practice **ALL** the things you are taught in school in Health Education?
- Yes ()
 - No ()
11. If not all, what reason/s make you not to practice them?
(You can tick more than one answer)
- I do not find it important to practice them()
 - The teachers do not tell us to practice them ()
 - My parents do not have the money to buy what is required to practice them ()
 - Teachers do not practice them also ()
12. Have you ever been involved in the cleaning of toilets, urinals or/and latrines in school?
- Yes()
 - No()
13. If yes, how often in a term?
- Daily()
 - Once a week()
 - Twice a week()
 - Once a month()
 - Once a Term()
14. If no, why?
- Someone is employed to clean them ()
 - Other pupils clean them ()
 - They are never cleaned ()

15. How often do you clean your classroom using water or have you ever cleaned it in a term?

- a) Every day() b) Once a week() c) Twice a week()
 d) Once a term () e) Never ()

16. If never, why?

- a) Someone is employed to clean it () b) Other pupils do the cleaning()
 c) There is no water to clean () d) The floor is earthen ()

17. If the floor is earthen, how often do you sweep it in a term?

- a) Everyday () b) Once a week () c) Around twice a week ()
 d) Once a term () e) Around twice a term () f) Never ()

18. When do you wash your hands? (You can tick more than one answer)

- a) After visiting the toilet () b) Before meals () c) After shaking hands ()
 d) When I remember () e) After touching dirty substances () f) Never ()

19. Do you **always** boil water before drinking?

- a) Yes() b) No()

20. If no, why?

- a) It does not have germs ()
 b) It is treated with chlorine ()
 c) It is sweeter when not boiled()
 d) The teachers have not told us to be boiling it ()
 e) There is no fuel to boil it ()
 f) My parent/s do not say that it should be boiled ()

21. Do you decide or give suggestions on the foods you eat at home?

- a) Yes() b) No()

22. If no, why ?

- a) It is my mother and/or sisters who decide ()
 b) The teachers have not told us to do so ()

23. Do your parents, relatives and friends ask you what you have learnt in school about good Health?

- a) Yes () b) No ()

24. How often have you brushed your teeth in the past one-month?

- a) Every day () b) Once a week () c) Around twice a week ()
 d) Once () e) More than twice a week () f) I cannot remember ()
 g) No time ()

25. If No Time, why?

- a) I do not have a toothbrush and/ or toothpaste ()
 b) The teachers have not told us to brush our teeth ()
 c) I never remember ()
 d) Am usually busy ()
 e) It is not important as my teeth are healthy ()

26. How often have you bathed the whole body in the past one month?

- a) Every day () b) Once a week () c) Around twice a week ()
 d) When I remember () e) Once () f) No Time ()

27. If No Time, why ?

- a) Water is not always available ()
 b) The teachers have not told us to bathe ()
 c) I never remember ()
 d) I am usually busy ()
 e) I am not dirty ()

28. What do you use to cut your fingernails?

- a) Razor Blade () b) Teeth () c) Nail cutter () d) Knife ()

29. What is First aid?

30. Have you ever given first aid to anyone ?

- a) Yes () b) No ()

31. If yes, on what and to whom?

32. If no, why ?

- a) I do not know how to do it ()
- b) The teachers have not taught us how to do it ()
- c) I do not have the materials required to do it ()

33. Which of the following Illnesses/ Diseases have you had during the

last One-Month?

- a) Diarrhoea () b) Typhoid () c) Malaria() d) Cholera()
- e) Skin rash () f) Stomachache ()

THE END. THANKYOU VERY MUCH

b) Observation Checklist for standard 5 and 7 pupils

Activity	Yes	No
34. Wash hands after visiting the toilet		
35. Disposes rubbish in rubbish pits		
36. Participates in Physical Education		

c) Interview Questions for the standard 2 Pupils

Introduction

- The purpose of this study is to find out if there is a relationship between what is in the primary school curriculum on Health Education and the pupils' good health practices.
- The goal can be achieved if you contribute to it by giving the information asked and also by giving honest answers.
- The information you give will be kept confidential and will be used for the purpose of the study only with no follow up or punishment. Your name does not need to be written on this questionnaire.

Demographic Information

41. How old are you?

42. In which class are you?

43. Gender a) Male() b)Female()

44. Location of your school a) Urban () b) Peri- urban () c) Rural ()

Assessment on the Pupils Health Practices

45. What have you learnt in school about good Health?

- a) Washing hands before eating()
- b) Washing hands after visiting the toilet ()
- c) Using a clean handkerchief to blow the nose ()
- d) Washing the face and head ()
- e) Brushing teeth ()
- f) Collection and proper disposal of litter ()
- g) Proper use of toilets, latrines and/or urinals ()

46. Which of the following do you practice everyday?

- a) Washing hands before eating ()
- b) Washing hands after visiting the toilet ()
- c) Using a handkerchief to blow the nose ()

- d) Washing the face and head ()
- e) Brushing teeth ()
- f) Collection and proper disposal of litter ()
- g) Proper use of toilets, latrines and/or urinals ()

47. Which of the following don't you practice everyday?

- a) Washing hands before eating()
- b) Washing hands after visiting the toilet ()
- c) Using a handkerchief to blow the nose ()
- d) Washing the face and head ()
- e) Brushing teeth ()
- f) Collection and proper disposal of litter ()
- g) Proper use of toilets, latrines and/or urinals ()

48. Why is it that you do not practice them everyday?

- a) They are not important ()
- b) The teacher/ s do/does not tell us to practice them ()
- c) Lack of money to buy materials needed to practice them ()
- d) I never remember to practice them()
- e) My parents do not ask me to practice what the teachers teach ()

49. Do your parents, relatives and friends ask you what you have learnt in school about good Health?

- a) Yes () b) No ()

50. Which of the following Illnesses/ Diseases have you had during the last One-Month?

- a) Diarrhoea () b) Malaria() c) Skin rash () d) Stomachache ()

THE END THANKYOU VERY MUCH.

d) Observation Checklist for Standard 2 Pupils

<i>Activity</i>	<i>Yes</i>	<i>No</i>
51. Washes hands after visiting the toilet		
52. Disposes rubbish in the right places		
53. Participates in physical Education		

e) Teacher's Questionnaire.

Introduction

- The purpose of this study is to find out if there is a relationship between what is in the primary school curriculum on Health Education and the pupils' good health practices.
- The goal can be achieved if you contribute to it by giving the information asked and also by giving honest answers.
- The information you give will be kept confidential and will be used for the purpose of the study only with no follow up or punishment. You do not need to write your name on this questionnaire.
- Please tick the appropriate answer or fill in the blank spaces.

Teachers' Demographic Information

58. Which class/classes do you teach?
59. For how long have you been a teacher?
60. Which subject/ subjects do you actually teach?
61. Location of the school
- a) Urban () b) Peri-urban () c) Rural ()
62. What is your professional qualification?
- a) P1() b) P2() c) P3() d) S1() e) Graduate()
- f) Untrained Teacher()
63. Your age?
- a) 17-20 () b) 21-24 () c) 25-30 () d) 31-39 ()
- e) 40-49 () f) 50-55 () g) Over 55 ()
64. Gender?
- a) Male() b) Female()

Assessment on the Primary School Curriculum.

65. Do you teach any aspects of Health Education as indicated in the Science, Home Science, Agriculture and P.E Syllabus?
- a) Yes () b) No()
66. If yes, how many lessons does it take to cover Health Education per class in a Year/ Term or Week?
67. If no, why ?
- a) Health Education is not important ()
- b) The pupils can read it on their own ()
- c) There are no resources to teach it ()
68. Do you follow what is wholly in the syllabus when teaching Health Education?
- a) Yes() b)No()
69. If no, how do you decide on what to teach in Health Education?
- a) What I find is important for the pupils ()
- b) What the pupils suggest ()
- c) What the parents suggest should be taught ()
70. Are there any recommended text books to teach Health Education ?
- a) Yes() b)No()
71. If Yes, which ones?
72. Which ones do you use to teach Health Education ?
(List it/them starting with the one you mostly use).
73. Do you use any Teaching Aids to teach Health Education?
- a) Yes() b) No ()

74. If yes, which ones?

- a) Charts () b) The real materials () c) Imitations of the real materials ()

75. If no, Why?

- a) They are not available () b) They are expensive () c) The pupils can understand the content without them () d) Time is limited ()

76. Are there any Instructions given on how to teach Health Education?

- a) Yes() b) No()

77. Are there any actions to ensure that the teachers are updated in Health Education issues?

- a) Yes() b) No ()

78. If Yes, Which ones ?

- a) Seminars ()
b) Going for re-training ()
c) Books and articles on Health Education ()

79. Which Language/s do you use to teach Health Education?

- a) English() b) Kiswahili() c) Kimeru()

Assessment on the pupils' Practices

80. Do you think that increased teaching of Health Education enhances the pupils' Health practices?

- a) Yes () b) No().

81. Do the pupils practice all what they are taught in Health Education?

- a) Yes() b) No()

82. If no, what reason/s makes it not possible for the pupils to practice what they are taught?

- a) They do not find it important ()
b) We do not punish them for not doing so ()
c) They do not have money to buy the materials needed ()

83. Do the pupils carry out any practical on Health Education in School?

- a) Yes() b) No()

84. If yes, how often in a term ?

- a) Every day() b) Once a week() c) Around twice a week()
d) Once a month() e) Once a term()

85. Do you do a follow-up to establish if the pupils are practicing what they are taught in Health Education?

- a) Yes() b) No()

86. Are parents usually involved in enhancing Health Education?

- a) Yes() b) No()

87. If Yes, how ?

88. If no, why?

- a) They are not asked to do so ()
b) They do not know any Health Education ()
c) It is the teachers duty ()

APPENDIX 2: ETHICAL CLEARANCE DOCUMENTS

a)

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

ams: "EDUCATION", Nairobi

one: Nairobi 334411

replying please quote

to: MOEST 13/001/32C 136/2
and dateJOGOO HOUSE "B"
HARAMBEE AVENUE
P.O. Box 30040
NAIROBI

30th July....., 20...02

Caroline Nkatha Kinoti
Kenyatta University
P.O. BOX 43844
NAIROBI

Dear Madam

RE: RESEARCH AUTHORISATION

Following your application for authority to conduct research on 'Pupils Health practices in relation to the Primary School Health Education Curriculum in Miriga Mieru West Division, Meru Central District I am pleased to inform you that you have been authorised to conduct research in Meru Central District for a period ending 30th August, 2003.

You are advised to report to the District Commissioner and the District Education Officer, Meru Central District before embarking on your research project.

You are further expected to deposit two copies of your research findings to this Office upon completion of your study.

Yours faithfully

A handwritten signature in dark ink, appearing to read 'A. G. Kaaria'.

A. G. KAARIA
FOR: PERMANENT SECRETARY/EDUCATIONCC
The District Commissioner
Meru CentralThe District Education Officer
Meru Central

b)

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

ELIMU", Meru
Meru 30833
please quote



DISTRICT EDUCATION OFFICE
P.O. Box 61
MERU CENTRAL

..... 20.....

12TH SEPTEMBER, 02

ERU/EDU/11/16/22

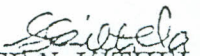
CAROLINE NKATHA KINOTI,
KENYATTA UNIVERSITY,
P.O. BOX 43844,
NAIROBI.

Dear Madam,

RE: RESEARCH AUTHORISATION

Reference is made to letter Ref: MOEST 13/01/32C 136/2 dated 30th July, 2002 by which the Permanent Secretary Ministry of Education, Science & Technology authorised you to conduct research in school Health Education Curriculum within Mirigamieru West Division in this district.

You have been cleared to pursue the same and by this letter, headteachers of schools in Mirigamieru West Division are requested to accord you the necessary assistance.


JOYCE N. KITHELA (MRS)
DISTRICT EDUCATION OFFICER,
MERU CENTRAL

C.
The Permanent Secretary,
Ministry of Education,
P.O. Box 30040,
NAIROBI.

The District Commissioner,
MERU CENTRAL.

The Area Education Officer,
MIRIGAMIERU WEST

**APPENDIX 3: PLATES SHOWING ASPECTS OF HEALTH OBSERVED
DURING THE STUDY**



PLATE 1: Water point situated in front of the classes hence promoting washing of hands



PLATE 2: Water source situated outside the school compound not promoting washing of hands

APPENDIX 4: ABSTRACTS FOR CONFERENCES/ WORKSHOPS/ SEMINARS.**Pupils' health practices in relation to the Health Education curriculum in Meru****Central District, Kenya.**

Kinoti, C. N., Orago, A. S. S. and Okelo, R. O.

Paper to be presented at the Department of zoology conference to be held at Kenyatta University in August, 2003.**ABSTRACT**

Health education is taught in the Kenyan primary schools in Science, Agriculture, Home Science and Physical education. Some of the topics covered are; personal hygiene, environmental sanitation, safety, nutrition, first aid, health hazards, common ailments, poisonous substances, medicines and drugs. A cross sectional study was carried out in Miriga Mieru West Division of Meru Central District among the standard 2, 5, 7 pupils and teachers who taught Science, Home Science, Agriculture and Physical Education. Data was collected using pre-tested questionnaires, interviews and observational checklists. Results of the study indicate that 85 % (n=135) of pupils acknowledged to have learnt aspects of Health Education as are stipulated in the curriculum and 98.9 % (n=270) agreed that Health Education was important. Only 41.1 % (n=135) and 27.4 % (n=270) of the pupils in the lower and upper primary classes respectively practiced what they were taught. All the teachers taught aspects of Health Education and agreed that teaching Health Education enhanced the pupils' health practices, however only 16 % of the teachers said that pupils practiced what they were taught. It is evident that Health Education was taught but not well implemented.

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