

Effects of child under nourishment on the academic performance....

June, 2015

Running head: Effects of Child under Nourishment on the Academic Performance...

Assessment on the Effects of Child Undernourishment on the Academic Performance of Students
in Governmental Primary School: The Case of “*Atselibnedingel*” Governmental Primary School
in Addis Ababa

Beimnet Sisay

A Thesis Submitted to the Graduate Studies of Addis Ababa University

In partial Fulfillment of the Requirements for the Degree of Masters in Social Work (MSW)

Addis Ababa University

School of Social Work

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Addis Ababa, Ethiopia

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Advisor: Mengistu Legesse (PhD.)

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Addis Ababa, Ethiopia

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This is to certify that the thesis prepared by Beimnet Sisay entitled: Assessment on the Effects of Child Undernourishment on the Academic Performance of Students in Governmental Primary School: Submitted in partial fulfillment of the requirements for the degree of master of social work complies with the regulation of the university and meets the accepted standards with respect to originality and quality.

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Acronyms

BMI Body Mass Index

CDC Centers for Disease Control and Prevention

DR Democratic Republic

FAO Food and Agriculture Organization

IQ Intelligence Quotient

NASW National Association of Social Workers

UNICEF United Nations Children’s Fund

USC University of South California

WHO World Health Organization

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ABSTRACT

The development of a nation is closely interlinked with the education level and nutritional status of its population. Various studies have provided evidence of the importance of proper nutrition to the cognitive development of an individual which also affects their educational achievements. This thesis assessed the effects of undernourishment on the academic performance of “*Atse libnedingel*” governmental primary school students, in Addis Ababa, “*Kechene*” slum and the factors of undernourishment. Methodologically, the research is informed by qualitative case study approach. The study was undertaken utilizing an in-depth interview and document review. Thirteen students from 12-18 age intervals were purposively selected and additionally six teachers and school principals were interviewed.

Information of the academic performances was extracted from the students’ report cards, teachers’ evaluation of the students, their class activities, study habit, attention and memory in the class and by their interaction with their peers and teachers. Major findings in this study are, the undernourishment of the students was significantly related with income and occupation of the parent, household size and sex of the household head and undernourishment of the students shows an effect on their score and grade, memory and attention, interaction with their teachers and peers and on their school activities.

Improving the socio-economic status of the parents and school feeding program will lend a helping hand in the academic performance of the students. Since good nutrition is associated with better academic and intellectual performance it must be emphasized.

CHAPTER ONE

Introduction

1.1. Background of the study

School age is the active growing phase of childhood. Primary school age is a dynamic period of physical growth as well as the mental development of the child. Research indicates that health problems due to miserable nutritional status in primary school- age children are among the most causes of low school enrolment, high absenteeism, early dropout and unsatisfactory class room performance. Under nutrition in childhood was and is one of the reasons behind the high child mortality rates observed in developing countries. Chronic under nutrition in childhood is linked to slower cognitive development and serious health impairments later in life that reduce the quality of life of individuals. Nutritional status is an important index of this quality. In this respect, understanding the nutritional status of children has far- reaching implications for the better development of future generations (Srivastava & Mahmood, 2012).

A report released by World Food Programme (WFP) in 2013 showed that one of every five children aged less than 5 years in low-income, developing countries is malnourished. Globally, under nutrition is associated with more than one-third of all deaths in this age group. 28% of all child mortality in Ethiopia is associated with under nutrition. 16% of all repetitions in primary school are associated with stunting. Stunted children achieve 1.1 years less in school education. Child mortality associated with under nutrition has reduced Ethiopia's workforce by 8%. 67% of the adult population in Ethiopia suffered from stunting as children. The annual costs associated with child under nutrition are estimated at Ethiopian birr (ETB) 55.5 billion, which is

equivalent to 16.5% of GDP. Hence, eliminating stunting in Ethiopia is a necessary step for its growth and transformation.

Malnutrition is a condition that results from eating a diet in which nutrients are not enough or are too much such that it causes health problems. The nutrients involved can include: calories, protein, carbohydrates, vitamins or minerals. It is often used specifically to under nutrition where there is not enough a calorie, proteins or micronutrients; however, it also includes over nutrition. If under nutrition occurs during either pregnancy or before two years of age, it may result in permanent problems on physical and mental development. Extreme undernourishment known as starvation may have symptoms that include: a short height, thin body, very poor energy levels, and swollen legs and abdomen. Undernourishment is most often due to not enough high quality food available to eat. (Roday, 2007)

Undernourished children are likely to get sick, frequently resulting in death. The prevention of stunting in young children would prevent a third of child deaths. Maternal and child under nutrition is the underlying cause of approximately 3 million child deaths a year. The prevention of malnutrition in infants is associated with better mental health in adolescence. Adolescents who were malnourished as two -year-olds show higher levels of anxiety and depression. Under nutrition has serious affect on the child, the family and the development of the country. Further, under nutrition can lead to stunted growth, impaired cognitive and behavior development, poor school performance and lower working capacity and lower income. Under nutrition restrains the society to meet its full potential through loss in productivity, cognitive capacity and through increased cost in health care (UNICEF, 1998).

Nutritional status is a major environmental factor that can affect academic performance of school children. The scientific evidence shows that malnutrition in infants and children is a risk factor in the formal educational system. It is important to include nutrition as a determinant of school performance and achievement. Nutritional status among school children has significant adverse effects on school progress (Pollitt, 1984). Malnourishment in this paper is used in the restricted sense of under-nourishment.

1.2 Statement of the problem

Some studies have been undertaken in line with this current challenge of child malnourishment. Getachew Nibret, (2007) in his study shows factors associated with children's malnutrition in Benshangul- Gumuz, and he studied those factors affecting long- term nutritional status of children under-five years of age and the prevalence of child malnutrition in the study area. Kebede Eticha (2007) assesses the prevalence and determinants of Child Malnutrition in Gimbi district, Oromia region, Ethiopia, and he also studied the various causes of child malnutrition.

FekreWold Haddis (2008), in the other hand has studied the Levels, socio-economic and demographic differentials and determinants of malnutrition among women in Ethiopia. The study reveals that 27.6 percent of the women are malnourished of which 23.1 percent are moderately and 4.5 percent are severely malnourished. Levels were almost two times higher in rural areas than urban areas.

The other available studies in the country have more focused on health and health related issues, Zeleke Alebachew (2007), in his research determines the prevalence and determinants of childhood and adolescent overweight and obesity, from the aspects of public health. Meseret

Yetubie (2008), in her Anthropometric Assessment of Adolescent Malnutrition in Elementary and Secondary Schools of Ambo Town, she identified that 27.5% of adolescents were underweight.

Other researchers also studied related issues outside Ethiopia, Mahgoub, Nnyepi & Bandede (2006) factors affecting prevalence of malnutrition among children under three years of age in Botswana and they evaluate the level of malnutrition and the impact of some socio-economic and demographic factors of households on the nutritional status of children under 3 years of age in Botswana.

Nyathela (2009), also studied the impact of a school feeding programme on nutritional status of primary school children in orange farms, in this study it is found that malnutrition, including under and over nutrition, remains a major problem among primary school children globally.

Generally, the existing studies have shown the extent of malnutrition and its effect on the health of the people. When we see the above mentioned findings, most of them have focused on the prevalence, levels, and factors of malnutrition. Furthermore, most of the studies have been conducted in the rural regions of Ethiopia and outside Ethiopia.

Thus it is observed that there are some gaps in previous studies with regard to showing the present condition of undernourishment in the primary governmental schools of the capital city of Ethiopia, Addis Ababa and its effect on the academic performance of these students. Without deeper understanding of this situation it is difficult to find a solution.

Therefore, this study focused on assessing the effects of undernourishment on the academic performance of primary governmental students of “*Atse libnedingel*” primary governmental school students and the factor for the student’s undernourishment.

1.3. Objective

1.3.1 General objective

The general objective of this study is to assess the effects of child undernourishment in the academic performance of “*Atse libnedingel*” governmental primary students.

1.3.2 Specific objective

- To identify and explore the effect of child undernourishment on their academic performance.
- To assess factors that are contributing for students’ undernourishment in the governmental primary schools.

1.4 Research question

- ✓ What are the effects of undernourishment on the academic performance of primary students in “*Atselibnedingel*” governmental primary school?
- ✓ What are the main factors of child undernourishment in “*Atselibnedingel*” governmental primary school?

1.5 Significance of the study

This study has a tremendous significance

- To make the general public aware about child undernourishment through forwarding timely, tangible and concrete information as to encouraging people to know and contribute to alleviate this problem.
- To notify the government to take in to account this serious issue and to take measure to solve this problem.
- To bring this issue to religious bodies and non-governmental sectors and all concerned parties.
- To provide an input to further and detailed research to be conducted by other interested researchers on this issue in the future.

1.6 Delimitation of the study

The scope of the study is limited to Addis Ababa, Gulele subcity woreda 07; more specifically in “*Atselibnedingel*” governmental primary school. In the light of the objective of this study, only effects related to school performance of the students have been explored deeply and analyzed. Therefore, other effects of undernourishment like psychosocial, economic and health impacts were not considered since it requires a lot of time and resources. Even though the issues of social and health effect of undernourishment has highlighted in the findings of this study it has been discussed because the issue is related with the student’s academic performance. Therefore, being aware of time and resource constraints, it was not part of the study to consider other impacts deeply. This limits the study to only be representative for those students who are in “*Atselibnedingel*” primary school. The ability to generalize these findings to a broader population is not available.

1.7 Limitation of the study

The challenge the researcher faced while doing this study was that a lack of comprehensive studies on the situation of undernourishment in Ethiopia, especially in the urban settings. Thus, the researcher forced to use limited literature reviews done in the condition of Ethiopia.

CHAPTER TWO

Literature Review

2.1 The concept of Nutrition, Malnutrition and under nutrition

Food can be defined as any substance which nourishes the body and is fit to eat. It may be solid or liquid. Food provides the body with materials for providing energy, growth and maintenance and regulating various processes in the body. These materials of which food is made up of termed nutrients. Six nutrients are of importance in nutrition, which are proteins, carbohydrates, fats, vitamins, minerals and water. Nutrients are the chemical substances present in food, which the body needs to carry out its functions. Food is the source of nutrients except vitamin D. Nutrition on the other hand is the combination of process by which the human body receives and utilizes nutrients which are necessary for carrying out various functions and for the growth and renewal of its components (Roday, 2007).

Malnutrition; malnutrition (mal means faulty) is an impairment of health resulting from a deficiency, excess, or imbalance of nutrients in the diet. It includes both under nutrition or deficiency and over nutrition or excessive consumption. Under nutrition refers to a deficiency of calories and/or one or more nutrients in the diet. An undernourished person is underweight. Over nutrition refers to an excess of calories and/or one or more nutrients in the diet. An excess intake of calories results in overweight which can lead to obesity. Child malnutrition occurs when a child's intake of nutrients (fat, protein, vitamins and minerals, etc.) is insufficient to sustain the needs of her body (Roday, 2007).

2.2 Nutritional Status

The nutritional status of an individual is defined as the condition of health as influenced by the utilization of nutrients in the body. The nutritional status of an individual or a community can be assessed by surveying the kind and amount of food being consumed, signs of ill-health or deficiency symptoms if present, height, weight, and other measurements as well as level of nutrients in the blood and excreted in the urine . Nutrition is an environmental factor as it represents access to resources from the environment (i.e., food and water), but in contrast to other environmental resources like medical care, education or experiences, nutrition can directly modify gene structure and mediate the expression of genetic factors by providing the specific molecules that enable genes to exert their potential or targeted effects on brain growth and development. Nutrition can have direct effects on gene expression in brain. Nutrients can act as growth factors (Rosales, Reznick, & Zeisel, 2009).

Abraham Maslow's (1943) hierarchy of needs organizes human needs from basic to sophisticated levels. In order of increasing importance, the clusters of needs include in Maslow's hierarchy are physiological needs, safety needs, belongingness needs and love needs, esteem needs, and the need for self- actualization. Maslow (1943) describes the body's physiological need for food, especially in terms of maintaining homeostasis of water, salt, macronutrients, vitamins, minerals, and temperature with in the blood stream. He elaborates,

“Undoubtedly these physiological needs are the most pre-potent of all needs.... if all the needs are unsatisfied, and the organism is then dominated by the physiological needs, all other needs may become simply non-existent or be pushed in to the backgroundfor consciousness is almost completely preempted by hunger. For the chronically and

extremely hungry man life itself tends to be defined in terms of eating. Anything else will be defined as unimportant” (p.373-374)

2.3. Nutrition and Academic performance

There is a link between proper nutrition and academic achievement. Academic performance depends on what you eat. It is found that students who paid attention to their daily nutrient needs performed academically better in school. Inadequate nutrition negatively influenced intelligence and academic performance. Low levels of protein and iron indicated a correlation with low achievement scores, those with poor nutrition scored lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge, those who did not have breakfast scored lower in tests of speed and accuracy of response on problem-solving, those slightly malnourished showed that their intelligence and performance were affected. Improved nutrition corrected these impairments. Temporary hunger adversely affected attention, interest, and learning (Hodgkin, 2007).

Hunger, whether caused by a skipped meal, an unbalanced meal, or chronic under-nourishment, interferes with concentration at school. The body can't stockpile glucose, the main source of energy from food. Completely dependent upon glucose for energy, the brain is a powerhouse requiring consistent food intake to function properly. This makes the brain sensitive to variations in glucose levels, so just one skipped breakfast can reduce a child's learning ability for morning lessons. Even well-nourished children had trouble solving problems after skipping breakfast (McKnelly, 2015).

Good nutrition is a cornerstone for survival, health and development for current and succeeding generations. Well-nourished children perform better in school, grow into healthy

adults and in turn give their children a better start in life. Undernourished children have lowered resistance to infection; they are more likely to die from common childhood ailments like diarrhea disease and respiratory infections, and for those who survive, frequent illness saps their nutritional status, locking them in to a vicious cycle of recurring sickness and faltering growth. Their plight is largely invisible: three quarters of the children who die from causes related to malnutrition were only mildly or moderately undernourished, showing no outward sign of their vulnerability (Smith & Lawrence, 2000).

The pattern of malnutrition in Africa is quiet distinct. The prevalence of stunting declined from 40.5 % in 1980 to 35.2% in 2000, a decrease of only 0.26 percentage points per year. The highest level of stunting is found in Eastern Africa, where, on average, 48% of preschool children are currently affected. In this region, stunting has been increasing at 0.08 percentage points per year. In sub-Saharan Africa the absolute numbers of malnourished children are expected to be increasing to 128 million under an optimistic scenario, in which improvements in the determinants is accelerated, by 2020. A sharp regional shift in the location of child malnutrition is projected; South Asia's share of total numbers of children will fall from 51% to 47%, but sub-Saharan Africa's share will rise from 19 % to near 35 % (Smith & Lawrence, 2000).

2.4 Food and its Functions

Each nutrient in food has specific functions to perform in the body. The physiological functions performed by food are providing energy, body building and growth, protective function that help in building up the body's resistance to disease and help the body recover rapidly from any infections. Foods also have psychological function that can play an important role in fulfilling the need for love, attention, and security. Food carries a lot of social significance.

Warmth and friendship are expressed through sharing one's food or inviting people to dine (Roday, 2007).

2.5 Nutrition and cognitive capabilities

Neurotransmitters relay chemical messages to the brain to increase function, and each chemical plays a different role in maximizing neuron capabilities. The brain needs amino acids and choline from outside sources (dietary intake) in order to maintain the brain's necessary amount of neurons to release other necessary chemicals such as serotonin, acetylcholine, and norepinephrine. serotonin involves "control of appetite, sleep, memory and learning, temperature regulation, mood, behavior (including sexual and hallucinogenic behavior), cardiovascular function, muscle contraction, endocrine regulation, and depression", Likewise, acetylcholine and norepinephrine both play roles in controlling the central nervous system, heart contractions, and attention .having a decreased amount of zinc in the diet affects memory by slowing down the brain's ability to recall information. A connection was also made between short attention spans and low iron levels in children, which also affect recall capabilities (Rausch, 2013).

The human brain needs sufficient energy – specifically glucose and a variety of micronutrients to perform cognitive functions. a long – term deficiency of any or numerous macro or micro –nutrients causes malnutrition and consequential cognitive impairment, the extent of which depends on the duration and degree of the malnourishment and the timing of its occurrence in development (Wood house & Lamport ,2012).

2.6 Under nutrition and Brain Development

One of the USC study about malnutrition in early years reveals that malnutrition in early years leads to lower IQ and later antisocial behavior. The study also shows that while social class did not play a significant factor in behavior, intelligence level did, poor nutrition , characterized

by zinc, iron, vitamin B and protein deficiencies, leads to low IQ, which leads to later antisocial behavior .these are all nutrients linked to brain development (USC, 2004) .

Malnutrition not only harms the body but leaves an imprint on the minds of who survive it. The study has revealed that poor diet during early development (0-3 years) leads to learning and memory deficits, lower IQ and school achievement, and behavioral problems in childhood and adolescence. There has also been links between food deficiencies and mental health problems in young people. Conditions such as Bipolar disorder and schizophrenia seem to involve functional deficiencies of certain highly unsaturated fatty acids, such as Omega-3. The research provides important evidence for the beneficial effects, both to individuals and society, of ensuring that our children receive the nutrition they deserve (Grantham, 2011).

2.7 Undernourishment as a Cause of poor school performance

Education is one of the most important aspects of human resource development. Poor school performance not only results on the child having a low self-esteem, but also causes significant stress to the parents. There are many reasons for children to underperform at school such as medical problem, below average intelligence, specific learning disability, attention deficit hyperactivity disorder, emotional problems, a poor socio cultural home environment psychiatric disorders and even environmental causes. Under the medical problem for children to underperform at school is one of the major aspects is malnutrition and nutritional deficiencies; malnutrition in early childhood is associated with poor cognition in later years and this is independent of psychosocial adversity. Chronic iron deficiency anemia, zinc deficiency and inadequate intake of vitamins A , B1, B2,B6,D3 and E and niacin amide adversely affect long term cognitive development (Karande & Kulkarni, 2005) .

The research shows that not having a nutritious diet can severely impair a child's ability to read and write a simple sentence and answer basic math questions correctly regardless of the amount and quality of schooling they received. Improving the nutritional status of children and women in the crucial 1,000- day window from the start of a women's pregnancy until her child's second birthday could greatly increase a children's ability to learn and to earn. This research was based on studies of thousands of children in four countries (Ethiopia, India, Peru and Vietnam) , and found that at the age of 8, children who are stunted due to chronic malnutrition are 19 percent more likely to make a mistake reading a simple sentence like " I like dogs" or " the sun is hot" than they would have been expected to do had they not been stunted (Save the Children UK ,2013).

Malnutrition negatively effects brain development causing delays in motor and cognitive development, such as: attention deficit disorder, impaired school performance, decreased IQ scores, memory deficiency, learning disabilities, reduced social skills, reduced language development and reduced problem-solving abilities (Orphan nutrition, 2014).

Children living in poverty and underdeveloped countries remain at high risk for cognitive impairment and lower academic achievement. It is understood that children of low socioeconomic status often do not have consistent access to sufficient food; their brains, therefore, are starved, short or long- term, for the energy and nutrients needed to function properly. Food insecurity is significantly correlated to poor mathematics and reading performance; long –term food insecurity appears to amplify academic short falls while becoming food secure reverses such deficits (Wood house & Lamport, 2012).

2.8 Impacts of Malnutrition on Health and Development

When the diet doesn't supply all nutrients in required amounts, it results in ill-health or malnutrition. Good nutrition and health are closely interlinked. Clean, wholesome, and nutritious food promotes health and keeps away disease. A balanced diet is one of the essential factors in ensuring good health. To ensure that the consumer obtains the maximum health benefits from the food that is served, all food handlers concerned with purchasing, storing, cooking and serving food, and planning meals should have a basic knowledge of nutrition and hygiene (Roday, 2007).

Malnourished children experience developmental delays, weight-loss and illness as a result of inadequate intake of protein, calories and other nutrients. They are at risk for a variety of short-term and long-term complications. Because so much development occurs in the first few years of life, nutrient deficiencies can have major short-term implications in young children which are immune implications and growth implications, and long term implications such as growth and cognitive delays. The short-term implications of malnutrition eventually give way to long-term complications (Orphan nutrition, 2014).

At worst severe malnutrition leads to death. The WHO currently attribute more than one third of child mortality to malnutrition making it the leading cause of child death worldwide. For survivors, chronic malnourishment, both short and long term, leaves the body lacking the nutrients for proper health and development and vulnerable to infection and disease. The physical effects of malnutrition include; Fatigue, low energy and dizziness, Swollen, bleeding gums and decaying teeth ,Underweight, muscle weakness and poor growth, Poor immune function leaving the body vulnerable to infection, Poor cognitive functions such as learning memory and attention ,Problems with organ function, that may lead to disease states such as

coronary heart disease or osteoporosis, Insulin- resistance resulting from a diet with low nutritional value, Disease such as marasmus, and obesity result from under, or over eating respectively, Cancer risk is increased by eating certain foods and additives that are high in carcinogens (Grantham, 2011).

In addition to the consequences of malnutrition on the non-economic measures of poverty, child malnutrition imposes substantial economic costs on the economy. Malnutrition leads to higher mortality and the loss of the economic potential of the child, malnourished survivors have higher morbidity, requiring additional health care services and divert the time of caregivers from productive activities, malnutrition leads to lower cognitive development and, thus, slower learning throughout life, malnutrition also leads to fewer years of completed schooling on average due to late enrollment, increased grade repetition, absenteeism, and earlier dropout. This, as well as the impaired cognitive development mentioned above, means that malnourished children end up as less productive adults (Benson, 2005).

2.9 The effect of undernourishment on absenteeism, repeating and drop out of school

There is direct relationship between prevalence of malnutrition in a country and the contribution by malnourished children to educational wastage. Children who are undernourished and whose learning is slow have difficulties in mastering school material and are among those with high chances of chronic absenteeism, repeating grades and dropping out early from school (Pollitt, 1984).

The fight to keeps kids in school is linked to the drive for increased student achievement. Poor attendance had a disproportional impact up on poorest students and economically disadvantaged. Sadly, poverty and school absence often feed each other. The condition that students living in poverty face (poor nutrition, lack of access to health care) exacerbate poor

attendance. And slipping school attendance often leads a person back down the poverty path (Lauver, 2013).

2.10 Factors of undernourishment

Factors like education of parents, the income of the family, the child's caretaking arrangement, his health and dietary intake determine in part for undernourishment and the child's schooling and performance. In developing countries protein energy malnutrition and micronutrient deficiencies are high. Accordingly, in these countries malnutrition, as a risk factor for the educational future of children, should be a major concern for health, nutrition and educational policies (Levinger, 1992).

The basic causes of malnutrition include the number of people in the demographic household, ethnicity, education level of parents, occupation of parents, family income, housing status, urbanization, poverty, unemployment, politics, social structures, religion, beliefs and ideological factors and family food expenditure per month. Income growth has an impact on reducing under nutrition. other factor such as level of education also a very high impact in reducing undernourishment good education levels mean that individuals know how to access and utilize information that is helpful to the attainment of good nutrition (UNICEF,2000).

The main causes of under nutrition in Ethiopia are household food insecurity, lack of care of the vulnerable segments of the population and inadequate health services and environmental hygiene are the underlying determinants of nutrition and are closely interrelated (Benson ,2005).

2.11 Undernourishment in Ethiopia

35million Ethiopians or about 44% of the total population are undernourished. The report which refers the data from 2004 to 2006 shows a progress for Ethiopia in reducing the percentage of malnourished people from 71% in 1990-92 to 44% in 2004-06. The country still

has one of the largest proportions of malnourished people in the world, but the report shows a marked decrease in the percentage of malnutrition prevalence. This compares to 30% malnutrition prevalence in Kenya and 66% in Eritrea, which has the second highest malnutrition percentage in the world after Congo (D.R) (FAO, 2009).

On a national scale, the rural and urban indicators of the Ethiopian regional hunger index have drastically improved. In large urban areas, defined as Addis Ababa , Dire Dawa and Harari (the main market centers in the country), the undernourishment rate fell 20 percentage points, while the rural areas decreased from 63 percent to 45 percent undernourished. In 2000, the undernourishment rate among small towns (except Addis Ababa, Dire Dawa and Harari) was 85 percent; this rate fell an impressive 34 percentage points between 2000 and 2005. Similar to the regional indices, all of the underlying variables disaggregated by large urban, small urban and rural areas also improved over time. Large and small urban areas moved out of the extremely alarming food hunger ranking into the current rate of 24.6 and 29.9 respectively. An interesting trend that we see when comparing urban to rural areas is the high degree of undernourishment in urban centers relative to rural areas. Although urban areas have a higher prevalence of undernourishment, rural areas have a higher proportion of underweight children and child mortality. This may be attributed to the limited access of clean water and healthcare facilities in rural areas (Schmidt & Dorosh, 2009).

CHAPTER THREE

Method

3.1 Research Design

Alston and Bowles, (2003) and Creswell (2007) stated that qualitative methodology enables us to further our knowledge of the situation when seeking to describe social reality, and we conduct qualitative research when a problem or issue needs to be explored. This exploration is needed, in turn, because of a need to study a group or populations identify variables that can then be measured, or hear silenced voices. These are all good reasons to explore a problem rather than to use predetermined information from the literature or rely on results from other research studies. Accordingly, this study employed a qualitative methodological approach.

This study conducted mainly to explore the academic effect of undernourishment on students. An exploratory case study research design was used to see what the impacts of undernourishment are on the students' academic achievement and to know what the factors for their undernourishment are. Kreuger and Neuman (2006) highlighted that exploratory studies are used in situations where little is known or written about a certain issue. They stated that exploratory research answers "what" questions whose aims are to "become familiar with basic facts, setting, and concerns" about an issue. Since there is no or little study on subject of this research, which is conducted in Ethiopia (Addis Ababa), the use of exploratory study is needed to explore the impacts of undernourishment on the academic performance

Qualitative research method was used in order to explore and gather information related to the experiences of undernourished students. This enabled children and other participants to state their own experiences on their own words. Another reason for qualitative research approach

selected to be used in this study was to clearly answer the research question of the inquiry by going directly to the phenomenon studied and observing it as possible.

In terms of the time dimension of this study, it is cross-sectional study since this study was observed at one point in time.

3.2 Study Area

This study was conducted at “*Atse libnedingel*” governmental primary school, which is found in the capital city of Ethiopia, Addis Ababa, Gulele sub-city woreda o4 commonly known as, “*Kechene*” slum. I selected the place intentionally due to the reason that “*Kechene*”, an urban slum in Addis Ababa, has high levels of poverty, poor housing and illiteracy. School attendance in this slum is very low and there is a high dropout rate. Much of the absenteeism and high dropout rate is due to frequent illness from diseases related to lack of adequate food, poor sanitation and lack of clean water (AMREF, 2014). The other basis for the selection of the area and the school was the information that I obtained about the area and the school from some former teachers in that area of school who are now my classmates and co workers. And in my first visit to the area I found out that “*Atselibnedingel*” governmental primary school has a higher amount of undernourished students than other schools in that area where there are 114 under nourished students from 876 students (I got this number from the school document), therefore, the researcher became interested to assess the effects of undernourishment on the academic performance of students in this school.

3.3 Sampling Technique

Non-probability sampling is generally used in exploratory research and by qualitative researchers. Non-probability sampling is very useful and justifiable when the researcher is seeking information in a new area and targets subjects or cases who typify the issue to be studied (Alston and Bowles, 2003). Since this study is exploratory and used qualitative approach, it employed non-probability, purposive (judgmental) sampling technique.

In this study, I selected students from the documents (that the school has the profile of the students from the poorest family and who have nutritional problems) and from these students, I first selected sample that comprise students from age 12- 18 interval and from this selected students, I sampled students who are undernourished by using BMI index.

3.4 Inclusion criteria

One of the most useful measurements of under nutrition is the body mass index (BMI). I select BMI from other methods because of its simplicity and popularity and ability to measure all ranges of nutritional status from underweight to obesity. BMI values are age-independent and the same for both sexes. (WHO, 1983). I got some basic introduction from the nurse how to measure BMI of children.

BMI was calculated as per WHO norms. It is calculated as the weight in kilograms divided by the square of the height in meters (kg/m^2). BMI is age-independent and the same for both sexes. (WHO, 1983.p 64)

$$\text{Body Mass Index (BMI)} = \frac{\text{weight of the person (kg)}}{\text{Height of the person }^2(\text{m}^2)}$$

Malnutrition classification	cutoff point using BMI
Mild	$17 < \text{BMI} < 18.5$
Moderate	$16 < \text{BMI} < 17$
Severe	$\text{BMI} < 16$

Then after I take this measurement from the students the inclusion criteria to participate in this study was , students fall in the age limit of 12-18 because in this age they can state their idea freely, student who agree to participate and students whose BMI index were from sever to mild. From the students I selected 13 students who fulfill these criteria.

3.5 Research participants

In this study to evaluate the effect of undernourishment on the academic performance of the students and the factor and to evaluate the academic performance of the students 13 undernourished students, the school principal, 3 male and 3 female teachers were used as a source of data and interviewed.

3.6 Data collection instruments

Data collection is one of the major steps in any research process. Data collection is mainly concerned with the procedures and techniques to be adopted for sources of data. So, the researcher has given careful attention to select and develop data gathering instruments appropriate for this study.

3.6.1 In-depth interview

In-depth interview was one of the main methods that this study has employed to collect data. This data gathering tool has been selected not only to obtain the required data, but also to

understand the detail experience of the students, teachers and school principals about the impact and factors of undernourishment. This tool has helped a researcher to get information concerning the participants experience, feeling and attitude in relation to the area of the academic effect of undernourishment and factors. The researcher believed that this tool has met the intended objectives of the study.

Interview guiding questions were developed for in-depth interview purpose directed by the study's objective, research questions and by other literatures review and then approved by my advisor and another lecturer of the School of Social Work. The item embodied in the interview guides were first prepared in English then translated into the local language of the participants which is Amharic.

3.6.2 Document review

Another data gathering instrument which was employed during data collection was a document review. Student's report cards within the school archive were founded to be useful for the study, and are searched for to obtain further information of the student's academic score. It helped me in identifying student's score and grade and to evaluate in what subjects the students score lower and higher.

3.7 Data Collection procedure

After data gathering instruments have been developed, approval was obtained from School of Social Work for the research proposal. Then after, permission was obtained from the school principal to collect the data. I met each of the selected students in the teacher's office and read the consent form for them and they signed in the consent form. This process also takes part with the 6 willing teachers and the school principal (all of the participants were willing to be tape

recorded). After the agreement has been reached between the participants and the researcher interview schedule was prepared by taking convenient time and places for the participants, to the interview. The suitable time for all participants was the lunch break.

The in-depth interview was conducted with thirteen selected students (six male and seven female), six teachers (three male and three female) and the school principal. Then one- to-one interview was conducted at the school compound. The interview was conducted in Amharic by using tape recorder and by taking note and time spent with each student lasted from 20-25 minutes, and for each teachers and school principal from 25-30minutes. The entire interview was conducted at the school setting in the lunch break. Efforts were made to make participants comfortable during data collection (the researcher gave biscuits for the students during the interview). The time for interview was arranged according to the interests of the participants.

3.8 Data analysis strategy

The data which was obtained from the school principal, teachers and students was analyzed using qualitative data analysis methods. The unit of analysis refers to the type of unit a researcher uses when measuring (Keruger and Neuman, 2006). Therefore the unit of analysis for this study is undernourished students who are learning in “*Atse Libnedingel*” primary governmental school.

The data collected through tape- recorded interview of the students, teachers and school principal were changed in to complete narratives. In addition to these, the grade reports of the students were also reviewed for analysis. All the tape recorded data was immediately transcribed at the same day. The transcribed data was also categorized and analyzed according to the themes of core findings which were obtained during the interview.

The data which was analyzed has been arranged and checked in line with the objectives and research questions formulated at the background of the study.

The analysis process was done by coding data and sorting the data to identify similarities, relationships, patterns and the information in to the already identified themes and sub-themes. The collected data were identified, explained and interpreted according to the data obtained from the interview and the document review.

During the transcription in order to maintain confidentiality, I used pseudo name for the respondents which was written on each page of transcription.

Finally after assigning codes to the unit of analysis, I grouped the codes into categories, and discuss to the literature review to see whether the findings are consistent or not with the literatures.

3.9 Ethical consideration

In the process of this study, the following ethical issues were considered. In order to obtain the informed consent from the respondents, Approval of the research proposal were obtained from the School of Social Work in Addis Ababa University. A letter from the School of social work was given to the school where the study was conducted. In addition, while undertaking the assessment Informed consent from each study respondent were obtained first. The purpose of the study was expressed early. I discussed the issues with the school officials that the study had no harm to the students, their families and school environment and all the students who were studied are above the age of 12. Therefore, involvement of parents will not be considered as prerequisite in this study. The verbal consent was done with the participants first then informed consent was obtained from study participants. The freedom of children, teachers

and the school principal to participate or not in the study was explained and respected (Keruger & Neuman, 2006).

The interview was conducted in a way that did not violate their privacy and confidentiality information. And the researcher tries to refresh the students by giving biscuit while interviewing. Since this research is only for academic purpose any result of the study is not subject to the interviewee. Thus in the process of data collection the names and addresses of interviewees will not be recorded on the interview guide as well as on tape recorder.

CHAPTER FOUR: FINDINGS

Findings of the Study

This chapter presents the findings of the study. The findings have been reported in seven main sections where in the first section background information of the school was reported, the second part discusses socio-demographic characteristics of the students, the third part includes food intake and feeding patterns of the students, In the fourth part factors contributing for undernourishment of the students enlightened , fifth the effects of undernourishment on the academic performance of this students putted in sub parts of academic score(achievement) of the students; classroom activities of the students; problem of attention and memory of this students studied ; absenteeism ,repeating and drop out of the students; and study habit of the students explained, in the sixth part the social interaction of the students in the school compound have shown, finally the health related challenges of the students caused by under nutrition are presented.

4.1. Background information and current situation of the school studied

The school where this study was undertaken is a primary governmental school which is found in the capital city of Ethiopia, Addis Ababa, Gulele sub-city, and woreda 04, commonly known as “*Kechene*” slum. In this school there are 876 students and 58 teachers. From these 876 students the school identified that about 114 students are undernourished. From these 114 students the school gives a lunch program for 38 students who they think that they are severely under nourished.

The school principal explained the situation as

“We identified these students through their teachers. When the teachers face a problem in the class room with this starved children they ask the students and told them that they didn't get a food to eat and sometimes we faced the problem that some of the students were fainted and when we gave them food and tea they wake up. From these incidences we understand that there is a serious of food shortage among these students because of this I discuss this issue with the teachers and we started lunch program for this 38 students by offering money from our salary, since we have a limited capacity we cannot feed all of the undernourished students.”

Other teachers also told me that they contribute money to feed these students from their salary in the month. But seriously what I find in this study at the time I collected this data, the school principal and the teacher called Tihut were discussing in the office about the issue of this undernourished students. when I ask what they are discussing I found out that they have no more money even for this 38 students to feed after that week and they told me that this problem become worse in this school .To show what they exactly say (the school principal):

“The problem becomes worse and worse. It becomes beyond our capacity. The teachers and all the staffs were participated from their salary in order to feed these students. Some peoples were also used to help us but now we have no more money if we stop feeding this few students they will stop coming to school in order to beg for food outside. Now is a critical moment we tried a lot to continue this program. I am so much worried about these children from now on. I used to do the initiative by myself but it is not working. It have been only our concern but now the society and the government have to

work with us otherwise this students will become a headache for the society again if they can't stay at school. We have the profile of the students who are in the lower status so if people are ready for help."

4.2. Socio-demographic characteristics of the students in the sample

In this study thirteen students were sampled and interviewed. Six were males and seven were females. Their age ranges from 12-18. From 13 undernourished students participated in this study five of them lost their fathers and live with their mothers, two of the student's parents separated and live with their mothers and their grandmothers, and two of them lost both their mothers and fathers and live with their grandparents, one of the student's parents live in the country side and live with her grandmother and one student lost both her parents and live alone and two of them live with their both parents. Of whom most were from female-headed households and lived with their grandparents. All of the student's parents are illiterate except one parent who can read and write. Considering the BMI index of the students, From the 13 students who are included in my study 5 of them are severely undernourished, 5 of them are mildly undernourished and 3 of them are moderately undernourished. Most of the student's parents are beggars, live by pension and pottery. Out of them one is living alone. More than half of the students living in the household which have more than four children. For the details of the student's background see the table below.

Name of the student	sex	age	grade	No of children in the household	Parents condition	Educational background of parent/s or guardian	Parents /guardian occupation	BMI of the student
Aster	female	12	3	4	Her father dead, mother alive	illiterate	beggar	Moderate (16.31)
Beza	female	12	3	5	Her father dead, mother alive	illiterate	beggar	Severe (15.5)
Dave	male	15	4	2	Her father dead, mother alive	illiterate	beggar	Moderate (16.4)
Degu	male	17	8	8	Separated live with his mother	illiterate	Baking enjera For house hold	Moderate (16.4)
Dereje	male	18	8	4	His father dead, mother alive	Writing and reading	pottery	Mild (17.3)
Enat	female	12	3	7	Her parents live in the countryside, live with her grand mother	illiterate	beggar	Severe (14.35)
Ephrata	female	14	5	2	Both dead live with her grand mother	illiterate	pottery	Mild (17.7)
Hanna	female	13	5	4	Separated live with grand mother	illiterate	pottery	Severe (15.76)
Mahlet	female	15	7	5	Both dead live alone	Do not know	-	Mild (17.8)
Miky	male	12	3	6	Both alive	illiterate	Mother-Beggar, father-carpenter	Severe (15.21)
Mitiku	male	14	6	4	Both alive	illiterate	beggar	Severe (15.23)
Mulat	male	14	6	3	His father dead, his mother alive	illiterate	beggar	Mild (17.29)
Yeshi	female	13	5	5	Both dead live with grand parents	illiterate	pension	Mild (17.56)

Table1. Demographic and other characteristics of the respondent students

4.3. Food intake and feeding patterns of the students

Interview was obtained from the students to know how many times they eat in a day, the type of food they usually consume and how long they face the food shortage. The responses given for the time for food consumption is on average one meal in a day and this students didn't take a proper food rather most of them are eating waste food from households and restaurants and their food shortage takes a long time that most of them are even adopted the situation as they said.

Dereje told me that

“I don't get proper food; I sometimes eat my lunch in this school. Otherwise I will get wastage food from the restaurant which may be putted for a few days which is dry and moldy .In order to forget the hunger I usually drink a lot of water, I sleep for a long time even in the day time and I chew chat when I get in the wastage .You know as car doesn't go without a fuel I didn't work without food so I prefer staying in home and sleep in order to forget the hunger.”

To highlight their response students Hanna, Yeshi, and Mahlet, said they had only one meal a day while another student Ephrata most of the time eat one bread in a day Mitiku, Degu, Beza and Mulat said they eat a food only if they get otherwise they will sleep hungrily. Dave on the other hand said he usually begs for food after school in different houses. Degu stresses out that he can observe his physical change because he didn't get food most of the time and feel very tired in the class.

The student named Aster explained her experience as:

“One day I was hungry, in order to forget my hunger I start playing with my friends but I can’t play, I fainted. When they give me tea I wake up. Then after this condition the teachers included me in the lunch program and I start eating the lunch here.”

Another finding which is found in this study is that even these students get food sometimes they never eat nutritious food; most of them usually eat “*enjera*” even when they find they never eat fruits and vegetables which their body needed for health and for their brain development.

4.4. Factors affecting undernourishment of the students

The main contributing factors for undernourishment of the students stated by the participants of the study (students ,teachers and school principals) includes parents occupation and lower income, and lack of understanding for the benefits of food and lack of attention and care of the parents for their children. This study observed from the finding that children brought up by single parents suffered from under nutrition significantly. Other demographic variables like house hold size which is most of the students under this study are children from larger house hold, a household with more than four children and sex of house hold head can be contributing factor for the student’s undernourishment. Another factor which is lack of family resource and time to provide adequate meals to children before and during the school day, also subject these children to such conditions of hunger. Few of the children in this study are living with their grandparents which can also be a significant factor for their undernourishment because this aged guardian doesn’t have greater ability to contribute to the household food demand due to their age

constraint. The school principal also says about the significant factor of this student's undernourishment:

“From what I see from these students what I understand is that the factor for this student's undernourishment is that most of this student's parents and guardians are living by begging and pottery that have a little and no income and most of them have many children so they can't feed well all of their children. These parents are thinking only about getting day income for food they don't know the use of education and the long effect of education.”

Teacher Befekadu, also says that

“These students' parents have a very little income; they didn't give lunch for their children. Most of them are living by the money they get from others by begging. These children can't get the food they need from their parents.”

4.5. The effects of undernourishment on the academic performance of the students

(Academic performance of the students)

4.5.1. Academic achievement (score) of the students

Academic achievement of the students was assessed using school grades (report cards), and from their teachers rating of this undernourished students significantly more students who are undernourished from my sample had academic score that is below the average when compared to those who are not undernourished. From the report card of the students what I observe is that most of the students from my sample has lower grade in Mathematics, English and Science subjects. Concur with the following finding of the document review, what I found from the interview of the students is that almost all the students I interviewed hated English and

Mathematics subject the reason they give for that is because they didn't understand the subject and they also said that this subjects are difficult for them. Few of the students also told me that they were cheated in the exam in order to get a better mark due to the reason that they can't compete with others.

When the school principal told me about their academic condition he said that

“There is a clear difference we observed on this undernourished students from other students which is scoring lower grade than others, didn't work their class and home work. Because this problem become clear we start a tutorial program for some of this students from grade 1- 4 which we called Minimum Learning Competency to improve their grade because most of the undernourished students can't read, write and calculate mathematics.”

As teacher Abebech elaborate the achievement of the students:

“You can see a clear difference between these undernourished and well nourished students on their academic score. U can hardly find undernourished students who scored higher in their grade. most of students who get enough food and material are very active in the class, did their home work and class work, they ask what they didn't understand they hear and give attention for what we said, since this students absent for a lot of time and give attention for what we said there is also a clear difference in their score.”

The other finding which is obtained from the study is that the student's parents or guardians never come to school to check their children's progress, because most of them are busy at work and some of them didn't give a care for the education of their child. Some of them even see the school as a place to stay for students not something that gives knowledge for them.

4.5.2 Class room activities of the students

Teachers interviewed Behabtu, Girum, and Hanna were explained the classroom activities of the students:

“These children have no interest to learn and because their basic need which is food is not met they are not active in the class activities. These students are often weak, drowsy in lessons and sick because of starvation. Students who are on empty stomachs fail to concentrate in school work and to participate and ask questions like other students in the class work thus negatively affecting their academic performance.”

Teacher Tihut lamented that:

“Their hunger among these students causes them to be reserved and lethargy in class. Because most of these students have low self- concept and low self-esteem they don't participate in the class .even if there are few undernourished students who adopt this situation and participate in the class but most of them cant to do so, So that those students who have poor nutrition lag behind in their academic performance as a result.”

Teacher Girum, who is sport teacher said about their activity

“Since I am a sport teacher and I teach physical exercise I faced a lot of difficulty with the students, which is especially after second class and after lunch time I see a lot of students fainted because of the hunger. Some of them says they are sick when I ordered them to do exercises .This situation is difficult for me as a teacher since I need their class activity in order to grade them.”

4.5.3. Teachers view of the student's attention and memory in the classroom and in the exam

Teachers interviewed also assert that the undernourished students from poor backgrounds came to school without food and fail to concentrate in the class as a result. Instead of paying attention to the teacher's majority of them would be busy pondering on what to do so as to get their basic need.

Teacher Leul, Teacher Senayit and Teacher Behabtu elaborate that,

"The student's don't remember what they are learnt in the class, you can see this from their exam result. In the class room they think about their hunger and their parents so that they didn't give attention for what I said in the class. They didn't remember anything they learnt because they didn't give attention in the first place. U can see hopelessness and tiredness in their face"

Teacher Tihut told me that

"I can easily identify students in the class room who didn't eat food. I can see it in their face. Their body is present in the class room but their mind is absent. When I ask them question some of them keep silent and see me with a sad face and some of them even cry. When I ask them what they are thinking, they talk about their hunger, their parents and their problems and they told me that they didn't eat food."

Degu and Yeshi said that:

"I try to listen and give attention in the class but after I get out of the class and in the exam time I will forget what I heard and study partially and totally."

Teacher Behabtu, Teacher Leul and Teacher Abebech also said that:

“I repeat one topic many times in order to help this students remember what I taught because this students can’t grab the subject matters actively. I also use mechanisms like group discussions and others in the class to get this students attention.”

Based on the information obtained from the interview of the students and the teachers this study finds out that a undernourished child understandably, is likely to have low concentration levels, a poor listening span and problems in retrieving and accessing information than their classmates who receive enough to eat and this may, amongst other factors, have an effect on a child’s ability to perform in class.

4.5.4. Absenteeism, Repeating and Dropout of undernourished students

Absenteeism from class was relatively higher among students who are undernourished than other students who are not undernourished.

As the principal of the school told me

“These students are absent from school at least 10 days in a year, especially students who are above grade seven didn’t come they rather do works in order to get money for food. We try to study this reason and we find out that the reason is shortage of food that’s why we start this food program for some of them”.

Dereje also told me that

“I absent from school many days, the reason is food, if I didn’t eat I can’t learn so I prefer being at home and sleep in order to forget my feeling of hunger.”

Teacher Tihut also said that

“Most of this students are absent from class in order to sell napkins and carry other materials in order to get money for food. I see they have a very little or no care to come to school.”

This study finds out that the children tend to miss after lunch activities like sports and some lessons. Some teachers and the school principal explained that some children are unable to find enough food to eat and therefore will be hungry hence they fail to return to school due to lack of energy back and spend an afternoon in school hungrily. So that in order to alleviate this problem the school makes a rule that no students go out for lunch outside the school. Even if the school sees this strategy as a solution this study finds out that even the students are staying in the school and because all of the undernourished students did not get food aid, children concentration levels in class especially after lunch are affected. They are understandably, more focused on this issue rather than their lessons. So that most of the undernourished students tend to be absent the whole day in order to avoid this situation.

When we see the repeating of this students from my 13 sample students 8 of them are repeat at least one year.

One of the students Dereje for example repeated grade 8 for the fourth time, he puts his shortage of food as a reason for his repetition as he puts likes this,

“I repeat grade 8 for the fourth time, it is because first I used to absent many days to find and to beg food from others so the school make me to go out and not to take a national examination two times so I repeat this class and last year I take the exam but I couldn't pass because I didn't have time to study I would rather think how to get my food, so now I will take the national examination again this year.”

This study also finds out (from the school principal interviewed), the dropping out of the undernourished students each year is something which needs a very high attention.

It is also found out another reason for school absence, repetition and dropout of the students is due to the health issues of the students. Since most of the student's health is not well they tend to stay at home and sleep.

Most of the children interviewed highlighted that they come to school without having any food. Most of the teachers participated in this study and the school principal also narrated that their lack of food and basic meals was a contributing factor in dropping out of school. Clearly therefore, undernourishment has an effect on the attendance rates, repeating and dropout of students who are undernourished and from the poorest households.

4.5.5. Study levels of the students

Most of the students don't study at home it is because they didn't get food to eat as they told me in the interview some of them are begging outside, others carry things for others in order to get money for their food need after school.

Dubale said that:

"I have never study, I don't even remember studying. How can I think of study when I am hungry? It is impossible."

One of the female students Aster said that,

"After school when I get back to home I will do works in the house in order to help my mother because she will be outside home to beg, So that I didn't get time for study and homework."

Mulat also said that

“I wish I will be a doctor and make my mother rich, because of that I sometimes try to study at home but most of the time it will be difficult for me to study because I have to search for food.”

4.6. The social interaction of the students in the school compound

This study finds out that the undernourishment of these students also has a social effect that most of these students have little interactions with their peers and teachers at school. This study observed that most of this undernourished students are stigmatized, labeled and looked down upon by their peers since most of this students parents are beggars. They also develop an inferiority complex and aggressiveness as a result.

The school principal said

“There is a limitation of these students to interact with their peers since they want to hear their problem alone and they also show aggressive behavior to their teachers”.

As teacher Behabtu said;

“It is difficult to say that their behavior is good, most of them didn't have a good behavior. They are aggressive; they broke the class room windows, and destroyed trees and flowers in the school compound. I think one of the reasons is that because their parents are busy to find food they didn't follow and correct their behavior.”

Dereje said

“I don't have a good relationship with most of the teachers. It is because they don't understand my situation. They only judged me by watching my face rather than ask

and understand my situation, so that I interact aggressively with them and react badly to them. it is because they don't love me and see me as arrogant .because of this I hate all the subject except Amharic and civics, I love Amharic and civics subject because I love this subject teachers because they understand me. I want to be an author and an actor when I grow up.”

Teacher Tihut and Teacher Girum have the following to say about students' social interaction;

“These students have very low confidence and developed an inferiority complex. Since some of this students also beg on the street with their parents in order to get food and some of us are watching them they are very shy to communicate with us and with their peers. They prefer to sit alone and not to play with their class mates especially in the lunch time .when they see students who bring and eat in the lunch time they feel so depressed.”

4.7. Health related challenges of the students caused by under nutrition

Teachers and the principal interviewed posit that the greater incidence of health issues among undernourished students lead to increased grade repetition, school absence, school dropout, incidence of illness during class and high rates of untreated health problems. This was also supported during the interview with the students that there is a higher incidence of such conditions as headaches, stomach pains, poor vision, coughs and gastric pain among interviewed students who are undernourished. Beza said that she feel so sick because she sleep without food mostly .because of that she is absent from class repeatedly.

Ephrata explained what she has experienced about her health situation;

“My gastric is sick. It always burns me. When I feel sick I cry. especially when I am hungry on the lunch time it makes me cry because the school didn’t allow us to go out for lunch and cannot beg outside I ask my friends to share me their lunch but most of the time they didn’t allow me to eat with them so I do always cry alone in the lunch time .I had also typhoid and typhus every month”

Dereje, said

“The doctor told me that I have a shortage of vitamin. If I catch flu it lasts for long and I will stay in bed for a long time so I didn’t come to school at that time”

The study finds out that there is lack of access and resource of the students to health care so that this students didn’t get any medication they needed many of these health and safety risk cause physical, cognitive and psychosocial problems, that are likely to cause disabilities and learning difficulties.

These findings stress that the lack of nutritious food triggers an array of health problems in this undernourished students, many of which can become chronic. This study observed that this food related illnesses affect the ability of these students to benefit from education and to function intellectually, socially and economically later in their lives thus it can cripple a society for a generation and more.

Generally, the findings of the present study are important in pointing out the negative influence of undernourishment on the intellectual potential of students. It could provide helpful

insights for policy makers and program implementers to design feasible prevention and control measures in school environment.

CHAPTER FIVE

Discussion

In the previous chapter, the information obtained from in-depth interview and from the review document has been put in detail in different categories. In this chapter, the researcher critically analyzes and discussed the major issues identified in the study in relation to the research objectives and the research questions. This section of the thesis had interwoven the results of the study to the reviewed literature in order to make practical and ideal conclusions.

5.1 Undernourishment and Academic Performance (Achievement) of the students

The study has figured out that the undernourishment of the students had a serious negative impact on the academic performance of the undernourished students in affecting the attention, memory and interest of these students for learning. Even students want to learn, because of the lack of their basic need they can't concentrate in school due to this reasons the undernourished students had a lower score than other students who's basic needs are met. This is also the argument of Maslow's (1943) theory of hierarchy of needs which provides a framework for understanding a fundamental link between food and academic performance. At a very basic level, humans who have not met their basic needs cannot strive for at the higher levels needs. According to Maslow's hierarchy, the need or desire for achievement will not drive a person's thoughts and behaviors until needs on the lower levels have been satisfied. As a result, the cognitive processes and behaviors associated with the more sophisticated levels on the hierarchy cannot be achieved; great academic performance cannot be expected from students experiencing basic needs deprivation.

5.2. The Factors contributing for Undernourishment of the students

The information obtained from most of the participants (teachers and school principal) as presented in the findings of the study revealed that main factors of the student's undernourishment includes parent's occupation, lower income of the family, house hold size and sex of household head, consistent with this study findings ,UNICEF(2000) also shows in their study that the basic causes of malnutrition includes the number of people in the demographic household, ethnicity, education level of parents, occupation of parents, family income, housing status, urbanization, poverty, unemployment, politics, social structures, religion, beliefs and ideological factors and family food expenditure per month.

This study also showed that another causes of undernourishment is that lack of attention and care of the parents for their children, the study conducted by Benson (2005) also shows that from the main causes of under nutrition in Ethiopia one of it is lack of care of the vulnerable segments of the population. This study also puts household food insecurity as a determinant factor for undernourishment which is one of the points consistent with this study because in the finding of the study it stated that the undernourished students and their households are food in secured, if there were no food insecurity in their household level this students won't be undernourished in the first place.

5.3. The effects of undernourishment in the academic performance of undernourished students

When the finding of the study compare with the joint report of Save the Children UK (2013) who had researched in Ethiopia, India, Peru and Vietnam and Hodgkin's (2007) study it has a consistent with the above studies in that in the finding of this study it is observed that undernourishment clearly influenced the student's academic performance and intelligence, and

from the document review of the students report card it is obtained that the undernourished students scored lower on tests of vocabulary (English subjects) and mathematics than who are well nourished students , and save the children's and Hodgkin's study also shows that , Inadequate nutrition negatively influenced intelligence and academic performance, Low levels of protein and iron indicated a correlation with low achievement scores, those with poor nutrition scored lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge, those who did not have breakfast scored lower in tests of speed and accuracy of response on problem-solving, those slightly malnourished showed that their intelligence and performance were affected and not having a nutritious diet can severely impair a child's ability to read and write a simple sentence and answer basic math questions correctly regardless of the amount and quality of schooling they received.

Regarding attention and memory situation of the undernourished students this study display that the undernourished students fail to concentrate in the class, paying attention and memorizing the things they were learnt. Reliable to this finding (Mcknelly,2015;Hodgkin, 2007; Orphan nutrition ,2014) shows in their study that malnutrition negatively affects brain development causing delays in motor and cognitive development, such as :attention deficit disorder, impaired school performance, decreased IQ scores, memory deficiency, learning disabilities and reduced problem- solving abilities. Hunger, whether caused by a skipped meal, an unbalanced meal, or chronic under-nourishment, interferes with concentration at school because the body can't stockpile glucose, the main source of energy from food and even temporary hunger adversely affected attention and interest for learning.

The information gathered from teachers, principal and students interviewed show that the greater incidence of health issues among undernourished students lead to school absence, and increased grade repetition and school dropouts. Lauver (2013) and Pollitt (1984) concur with the above sentiments purporting that children who are poorly fed tend to miss school more often because of illness and Children who are undernourished and whose learning is slow have difficulties in mastering school material and are among those with high chances of chronic absenteeism, repeating grades and dropping out early from school.

The researcher in this study identified that the food shortage, instability and unpredictability of families of children who are undernourished and from poor backgrounds gives children little interactions with peers and teachers at school ,and the available literature (USC,2004; Grantham, 2011) discovered also that malnutrition in early years leads to lower IQ and later antisocial behavior, poor nutrition , characterized by zinc, iron, vitamin B and protein deficiencies, leads to low IQ, which leads to later antisocial behavior . Poor diet leads to learning and memory deficits, lower IQ and school achievement, problem in social interaction and behavioral problems in childhood and adolescence.

Grantham (2011), Roday(2007)and orphan nutrition(2014) in their studies reveal that when the diet doesn't supply all nutrients in required amounts, it results in ill-health or malnutrition. Malnourished children experience developmental delays, weight-loss and illness as a result of inadequate intake of protein, calories and other nutrients. They are at risk for a variety of short-term and long-term complications. Because so much development occurs in the first few years of life, nutrient deficiencies can have major short-term implications in young children which are immune implications and growth implications, and long term implications such as

growth and cognitive delays. The physical effects of malnutrition include; Fatigue, low energy and dizziness, Swollen, bleeding gums and decaying teeth, Underweight, muscle weakness and poor growth, Poor immune function leaving the body vulnerable to infection, Poor cognitive functions such as learning memory and attention, Problems with organ function, that may lead to disease states such as coronary heart disease or osteoporosis, Insulin- resistance resulting from a diet with low nutritional value. This study also found persistent finding about the health situation of the undernourished students which most of the students participated in the study had a health problem and also suffers because of the lack of access and resources for medical and health facilities.

From the students participated in the study more than half of them are mildly and moderately undernourished and the rest of them are severely undernourished, the study of smith and Lawrence(2000) shows that three quarters of the children who die from causes related to malnutrition were only mildly or moderately undernourished, showing no outward sign of their vulnerability. From this study what we understand is that the risk of these students to die from causes related to malnutrition is higher. So that it is the issue which needs a very great attention of community, parents and government.

CHAPTER SIX

Conclusion, Social Work Implication and Recommendation

This section attempt to conclude and put some important points for social work implications and recommendations based on the findings of the study.

This thesis was focused to assess the effects of undernourishment on the academic performance of primary governmental students and the factors for the students undernourishment by conducting in-depth interview with 13 undernourished students aged from 12- 18, 6 teachers and a school principal in ‘*Atse libnedingel*’ school and by reviewing the students report card .this paper was able to answer questions of what effects have undernourishment on the academic performance of governmental primary students and highlighted factors that contributes for students undernourishment.

6.1. Conclusion

Based on the finding of this study it can be concluded that undernourishment negatively affects and has an effect on brain development of undernourished students causing delays in cognitive development, such as: attention deficit, impaired school performance and grade.

Under nutrition can make learning difficult and can seriously hamper the educational process and academic performance of the students and their intellectual growth. The finding of the study shows that undernourished students who are in “*Atse libnedingel*” primary governmental school are more likely to have lower concentration levels, a poor listening span and problems in memorizing, retrieving and accessing information and lower scores in their grades and lower interest in learning and participating in the classroom activities than their classmates who have enough to eat, and this may, amongst other factors, have an effect on a

student's ability to perform in a class. The likely of having lower school performance and academic achievement was higher among students who are undernourished.

During the study it is observed that children who didn't have enough to eat absented repeatedly due to the reason that they can't stay in school until the end of the school day hungrily. Because of that the repeated absenteeism of these students from the class was also a possible factor associated with poor academic performance of the undernourished students.

These undernourished students also have a higher tendency of repeating grades and dropout of school because of their undernourishment and lack of interest for learning due to lack of proper nutrition. Regular attendance is closely related to academic achievement, which this study also demonstrated.

The finding of the study shows that the main factors of undernourishment of the students are lower income of the parents and guardians and their occupation and house hold size so that it can be concluded that income growth has an effect on reducing under nutrition, other factors such as level of education of parents also has a very high effect on reducing under nutrition since good education levels mean that individuals know how to access and utilize information that is helpful to the attainment of good nutrition.

Researches increasingly support the important link between nutrition and learning potential. Healthy eating is essential for students to achieve their full academic potential, mental growth, and lifelong health and well-being. When children are not receiving proper nutrition they are unable to reach their full potential.

To sum up, child undernourishment is a serious problem that can have long lasting harmful effects on a child's as the findings of the study indicated that under nutrition lowers children's schooling performance and increases the risk of disability, and thus contributes to the intergenerational transmission of poverty and illness. Therefore, receiving a regular breakfast, lunch and dinner leads to positive effects on a child's learning achievements.

6.2. Social Work Implication

As it clearly explained in the National Association of Social Workers (NASW, 1999), that the profession of social work has emerged through the efforts to address the person-environment interaction, and the service of improving peoples' lives, and social workers should take action to promote the well being of the children, to ensure that their rights are respected and to make certain that their basic needs are met (NASW, 1999). The study has found out, the well being of these underprivileged children is in danger because of the lack of their basic need. Because of the lack of food this children's over life situation which is their academic, psychosocial, health is in risk, therefore, social workers and other professionals who can deal with nutritional programs in the schools should be available to provide services to those children who suffer from poor nutrition and make sure that their basic needs are met.

Understandably the finding of the research shows that because of the lack of knowledge and resource parents and other guardians tend to show little or no concerns for the children about their nutrition and school performance. The teachers also lack awareness of how to understand and handle students who behave aggressively because of their condition. Here social workers have a great role to train parents, care givers and teachers in order to raise awareness on parenting and teaching styles.

The government and media (TV, Radio, News paper) in collaboration with social workers should also take steps to promote these nutritional problems of students in governmental schools by organizing discussion forums with school principals, school teachers, students and parents.

It is also important to have school social workers in the governmental and private schools in order to discover the problems and to give solutions in the schools.

6.3. Recommendation

On the basis of the findings of this study, the following recommendations are forwarded:

- The society, the government and stakeholders should work hard together to minimize the root causes of poor nutrition.
- Immediate establishment of nutrition support programs for children in schools are very important in alleviating academic and developmental problems of in children due to under nutrition.
- School feeding programs are good strategy for addressing under nutrition among primary school children if monitored effectively. However, it does not influence on household food security directly, so that house hold food security programs and projects has to be establish in order to reduce the root cause of undernourishment of the children.
- The school officials should work with health sectors and families in order to improve health and educational status of children.
- Awareness should be created to parents and communities on the negative effects of undernourishment on the academic performance.
- Schools should establish committees that include parents and community members to promote a healthy school atmosphere by focusing on good nutrition.

- The teachers need to be warm, supportive and nurturing towards learners who are psychologically unstable and aggressive due to poor nutrition so as to raise their self-confidence, self-esteem and self-image.
- The government should give attention for the nutritional problems in the schools as he gives attention for learning.
- Further school based studies are needed to show the effect of undernourishment on school performance and other related issues

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Appendices

Annex -1 Consent Forms

A. Informed consent for teachers and the school principal

My name is Beimnet Sisay, a Masters student at School of Social Work, Addis Ababa University. I am doing a research to fulfill my study of social work on the effects of undernourishment on the academic performance of governmental primary students. I would like to ask for your permission to participate voluntarily in this study. I am interested in learning and studying what effects does undernourishment have on the academic performance of the governmental primary students. Your participation in this study will help me to know the problems (effects) you see and face on the academics of these students related with their undernourishment. I will do one to one interview. During this process, I would like to assure you that your identity will not be disclosed to anyone. This is to protect your privacy and confidentiality of the information you provide. I will use sound recorder to correctly record the conversations we did, and the recording will be locked in safe place and will not be exposed to anyone. The notes and tapes will be destroyed after the study is completed and approved by the School of Social Work.

By participating in this study, you will contribute to the success of my studies. You will also contribute for the awareness of child undernourishment. Apart from the time you spend with me, I do not see any risk that you will under go by participating in this study. Participating in this study will only depend on your decision. You are free to answer questions only if you want to do so. You may not answer questions if you feel uncomfortable. You can ask questions at any time during the interview and in case you do not understand the questions or in case you feel tired and

want to continue later, you are free to do so. You have all the right to ask and get clarification at any time. Finally I would like you to confirm your agreement by signing.

Participant signature _____ Date _____

B. Informed Consent (for the students)

My name is Beimnet Sisay, a Masters student at School of Social Work, Addis Ababa University. I am doing a research to fulfill my study of social work on the effects of undernourishment on the academic performance of governmental primary students. I would like to ask for your permission to participate voluntarily in this study. I am interested in learning and studying what effects does undernourishment have on the academic performance of the governmental primary students. Your participation in this study will help me to know the problems (effects) you see and face on your academics related with your undernourishment. I will do one to one interview. During this process, I would like to assure you that your identity will not be disclosed to anyone. This is to protect your privacy and confidentiality of the information you provide. I will use sound recorder to correctly record the conversations we did, and the recording will be locked in safe place and will not be exposed to anyone. The notes and tapes will be destroyed after the study is completed and approved by the school of social work.

By participating in this study, you will contribute to the success of my studies. You will also contribute for the awareness of child undernourishment. Apart from the time you spend with me, I do not see any risk that you will under go by participating in this study. Participating in this study will only depend on your decision. You are free to answer questions only if you want to do so. You may not answer questions if you feel uncomfortable. You can ask questions at any time during the interview and in case you do not understand the questions or in case you feel tired and want to continue later, you are free to do so. You have all the right to ask and get clarification at any time. Finally I would like you to confirm your agreement by signing.

Participant signature _____ Date _____

Annex 2- Informed consent (Amharic version)

Informed consent form (Amharic version, for teachers and school principal)

የስምምነት ቅጽ

እኔ፡በእምነት፡ሲሳይ፡እባላለሁ፡።በአዲስ፡አበባ፡ዩኒቨርሲቲ፡የሶሻል፡ወርክ፡የማስተርስ፡ተማሪ፡
ስሆን፡በዚህ፡በአጼ ልብነድንግል፡የመጀመሪያ፡ደረጃ፡ትምህርት፡ቤት፡በቁምግብ፡አለማግኘት፡በመንግስት፡የመጀመሪያ፡ደረጃ፡ተማሪዎች፡የትምህርት፡አቀባበልና፡ውጤት፡ላይ፡የሚያመጣው፡
ተጽዕኖ፡ዙርያ፡የመመሪያ፡ጥናቱን፡በመስራት፡ላይ፡እገኛለሁ፡።በዚህ፡ጥናት፡ላይ፡እንዲሳተፉልኝ፡
ስጠይቅ፡በትህትና ነው፡።

በዚህ፡ጥናት፡መሳተፎ፡ለእኔ፡በዚህ፡በቁምግብ፡በማያገኙ፡ተማሪዎች፡ላይ፡በትምህርታቸው፡
ላይ፡ያጋጠሞትንና፡ያዩትን፡ችግር፡ማወቅ፡ለጥናቱ፡ይረዳኛል፡።በዚህ፡ጥናት፡ተሳትፎዎ፡ላይ፡ማንነትዎ፡
በሚስጥር፡እንደሚጠበቅና፡የሚሰጡትም፡መረጃዎች፡ሁሉ፡ለሌላ፡ሰው፡እንደማይተላለፍ፡
አረጋግጣለሁ፡።በቃለ፡መጠይቃችን፡ወቅት፡የድምጽ፡መቅጃ፡መጠቀም፡መረጃዎቹን፡በትክክል፡ለመያዝ
፡ስለሚረዱ፡እጠቀምበታለሁ፡።ሆኖም፡የተቀዱ፡ካሴቶች፡ሁሉ፡በድብቅ፡የሚቀመጡ፡ሲሆን፡ጥናቱ፡
ከተጠናቀቀም፡በሁዋላ፡ከጥቅም፡ወጭ፡ተደርገው፡የሚጣሉ፡ይሆናሉ፡።ይህም፡የእርስዎን፡መብት፡
ለመጠበቅ፡የሚደረግ፡ነው፡።

በዚህ፡ጥናት፡መሳተፎ፡ለእኔ፡የሶሻልወርክ፡ትምህርት፡መሳካት፡ትልቅ፡አስተዋጽዖ፡ያደርጋል፡።
በተጨማሪም፡በህጻናት፡በቁምግብ፡አለማግኘት፡ዙሪያ፡በዙም፡ጥናት፡ያልተደረገ፡በመሆኑ፡በዚህ፡
ጥናት፡ተሳትፈው፡የሚመጣው፡ውጤት፡በዘርፉ፡የላቀ፡አስተዋጽዖ፡ይኖረዋል፡።በሌላ፡በኩል፡በዚህ፡ቃለ፡
መጠይቅ፡መሳተፍዎ፡ከኔ፡ጋር፡ተቀምጦ፡ለመነጋገር፡ጊዜዎን፡ከመስዋትዎ፡ወጭ፡ሊያመጣ፡የሚችለው፡
አሉታዊ፡ተጽእኖ፡አይኖርም፡።በዚህ፡ጥናት፡ላይ፡መሳተፍ፡በእርሶ፡ውሳኔ፡ላይ፡የተመሰረተ፡ነው፡።በቃለ፡
መጠይቁ፡ወቅት፡መመለስ፡የሚፈልጉትን፡ጥያቄ፡በቻ፡ይመልሳሉ፡።ያልገባዎት፡ጥያቄ፡ቢኖር፡ወይም፡
ድካም፡ቢሰማዎት፡በማንኛውም፡ጊዜ፡መጠየቅና፡እረፍት፡ማረጋገጥ፡ይችላሉ፡።መመለስ፡የማይፈልጉት፡
ጥያቄ፡ካለ፡ማለፍ፡ይችላሉ፡።በመጨረሻ፡መስማማትዎን፡በፊርማዎ፡ያረጋግጡልኝ፡።

የተሳታፊው፡ፊርማ _____ ቀን _____

Informed consent (Amharic version, for students)

የስምምነት ቅጽ

እኔ፡በእምነት፡ሲሳይ፡እባላለሁ፡።በአዲስ፡አበባ፡ዩኒቨርሲቲ፡የሶሻል፡ወርክ፡የማስተርስ፡ተማሪ፡ ስሆን፡በዚህ፡በአጼ ልብነድንግል፡የመጀመሪያ፡ደረጃ፡ትምህርት፡ቤት፡በቁ፡ምግብ፡አለማግኘት፡ በመንግስት፡የመጀመሪያ፡ደረጃ፡ተማሪዎች፡የትምህርት፡አቀባበልና፡ውጤት፡ላይ፡የሚያመጣው፡ ተጽዕኖ፡ዙርያ፡የመመረቂያ፡ጥናቱን፡በመስራት፡ላይ፡እገኛለሁ፡።በዚህ፡ጥናት፡ላይ፡እንትሳተፍልኝ(ለኝ ፡ስጠይቅ፡በትህትና ነው፡።

በዚህ፡ጥናት፡መሳተፍህ(ሽ፡ለእኔ፡በቁ፡ምግብ፡ባለግኘትህ(ሽ፡በትምህርትህ(ሽ፡ ላይ፡ያጋጠመህን(ሽን፡ችግር፡ማወቅ፡ለጥናቱ፡ይረዳኛል፡።በዚህ፡ጥናት፡ተሳትፎህ(ሽ፡ላይ፡ማንነትህ(ሽህ፡ በሚስጥር፡እንደሚጠበቅና፡የሚትሰጠው(ጭው፡መረጃዎች፡ሁሉ፡ለሌላ፡ሰው፡እንደማይተላለፍ፡ አረጋግጣለሁ፡።በቃለ፡መጠይቃችን፡ወቅት፡የድምጽ፡መቅጃ፡መጠቀም፡መረጃዎቹን፡በትክክል፡ለመያዝ ፡ስለሚረዱ፡እጠቀምበታለሁ፡።ሆኖም፡የተቀዱ፡ካሴቶች፡ሁሉ፡በድብቅ፡የሚቀመጡ፡ሲሆን፡ጥናቱ፡ ከተጠናቀቀም፡በሁዋላ፡ከጥቅም፡ወጭ፡ተደርገው፡የሚጣሉ፡ይሆናሉ፡ይህም፡የአንተን(ችን፡መብት፡ ለመጠበቅ፡የሚደረግነው፡።

በዚህ፡ጥናት፡መሳተፍህ(ሽ፡ለእኔ፡የሶሻልወርክ፡ትምህርት፡መሳካት፡ትልቅ፡አስተዋጽዖ፡ ያደርጋል፡።በተጨማሪም፡በህጻናት፡በቁ፡ምግብ፡አለማግኘት፡ዙሪያ፡በዙም፡ጥናት፡ያልተደረገ፡ በመሆኑ፡በዚህ፡ጥናት፡ተሳትፊህ(ሽ፡የሚመጣው፡ውጤት፡በዘርፉ፡የላቀ፡አስተዋጽዖ፡ይኖረዋል፡።በሌላ፡ በኩል፡በዚህ፡ቃለ፡መጠይቅ፡መሳተፍህ(ሽ፡ከኔ፡ጋር፡ተቀምጦ፡ለመነጋገር፡ጊዜህን(ሽን፡ከመሰዋትዎ፡ ወጭ፡ሊያመጣ፡የሚችለው፡አሉታዊ፡ተጽእኖ፡አይኖርም፡።በዚህ፡ጥናት፡ላይ፡መሳተፍ፡በአንተ(ቺ፡ውሳኔ ፡ላይ፡የተመሰረተነው፡።በቃለ፡መጠይቁ፡ወቅት፡መመለስ፡የምትፈልገውን(ዊን፡ጥያቄ፡ብቻ፡ትመልሳለህ (ሽያለሽ፡።ያልገባህ(ሽ፡ጥያቄ፡ቢኖር፡ወይም፡ድካም፡ቢሰማህ(ሽ፡በማንኛውም፡ጊዜ፡መጠየቅና፡እረፍት፡ ማድረግ፡ትችላህ(ያለሽ፡።መመለስ፡የምትፈልገው(ጊው፡ጥያቄ፡ካለ፡ማለፍ፡ትችላለህ(ያለሽ፡። በመጨረሻ፡መስማማትህን(ሽን፡በፊርማ፡አረጋግጥልኝ(ጭልኝ፡።

የተሳታፊው፡ፊርማ _____ ቀን _____

Annex -3 Interview Guides (English version)

A. Interview Guide (for the students)

Addis Ababa University

School of Social Work

Number of interview guide _____

Section I, socio-demographic of students and parents

- 1.1 In what grade and section are you in?
- 1.2 How old are you?
- 1.3 Sex?
- 1.4 Are your parents alive?
- 1.5 With whom do you live now?
- 1.6 How many children do your parents have?
- 1.7 What is your parent's educational level?
- 1.8 What is your parent's occupation?

Section II- socioeconomic and educational characteristics of students

- 2.1 What are common foods consumed at home?
- 2.2 How do you explain the amount of food you eat in a day?
- 2.3 How long do you face food shortage?
- 2.4 What do you do when you face shortage of food?
- 2.5 What do you think is the reason for your food shortage?
- 2.6 Have you ever received any food supplement from other person or organization?
- 2.7 How is your health situation?
- 2.8 How do you describe your parent's position about your education?

- 2.9 How is your relationship with your teachers?
- 2.10 How is your study skill?
- 2.11 Have you ever repeat class/ grade? If yes what was the reason?
- 2.12 Do you often get absent from school? If yes what is the reason behind?
- 2.13 Are you interested in going to school? What is your reason to do so?
- 2.14 How do you describe your performance in the class and exam?
- 2.15 Do you remember what you have learnt in the class after you are out of school?
- 2.16 How do you explain your attention to your teachers when they are teaching?
- 2.17 What are your favorite subject and teacher? What is the reason behind?
- 2.18 What subject and what teacher do you hate most? Why?
- 2.19 What do you want to be after you complete your education?
- 2.20 Do you think that your food shortage had an effect on your academy?

B. Interview Guide (For the school principal)

Addis Ababa University

School of Social Work

1. Approximately what percent of students in your school are undernourished?
2. How do you identify the undernourished students? What are the typical features to identify them?
3. What do you think is the factor behind the student's undernourishment?
4. How do you explain the effect of undernourishment on the academic performance of the students?
5. How is the absenteeism ,repeating and dropout level of these students?
6. How do you see the social activities of these students in the school?
7. Is there any clear difference between the undernourished and other students in their academics and class activities?
8. How is the health condition of the undernourished students?
9. Is there any means that this school uses to help these students?
10. How often do their parents contact the school about their children's academic performance?
11. Is there any practice among the teachers to help and motivate these undernourished students?
12. Have the teachers ever discuss the student's situation with you?
13. Have you ever faced or experienced any difficult incidence in the school because of the student's undernourishment?
14. What do you suggest as a solution to the problem of student's undernourishment?

C. Interview Guide (For Teachers)

Addis Ababa University

School of Social Work

1. Years of teaching in the School you are currently teaching?
2. How do you see the current situation of undernourishment of students in this school?
3. What do you think is the factor behind the student's undernourishment?
4. To what extent are the undernourished students interested in their education?
5. How do you see the social activities of these students?
6. How do you evaluate the academic activities of these students in the class?
7. Have you ever noticed an attention and memory problem in these students in the class?
How do you explain it?
8. How is the health condition of the undernourished students?
9. What other different characteristics did you notice in the class from these students?
10. Is there any difference of academic performance between the undernourished students and other students that you noticed? How do you evaluate it?
11. Do you use any mechanism in order to help and motivate these undernourished students?
12. Can you suggest solutions to the problem of student's undernourishment?

Annex 4. Interview guides (Amharic version)

ሀ. የቃለ መጠይቅ መመሪያ(ለተማሪዎች)

የመጠይቅ መለያ ቁጥር _____

ክፍል አንድ፡ የተማሪዎች እና የወላጆቻቸው ማህበራዊ ሁኔታዎች

- 1.1. ስንተኛ ክፍል ነህ(ነሽ)?
- 1.2. ስንት ክፍት ነህ(ሽ) ነው?
- 1.3. ማን?
- 1.4. ወላጆችህ(ሽ፡ በህይወት ክፍለ-ሰዓት?)
- 1.5. ከማንኛውም የምትኖረው (ሪወ)?
- 1.6. ወላጆችህ(ሽ፡ ስንት ልጆች አላቸው?
- 1.7. የወላጆችህ(ሽ፡ የትምህርት ደረጃ ስንት ነው?
- 1.8. የወላጆችህ(ሽ፡ ስራ ምን ድንጋጌ ነው?

ክፍል ሁለት፡ የተማሪው ኢኮኖሚያዊ ስነ-ምግባርና የትምህርት ሁኔታ

- 2.1. በብዛት የምትመገቡት ምግብ ምን ድንጋጌ ነው?
- 2.2. በቀን፡ ስጥ የምትመገቡት (ቢወን፡ ምግብ፡ በብዛት እንዴት ትገልጠዋለህ(ጭዋለሽ)?
- 2.3. የምግብ እጥረት ካጋጠመሽ(ህ፡ ምን ያህል ጊዜ ሆኖታል?
- 2.4. የምግብ እጥረት ሲያጋጥምህ(ሽ፡ ምን ያህል ደርጋለህ(ጊያለሽ)?
- 2.5. የምግብ እጥረት ያጋጠመህ(ሽ፡ ምን ያህል የምትመስለህ(ሻል)?
- 2.6. ከሌሎች ሰዎች ወይም ድርጅት የምግብ እርዳታ አግኝተህ(ሽ፡ ታወቃለህ(ቅያለሽ)?
- 2.7. የጤንነትህ(ሽ፡ ሁኔታ እንዴት ነው?

- 2.8. በትምህርትህ(ሽ)፡ላይ፡የቤተሰቦችህ(ሽ)፡አቅዋም፡ምን፡ይመስላል?
- 2.9. ከአስተማሪዎችህ(ሽ)፡ጋር፡ያለህ(ሽ)፡ግንኙነት፡እንዴት፡ነው?
- 2.10. የጥናት፡ልምድህ(ሽ)፡እንዴት፡ነው?
- 2.11 ክፍል፡ደግመህ(ሽ)፡ታወቃለህ(ሽ)? ደግመህ(ሽ)፡ከሆነ፡ምክንያቱ፡ምንድን፡ነው?
- 2.12. ብዙ፡ጊዜ፡ከትምህርት፡ቤት፡ትቀራለህ(ሽ)? የምትቀር(ቀሪ)፡ከሆነ፡ምክንያቱ፡ምንድን፡ነው?
- 2.13. ትምህርት፡ቤት፡መምጣት፡ያስደስትህል(ሻል)? ለምን?
- 2.14. በክፍል፡ውስጥ፡በፈተና፡ላይ፡ያለህን(ሽ)፡ብቃት፡እንዴት፡ትገልጸዋለሽ(ጭዋለሽ)?
- 2.15. ከክፍል፡ከወጣህ(ሽ) ፡በሁዋላ፡ክፍል፡ውስጥ፡የተማርከውን(ሽ)፡ውን፡ታስታውሳለህ(ሻለሽ)?
- 2.16. በክፍል፡ውስጥ፡አስተማሪ፡ሲያስተምር፡የምትሰጠውን(ጭውን)፡ትኩረት፡እንዴት፡ትገልጸዋለህ(ጭዋለሽ)?
- 2.17. የምትወደው(ጅው)፡ትምህርት፡አስተማሪ፡ማነው? ምክንያትህ(ሽ)፡ ምንድን፡ነው?
- 2.18. የምትጠላው(ይው)፡ትምህርት፡አስተማሪ፡ማነው? ምክንያትህ(ሽ)፡ምንድን፡ነው?
- 2.19. ትምህርትህን(ሽን)፡ስትጨርስ(ሽ)፡መሆን፡የምትፈልገው(ጊው)፡ምንድን፡ነው?
- 2.20. የምግብ፡እጥረትህ(ሽ)፡በትምህርትህ(ሽ)፡ላይ፡ተጽዕኖ፡አለው?

ሊያቃለመጠይቅ፡መመሪያ(ለትምህርት፡በቤቴ፡ርእስ፡መምህር)

1. በዚህ፡ትምህርት፡ቤት፡በግምት፡ምን፡ያህል፡ተማሪዎች፡በቂ፡ምግብ፡አያገኙም?
2. በቂ፡ምግብ፡የማያገኙትን፡ተማሪዎች፡እንዴት፡ነው፡የምትለዩዋቸው?
3. የተማሪዎቹ፡በቂ፡ምግብ፡አለማግኘት፡ምክንያት፡ምን፡ይመስሎታል?
4. የተማሪዎቹ፡በቂ፡ምግብ፡አለማግኘት፡በተማሪዎቹ፡የትምህርት፡አቀባበል፡ና፡ውጤት፡ላይ፡ያለውን፡ተጽእኖ፡እንዴት፡ይገልጹታል?
5. የነዚህ፡ተማሪዎች፡ከትምህርት፡የመቅረት፡የመድገም፡ና፡የማቅዋረጥ፡ሁኔታ፡እንዴት፡ነው?
6. በዚህ፡ትምህርት፡ቤት፡ውስጥ፡የነዚህ፡ተማሪዎች፡ማህበራዊ፡እንቅስቃሴ፡ምን፡ይመስላል?
7. በነዚህ፡በቂ፡ምግብ፡በማያገኙ፡በሌሎች፡ተማሪዎች፡መካከል፡በትምህርት፡ውጤታቸው፡ና፡በክፍል፡ውስጥ፡እንቅስቃሴያቸው፡ላይ፡ልዩነት፡ይታያል? እንዴት?
8. የነዚህ፡ተማሪዎች፡የጤንነት፡ሁኔታ፡ምን፡ይመስላል?
9. ይህ፡ትምህርት፡ቤት፡እነዚህን፡ተማሪዎች፡ለመርዳት፡ያደረገው፡እንቅስቃሴ፡አለ?
10. ወላጆቻቸው፡ምን፡ያህል፡የትምህርታቸውን፡ሁኔታ፡ይከታተላሉ?
11. እነዚህን፡ተማሪዎች፡ለመርዳት፡ለማነቃነቅ፡አስተማሪዎች፡ያደረጉት፡ካገር፡አለ?
12. የተማሪዎቹን፡ሁኔታ፡አስተማሪዎች፡ከእርሶ፡ጋር፡ተነጋግረው፡በት፡ያውቃሉ?
13. በተማሪዎች፡በቂ፡ምግብ፡ያለማግኘት፡ምክንያት፡ያጋጠማቸው፡ አሳሳቢ፡አጋጣሚ፡አለ?
14. ምን፡ መፍትሄ፡ቢሰጥ፡ጥሩ፡ነው፡በለው፡ያስባሉ?

የቃለመጠይቅ፡መመሪያ(ለመምህራን)

- 1. በዚህ፡ትምህርት፡ቤት፡ውስጥ፡ምን፡ያህል፡አመት፡አስተምረዋል?**
- 2. በዚህ፡ትምህርት፡ቤት፡ውስጥ፡በአሁኑ፡ወቅት፡ያለውን፡የተማሪዎች፡በቁ፡ምግብ፡ያለማግኘት፡ችግር፡እንዴት፡ይመለከቱታል?**
- 3. የተማሪዎች፡በቁ፡ምግብ፡አለማግኘት፡ምክንያት፡ምን፡ይመስሎታል?**
- 4. እነዚህ፡በቁ፡ምግብ፡የማያገኙ፡ተማሪዎች፡ለትምህርታቸው፡ያላቸው፡ፍላጎት፡ምን፡ያህል፡ነው?**
- 5. የነዚህን፡ተማሪዎች፡ማህበራዊ፡እንቅስቃሴ፡እንዴት፡ያዩታል?**
- 6. በክፍል፡ውስጥ፡ያለውን፡የነዚህን፡ተማሪዎች፡የትምህርት፡እንቅስቃሴ፡እንዴት፡ይመዝኑታል?**
- 7. በክፍል፡ውስጥ፡በነዚህ፡ተማሪዎች፡ላይ፡ትኩረት፡የመስጠት፡ና፡የማስታወስ፡ችግር፡ይታያል?**
- 8. የነዚህ፡ተማሪዎች፡የጤንነት፡ሁኔታ፡ምን፡ይመስላል?**
- 9. ሌላ፡ምን፡የተለየ፡ባህርያት፡ይታይባቸዋል?**
- 10. በነዚህ፡በቁ፡ምግብ፡በማያገኙት፡ና፡በሌሎች፡ተማሪዎች፡ላይ፡ያስተዋሉት፡የትምህርት፡አቀባበል፡ና፡የውጤት፡ልዩነት፡አለ? እንዴት፡ይመዝኑታል**
- 11. እነዚህን፡ተማሪዎች፡ለመርዳት፡የተጠቀሙት፡ዘዴ፡አለ?**
- 12. መፍትሄ፡ነው፡በለው፡የሚጠቁሙት፡ህሳብ፡ካለ?**

Declaration

This thesis is my original work and has not been presented for a degree in any other university, and that all sources of material used for this thesis have been acknowledged.

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