INFLUENCE OF CHILDREN’S FEEDING STATUS ON SCHOOL ATTENDANCE IN EARLY CHILDHOOD DEVELOPMENT PROGRAMS IN MERU COUNTY

NANCY M. MUTHOMI
E55/CE/23599/2013

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR THE AWARD OF THE DEGREE OF MASTER OF EDUCATION (EARLY CHILDHOOD STUDIES) IN THE SCHOOL OF EDUCATION OF KENYATTA UNIVERSITY

NOVEMBER, 2018
DECLARATION

I declare that this project is my original work and has not been presented in any other university/institution for consideration. This research project has been complemented by referenced sources duly acknowledged. Where text, data (including spoken words), graphics, pictures or tables have been borrowed from other sources, including the internet, these are specifically accredited and references cited in accordance with anti-plagiarism regulations.

Signature: ___________________________ Date: ____________

Nancy M. Muthomi
E55/CE/23599/2013

Supervisor

I confirm that this project has been submitted for appraisal with my approval as the university supervisor

Signature: ___________________________ Date: ____________

Dr. Rachel W. Kamau-Kang’ethe
Department of Early Childhood
Kenyatta University
DEDICATION

I dedicate this project to God all-powerful, wellspring of motivation, understanding and knowledge. He has been the wellspring of my strength all through this programme. I additionally dedicate this thesis to my entire family. Thank you for allowing me to further my studies. Finally, I dedicate this work to my husband Bishop Muthomi, who unconditional encouragement and support made it possible for me to commence my studies.
ACKNOWLEDGEMENT

I sincerely thank God our heavenly father for giving me good health and sound mind throughout this undertaking. I wish to acknowledge the guidance support and consistence instructions of my supervisor Dr. Rachel W. Kamau-Kang’ethe. My special gratitude goes to all my lecturers of Kenyatta University. I acknowledge my entire family especially my husband Bishop Muthomi who gave me a lot of encouragement during this tiring time. Lastly and not the least my gratitude goes to my late parents Erastus M’Mbui and Elizabeth Mbui. They laid a very strong foundation for me to be what I am today.
### ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ECD</td>
<td>Early Childhood Development</td>
</tr>
<tr>
<td>ECE</td>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>EFA</td>
<td>Education For All</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>GOK</td>
<td>Government of Kenya</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>KDHS</td>
<td>Kenya Demographic Health Survey</td>
</tr>
<tr>
<td>KIE</td>
<td>Kenya Institute of Education</td>
</tr>
<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>MLM</td>
<td>Multilevel Nations</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organizations</td>
</tr>
<tr>
<td>RDAS</td>
<td>Recommended Dietary Allowances</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Emergency Fund</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Programme</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS

DECLARATION.............................................................................................................. ii
DEDICATION.............................................................................................................. iii

ACKNOWLEDGEMENT............................................................................................... iii
ABBREVIATIONS AND ACRONYM........................................................................ v
TABLE OF CONTENTS .............................................................................................. vi
LIST OF TABLES....................................................................................................... vii
LIST OF FIGURES.................................................................................................... xi
ABSTRACT................................................................................................................. xii

CHAPTER ONE: INTRODUCTION AND BACKGROUND OF THE STUDY ..... 1
1.0 Introduction............................................................................................................ 1
1.1 Background of the Study ..................................................................................... 1
1.2 Statement of the Problem ................................................................................... 4
1.3 Purpose of the Study ........................................................................................... 6
1.4 Research Objectives ........................................................................................... 6
1.5 Research Questions ............................................................................................. 7
1.6 Significance of the Study ..................................................................................... 7
1.7 Limitations and Delimitations of the Study ....................................................... 8
1.7.1 Limitations of the Study ............................................................................... 8
1.7.2 Delimitations ................................................................................................ 8
1.8 Assumptions of the Study .................................................................................. 8
1.9 Theoretical and Conceptual Framework ............................................................ 9
1.9.1 Maslow Hierarchy of Needs Theory ............................................................. 9
1.9.2 Piaget’s Theory of Cognitive Development ................................................. 10
1.9.3 Conceptual Framework ............................................................................... 10
1.10 Operational Definition of Terms ..................................................................... 12

CHAPTER TWO: LITERATURE REVIEW ................................................................. 13
2.1 Introduction.......................................................................................................... 13
2.2 Types of Meals and School Attendance of Children in Early Childhood Programmes ............................................................ 13
2.3 Balanced Diet and School Attendance of Children in Early Childhood Programmes 15
2.4 Number of Times Meals are Taken and School Attendance of Children in Early Childhood Programmes ............................................................ 17
2.5 Food Quantity and School Attendance of Children in Early Childhood Programmes 20
2.6 Health and School Attendance of Children in Early Childhood Programmes........... 20
2.7 Summary of the Literature Review ................................................................... 23

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY .......... 24
3.1 Introduction ........................................................................................................ 24
3.2 Research Design .................................................................................................. 24
3.2.1 Variables of the Study ....................................................................................... 24
3.3 Location of the Study ......................................................................................... 25
3.4 Target Population ................................................................................................. 25
3.5.1 Sampling Technique ......................................................................................... 25
3.5.2 Sample Size .................................................................................................... 26
3.6 Research Instruments .......................................................................................... 26
3.6.1 Questionnaires ................................................................................................. 26
3.7 Piloting .................................................................................................................. 27
3.7.1 Instrument Validity .......................................................................................... 27
3.7.2 Instrument Reliability ....................................................................................... 27
3.8 Data Collection Procedures ................................................................................. 28
3.9 Data Analysis ....................................................................................................... 28
3.9.1 Logistical Consideration ................................................................................ 29
3.9.2 Ethical Considerations ..................................................................................... 29

CHAPTER FOUR: FINDINGS INTERPRETATION AND DISCUSSIONS ...... 30
4.1 Introduction ........................................................................................................... 30
4.2 Study Response Rate .......................................................................................... 30
4.3 Demographic Information of ECD Teachers, Head Teachers and Children ...... 31
4.3.1 Gender .................................................................................................................................................. 31
4.3.2 Age of ECD Teachers and Head teachers ................................................................................................. 32
4.3.3 Level of Education of ECD Teachers and Head Teachers ........................................................................ 33
4.4 Number of Meals Served to Pre-School Children in a Day ........................................................................... 35
4.5 Types of Packed Meals offered to Pre-School Children .................................................................................. 35
4.5.1 Children’s Age, Weight and Height ........................................................................................................... 36
4.5.3 Feeding Status (height for age Z scores) (stunting) .................................................................................... 37
4.6 Influence of Feeding Status on School Attendance of Pre-School Children .................................................... 39
4.6.1 Influence of Nutrition on School Attendance of Pre-School Children ......................................................... 39
4.6.2 Teachers’ Responses on Level of Feeding Influence School Attendance of Pre-School Children .......................................................... 40
4.6.3 School Attendance in the Previous Years .................................................................................................. 42
4.6.4 School Attendance in the Previous Years Observation Checklist .............................................................. 42
4.7 Balanced Diet and School Attendance of Children in the Previous Years ................................................... 44
4.8 Food Quantity on School Attendance of Pre-School Children from Schools with Feeding Programmes and Those Without ................................................................................................................. 45
4.8.1 Quantity of Food on Attendance of Pre-school children .............................................................................. 45
4.8.2 Effects of School Feeding Programme on the School Attendance of Pre-School Children in Meru County ........................................................................................................................................... 46
4.8.3 Comparison of Attendance in Pre-Schools on Quantity of Food Feeding Programme with those without the Programme ...................................................................................................................... 47
4.8.4 HO\textsubscript{2} testing, No Significant Difference in attendance of Pre-School Children from Schools with Feeding Programmes and Those Without .............................................................................. 48

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES .......... 50
5.1 Introduction .................................................................................................................................................. 50
5.2.1 Types of Meals and School Attendance of Children in Early Childhood Programmes ..................................... 50
5.2.2 Balance Diet on School Attendance of Pre-School Children ....................................................................... 50
5.2.3 Difference in Attendance of Schools with Food Quantity Feeding Programme and those Without .......................................................................................................................... 51
5.3.4 Approaches to Improve Nutrition of Pre-School Children ........................................ 51
5.4 Observation of Children’s Attendance ............................................................................. 52
5.5 Conclusions .................................................................................................................. 52
5.6 Recommendations of the Study .................................................................................... 54
5.7 Suggestions for Further Research ................................................................................ 55

REFERENCES .................................................................................................................. 52

APPENDICES..................................................................................................................... 55
Appendix i: Questionnaire For Teachers ............................................................................... 55
Appendix ii: Questionnaire For The Head Teacher Of Preschool ...................................... 61
Appendix iii: Questionnaire For Pupils ............................................................................... 64
Appendix iv: Approval From Graduate School ..................................................................... 66
Appendix v: Nacosti Authorization Letter ........................................................................... 67
Appendix vi: Permit .............................................................................................................. 68
LIST OF TABLES

Table 3.1: Study Response Rate ......................................................................................... 26
Table 4.1: Study Response Rate ......................................................................................... 31
Table 4.2: Gender .............................................................................................................. 32
Table 4.3: Age of ECD Teachers and Head teachers ......................................................... 33
Table 4.4: Level of education ............................................................................................ 34
Table 4.5: Children’s Age, Weight and Height (N=341) ..................................................... 37
Table 4.6: Feeding Status (Height for Age Z Scores) (Stunting) ......................................... 38
Table 4.7: Feeding Status (Weight for Age Z Scores) (Underweight) ............................... 38
Table 4.8: Whether Nutrition Influences School Attendance of Pre-School Children .... 39
Table 4.9: Level of Feeding Influence on School Attendance of Pre-School Children…. 40
Table 4.10: School Attendance in the Previous Years ....................................................... 42
Table 4.11: Participation in Different Activities Checklist ............................................... 43
Table 4.12: There Is No Significance Influence of Nutrition on School Children
    Attendance in Previous Years ....................................................................................... 44
Table 4.13: Quantity of Food on Attendance of Pre-school children ......................... 46
Table 4.14 Comparison of Pre-schools’ attendance ......................................................... 47
Table 4.15: No significant difference in attendance of pre-school children from schools
    with feeding programmes and those without ......................................................... 49
LIST OF FIGURES

Figure 1.1 Conceptual Framework................................................................. 11
Figure 4.1 Number of meals served to Pre-school children in a day .................. 35
Figure 4.2: Types of Packed Meals offered to Pre-School Children .................. 36
ABSTRACT

A school feeding program is essential to provide a balanced diet to ECD children which would in turn enable the children to increase their attention span hence better academic achievement. In this study it was hypothesized that school feeding program has an impact on the success of academic achievement at ECDE level. The school feeding program is a crucial component in the development of a holistic child. Nutrition and health are powerful influences on a child’s learning and how well a child performs in school. The effect of under nutrition on young children aged 0-8 can be devastating and enduring. In the areas of cognitive development, when there is no enough food, the body has to make decision about how to utilize the limited food stuffs available. The study was sought to investigate the effects of Feeding status on school attendance of children in early childhood programs in Meru County. The study delved in depth on how balance diet, the number of times meals are taken, quantity of food taken and health status of the children influence school attendance. The research design guiding the study was descriptive; the target population was 44 preschools comprising of teachers and children. The sample size was selected through stratified random sampling and simple random sampling. Data was collected by use of interview guide and questionnaires. Data was edited for completeness, coded and analyzed using statistical package for social sciences (SPSS), then presented in graphs, tables, frequencies, percentages and charts. The findings revealed that there is a relationship between SFP and children’s school attendance and enrolment. This implies that there is a need to provide SFP in Meru County. Stakeholders that include the County government should work hand in hand to provide SFP in preschools.
CHAPTER ONE

INTRODUCTION AND BACKGROUND OF THE STUDY

1.0 Introduction

The chapter covers the background of the study, statement of the problem, purpose of the study, research objectives, research questions, limitations and delimitations of the study, assumption of the study, theoretical and conceptual framework and operational definition of terms.

1.1 Background of the Study

Feeding status of children is an indicator of the level of development and future potential of the community. The Feeding status of infants and children under five years of age is of particular concern since the early years of life are crucial for optimal growth and development (Ann, 1999). Throughout the world, there are hundreds of publicly provided programs that seek to improve the well-being of preschool children. In developing countries, for example, programs designed to improve preschool nutrition are common. In addition to their immediate effects, including improved survival and better child growth and development, investments in such programs are often justified on the grounds that they provide longer-term benefits such as improved school readiness and educational attainments, as well as improved outcomes in adulthood including employment and health (Bruner, 2001).

According to the 2007 Food and Agriculture Organization’s (FAO) estimate, 923 million people in the world were chronically hungry, which was an increase of about 75 million people from the 2003-05 estimates (FAO, 2008). Many of these are children, and a vast majority of them are in developing countries. These numbers suggest that the Millennium Development Goals related to hunger and malnutrition
may not be met by 2015. In comparatively higher-income countries of Latin America as common, and more likely to be funded and operated on a large scale by government agencies. In the U.S., the National School Lunch Program (NSLP) subsidizes meal provision in 99% of public schools, with enrolment of more than half of children (Schanzenbach, 2009). Despite the ubiquity of school feeding programs, we know surprisingly little about their causal impact on education outcomes, especially academic achievement (Browly, 2001).

In Africa, SFP provide daily meals to all children attending school, but in some areas the attendance rates remain low (United States & Disaster Assistance Support Program, 2013). This has been linked to the level of poverty experienced in such areas that hinders parents in participating fully in feeding programmes. For example, in Sahel region that is situated between Sahara desert to the north and Sudanian Savanna to the south, only 48% of the children go to school and the situation is even worse for girls (WFP, 2009). Most African countries, for example, Burundi, Congo and Kenya are facing challenges to overcome hunger and poverty. School meals may improve attendance through nutrition by reducing morbidity which is a leading cause of school absenteeism. Adelman, Gilligan and Lehrer, (2008), further attributes that school meals may improve children’s Feeding status that may strengthen their immunity and protects them against diseases (Cohen, 2011).

With the launch of SFP, enrollment rates in African countries like Burundi have increased (World Bank, 2010). For example in Karusi and Cankuzo provinces in Burundi, enrollment rates increased to 58.1 percent in 2007/2008 from 42.5 percent in 2003/2004. Though lack of SFP in most schools may be attributed to low enrolment and school attendance, Adelman, Gilligan and Lehrer, (2008) purports that a number
of children enroll in school late or fail to enroll completely due to other factors like lack of funds, lack of child care and a perception of limited benefits of attending school at a recommended age. The persistence of all these factors has increased the percentage of children not attending school in Africa (Gering, 2006).

Since independence, Kenyan education has developed rapidly. School enrollment has increased tremendously from 892,000 in 1963 to 9.95 million in 2013 (KNBS, 2014) at primary level and from 801,000 in 1989 to 1,281,284 in 2000 at pre-primary level (Mwoma and Ruto 2013). However, high poverty levels which are commonly higher at semi-arid and arid areas have decreased enrolments. In Kenya, approximately 65% of children are not attending pre-school education (Murungi, 2012). This could be attributed to inadequate and underfunded SFP. Hunger affects learning in a big way. A hungry child cannot effectively learn since he/she lacks energy to participate in school’s activities. Such a child is not able to concentrate in class or interact with the environment effectively. It is then necessary to provide SFP to pre-school children to nourish them well (Murungi, 2011). Enrollments have been noticed to increase gradually and sometimes decline completely in some places in Kenya. Wamaru (2012) found out that SFPs have led to increase in enrollments in some schools due to its consistency, while in others there have been a decline in enrollment in spite of provision of SFP. This proves that the SFP should not be underestimated (Heckmaan, 1997).

According to Onyimbo (2007) School Feeding Programme faces several challenges in Kenya which has made the implementation process very difficult. Some of the challenges are: lack of funds, lack of formal training on SFP management courses and lack of parental involvement in these programs. Consequently, implementation
process of SFP has not yet been effectively carried out in most of Kenyan schools. In addition, Parental involvement in preparation of meals is still low hence teachers and pupils are forced to take up the responsibility. Ouko (2012) found out that SFP are an incentive to pupils which make them attend school. Ouko (2012) further revealed that with the provision of SFP, school attendance and enrollment may increase gradually or even decline due to other factors (Jacoby, 1998).

Hagger (2003) cited that lack of stakeholders support and inadequate additional finances hinder the running of the programme. The scarcity of food in Arid and Semi-Arid areas may limit the number of servings per day and hinder provision of variety of foods as well as balanced diet. In addition factors based on needs assessment, community participation, financial management and policy and regulatory frameworks also hinder the running of SFP. A study carried out in Emuhaya County reveals that failure to consider all problems, issues and opportunities and to involve all stakeholders in needs assessment stage hinders the provision of SFP. It was concluded that lack of capacity to plan and manage budget needs, lack of implementing units and arrangements, lack of staff training on knowledge of SFP, lack of monitoring and evaluation and failure to consult the community when designing a SFP may lead to the collapse of the programme (Jensen, 2010). This study investigated the influence of children’s Feeding status on school attendance in early childhood development programs in Meru County.

1.2 Statement of the Problem

Proponents of SFP claim that providing food in schools would ostensibly attract children to school, improves their attendance and minimizes drop-outs. According to the United Nations World Food Program, School Feeding Program is an incentive for
vulnerable families to invest in children’s education and encourages poor households to send children to school and helps to keep them there (WFP, 2008). Empirical studies also reveal that School Feeding Programs indeed have significant positive impact on school enrolment. Such studies suggest SFPs are effective in encouraging school enrollment, enhancing class attendances, and lowering student drop-outs (WFP, 2009). To the contrary, few other studies reveal there is no observable impact of School Feeding Program on preschool enrolment (Brunner, 2001).

Despite the advantages, FFE programs are often criticized as an expensive method for producing the stated education and nutrition objectives. For specific education or nutrition outcomes, other, more cost-effective interventions may exist. Other criticisms include that school meal programs may divert class and teacher time away from learning. In addition, logistical and political considerations often make it difficult to effectively target the program to children who are in greatest need or who are most likely to change their behavior (and begin attending school, for example) as a result of the program. Consequently, many programs choose to supply meals to all children. Although this practice prevents claims of inequity, it raises the cost of achieving program objectives, such as increased attendance rates, because it provides transfers to many children who would have attended school anyway. Also, food transfers, even when provided at school, can be diverted at home by taking food away from the beneficiary child at other meals. This practice may be a rational household decision, but it decreases the potential impact of an FFE program on the target child’s outcome (Cohen, 2011).

Regardless of efforts by the county government to encourage improvement of nutrition in preschools through feeding programmes, less has been done due to
multiple challenges. Many studies done on early childhood education focused on other variables for instance Halton, (2014). More traumatizing is that growth deficiencies that occur during preschool years are difficult and sometimes impossible to reverse. It is clear that improved nutrition and health are seen as necessary conditions for increasing enrolment, attendance, retention and learning achievements in preschoolers (MOEST, 1998). Therefore the researcher sought to establish the effect of Feeding status to school attendance of children in early childhood in Meru County.

1.3 Purpose of the Study

The main purpose of the study was to establish the influence of children’s Feeding status on school attendance in early childhood development programs in Meru County.

1.4 Research Objectives

The study was guided by the following objectives:

i) To establish the type of meals given to children in early childhood programmes.

ii) To assess if balanced diet influence school attendance of children in early childhood programmes.

iii) To establish whether the number of times meals are taken influence school attendance of children in early childhood programmes.

iv) To find out whether eating the correct amount of food influence school attendance of children in early childhood programmes.

v) To investigate whether the health of the child contribute to school attendance of children in early childhood programmes.
1.5 Research Questions

i) What type of meals given to children influence the school attendance in early childhood programmes?

ii) How does balanced diet influence the school attendance of children in early childhood programmes?

iii) How does the number of times meals are taken influence school attendance of children in early childhood programmes?

iv) How does quantity of food taken influence school attendance of children in early childhood programmes?

v) To what extent does the health of the children influence the school attendance in early childhood programme?

1.6 Significance of the Study

It was assumed that after the findings, there would be a number of people who would benefit from this study. Some of these beneficiaries are the ECD caretakers because the attendance of children would be increased after the children are fed well with a balanced diet.

Due to their good health, they would motivate to attend school regularly. The parents would also benefit because they would have gained knowledge of caring for their children for holistic growth. The community would also benefit because when the attendance of children increases, more children would learn hence helping the community in future.

The study sought to generate useful information that may be of great value to education policy makers, health officials, ECDE teachers and parents at all levels. It is
expected to contribute towards enhancement of feeding programmes for children. The research may also assist the MoE and MoH in improving the feeding programmes in preschools.

1.70 Limitations and Delimitations of the Study

There are several challenges that were encountered by the researcher during the research study.

1.7.1 Limitations of the Study

During this study, the researcher faced challenges like lack of enough funds, lack of cooperation from some head teachers and poor roads. To curb these short comings, the researcher requested for financial support from her parents. The researcher also persuaded the head teachers who had declined to cooperate to consent to participate in the study. They were further assured that the research was for academic purposes and that the information they gave would be made confidential.

1.7.2 Delimitations

The study was particularly confined to Meru County. Respondents for the study included head teachers, teachers of preschools, and preschoolers. The study focused on influence of children’s Feeding status on school attendance in early childhood development programs in Meru County.

1.8 Assumptions of the Study

The study was based on the following assumptions:-

i. That the respondents would be honest and accurate in the responses they give
ii. That the academic progress records maintained by the schools had accurate information on children’s performance

iii. That all other conditions would remain constant and hence not interfere with the outcome.

All the above would realized without any difficulties

1.9 Theoretical and Conceptual Framework

This study was guided by the Abraham Maslow’s Theory of Hierarchy of Needs and Piaget’s theory of Cognitive Development.

1.9.1 Maslow Hierarchy of Needs Theory

The study was guided by Abraham Maslow’s Theory of hierarchy of needs. According to Maslow (1971) a human being is naturally good and that healthy development is likely to occur in a healthy society. He further placed needs in ascending order of importance starting from physiological needs to need for self-actualization. An individual who gets adequate physiological needs like food, water, warmth, shelter and sleep can seek for security needs which involve being free from physical danger and of the fear of losing loved ones, job, property, food or shelter. If one access these needs to a level the life is maintained, he can further seek for affiliation or acceptance needs, which include need to belong or being accepted by others then to esteem needs that leads to the satisfactions like power, prestige, and self-confidence and finally can become self-actualized which is the desire to become capable of what one can become. This study has purposefully singled out food, which is a basic need under physiological needs. Maslow (1971) contemplates that unless the need for food is met together with other needs the child cannot seek for the growth needs. Provision of food through SFP and especially to the disadvantaged child is one
way of meeting this need. This facilitates healthy growth, which enables the child to seek other needs like: safety, love and belongingness, self-esteem, aesthetic and cognitive needs and even self-actualization. Consistent provision of SFP with correct quantities of calories can enhance learning in a big way. Lack of SFP in schools may disadvantage vulnerable children who get little or no food at their homes.

1.9.2 Piaget’s Theory of Cognitive Development

Jean Piaget is the proponent of the theory of cognitive development. This theory states that the preschool period is a time when children learn many concepts and develop life-long habits. Certainly, anyone trained to work with young children has come across the work of Jean Piaget. Piaget is best known for his theory of cognitive development in children, which proposed that children’s cognitive skills progress through a series of stages in which new information from experiences is taken in and understood. Stages in early childhood development include the sensori-motor (ages birth to 24 months) and preoperational (ages 2–6 years) periods. In the sensori-motor period, children learn to coordinate and repeat actions which are pleasurable. They also begin to understand that symbols (words) can represent objects or events and to comprehend the concept of object permanence, meaning that objects continue to exist, even when not visible. In the preoperational period, language becomes the hallmark of development. Children begin to engage in pretend play and take on roles such as Mommy or Daddy.

1.9.3 Conceptual Framework

According to Rachel and Ramey (1987) and by Kombo and Tromp (2006), the above conceptual framework is a set of broad ideas and principles taken from relevant field of inquiry and used to structure subsequent preventions. This Conceptual framework
is based on the idea that school feeding program plays a crucial role on school outcomes.

**Figure 1.1 Conceptual Framework**

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Types of Meals</strong></td>
<td></td>
</tr>
<tr>
<td>• Attract pupil attendance</td>
<td></td>
</tr>
<tr>
<td>• Protein rich foods are key in child’s growth</td>
<td></td>
</tr>
<tr>
<td><strong>Balance diet</strong></td>
<td></td>
</tr>
<tr>
<td>• Well-fed child develops faster</td>
<td>School Attendance</td>
</tr>
<tr>
<td>• Well-fed child is active and regular in school attendance</td>
<td>• Increased performance</td>
</tr>
<tr>
<td><strong>No of Times meals offered</strong></td>
<td></td>
</tr>
<tr>
<td>• The school provides breakfast to children</td>
<td></td>
</tr>
<tr>
<td>• Lunch is provided to all children</td>
<td></td>
</tr>
<tr>
<td><strong>Quality of food</strong></td>
<td></td>
</tr>
<tr>
<td>• Food quality is served based on age</td>
<td></td>
</tr>
<tr>
<td>• Quality of food given to children attract attendance</td>
<td></td>
</tr>
<tr>
<td><strong>Health of the child</strong></td>
<td></td>
</tr>
<tr>
<td>• Healthy children participate in school activities</td>
<td></td>
</tr>
<tr>
<td>• Unhealthy children are absent from school regularly</td>
<td></td>
</tr>
</tbody>
</table>

**Source: Author (2018)**
1.10 Operational Definition of Terms

**Balanced diet**: One that gives the body the nutrients it requires to function correctly.

**Early Childhood**: Is the period from birth to eight years. It is a time of remarkable brain growth. These years lay the foundation for subsequent learning and development.

**Health**: A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

**Nutrients**: Components in food that an organism uses to survive and grow.

**Nutrition**: Nutrition is the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health and disease of an organism.

**School Attendance**: Attendance at any regular accredited institution for formal learning.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
The chapter reviews related studies done by other scholars on effect of Feeding status to children’s attendance in Early Childhood programmes.

2.2 Types of Meals and School Attendance of Children in Early Childhood Programmes
The food we eat and the quantity of food we require per day is directly proportional to the amount of energy we need. The human body requires food to provide energy for all life process and for growth, repair and maintenance of cell and tissues (Sizer & Whitney, 2000). The diet requirements vary according to age, sex and occupation. A balanced diet contains different types of foods in such quantities and proportion that the need for calories, minerals, vitamins and other nutrients are adequately met and small provision is made for nutrients to withstand short duration of leanness.

There are two main ways to distribute food through school feeding programs: on-site meals and take-home rations. School feeding programs (SFP) provide meals or snacks to school children on the site, whereas take-home rations (THR) are provided to school children for consumption at home. Under SFP, the food provided to school children can be either prepackaged or cooked on site. The benefit of the food provided under the school feeding programs is conditional on the attendance of the child on that specific day. Thus an advantage of the SFP is that it serves as an incentive for children to attend school on a daily basis to receive a meal, whereas to receive the benefit of THR, children need only to attend a specified minimum number of days (Mungai, 2004). The
meals served at school may be nutritionally dense and can be easily fortified with additional nutrients that may be scarce in local diets, such as iron or vitamins A and E. Targeting is broad in that all children at the school are fed; it would be difficult to discern between children of different socio-economic status (SES) within a school setting and likely disruptive to the educational experience if some children were fed while others were not. Food may be cooked on site or in the form of prepackaged processed foods such as nutritional biscuits (Feigold, 2001).

There are various ways in which food may be procured for the school feeding programs. Until the recent past, food for these programs often came from donations from developed countries in the form of food aid and delivered through organizations such as the World Food Program (WFP). More recently, there has been more emphasis on local (i.e., national or community level) procurement, as in the case of Burkina Faso (Upton et al, 2012). Local (national level) value-added production has also become more frequent in Bangladesh where wheat flour donated through WFP was processed by seven local firms in a competitive bidding process to produce the fortified biscuits used in the Bangladesh school feeding program, while in the Brazilian HGSF model as much food as possible is sourced from local communities to keep down costs and support local agriculture. Among the three options described in the model, SFP where children are served cooked meals on site has the greatest potential for supporting local community level agricultural activities through the procurement of fresh produce (and is thus most amenable to the ‘home grown school feeding’ model). In the case of THR and SFP based on pre-packaged snack or a beverage, the program may have to rely on a functional food processing sector at the regional or national level to meet the needs (Anne, 2001).
School meals contribute in the long term to combating poverty, but it also helps to reduce disease. It provides a platform for directly addressing child health and nutrition, for example through deworming schemes. It can also be a platform for other health interventions. WFP school meals can take the form of a mid-morning snack or a nutritious breakfast of porridge. WFP uses fortified food to ensure that children get the micronutrients they need. Studies show that diet and nutrition play a critical role in physical and intellectual development, however, something more is needed to attract the poorest girls to school. In its "take-home rations" projects, WFP provides basic food items, often including a sack of rice and a can of cooking oil, to families who send their daughters to school (Alan, 2012).

2.3 Balanced Diet and School Attendance of Children in Early Childhood Programmes

The programme offered children a cup of porridge for breakfast. School participation was 35% where meals were provided and 27.4 % in comparison schools, indicating an improvement in attendance of around one third improvement in participation results both from attracting new children to the school and by improving the attendance of children already enrolled. It is likely that attendance improved due to the incentives to attend provided by the school breakfast, rather than as a result of improved health of children (Vermeersch & Kremer, 2004). Studies of other health and nutrition conditions in preschool children are lacking. However, it is likely that conditions affecting school age children’s attendance are also problem for preschool children. Both stunting (Yoshizawa & Mon, 2002) and anemia (Hutchinson, Powel, Walker, Chang & Grantham McGregor, 1997) are associated with poor attendance of primary schools and both conditions are prevalent in younger children. Interventions that have been shown to improve attendance at school include school feeding programs (Jacoby,
Cueto & Pollit, 1998) and programs like micronutrient supplementation targeted at prevention of diarrhoea and acute respiratory infections (Van Stuijvenberg et al, 1999). According to KDHS (2003 & 2008) about one third of children under five years of age in Kenya are undernourished. Approximately 1.8 million children in Kenya are classified as chronically malnourished. There has been no improvement over the last decade thus promoting a public health concern with regards to chronic and acute malnutrition, micronutrients deficiencies and increased burden of diseases among the under-fives. Findings from the KDHS surveys have revealed that lack of breakfast feeding has contributed to the poor health in children.

School enrollment is most profoundly affected by physical and/or mental disability in children. There are several micronutrients deficiencies leading to disabilities; Vitamin A deficiency causes around 350,000 (70%) of new cases of blindness each year in less developed countries, mother and child iodine is the leading cause of preventable mental retardation. Sixty eight of the households in the world consume iodized salt. Health and nutrition can also affect parental enrollment decisions. Polio causes paralysis in around 1 in 200 cases. New cases of polio have been reduced from 350,000 in 1998 to under 500 in 2001 with increased vaccination coverage, particularly in Sub Saharan Africa. Meningitis affects a million people annually with very young children at the greatest risk. Ten to fifteen percent of cases result in mental disability.

Under nutrition impairs all the aspects of school readiness, cognitive, motor and socio emotional development. Preventative supplementation improves cognitive development and educational achievement of pre-scholars with girls benefiting more than boys where gender differences are found. For moderately under nourished children psychosocial stimulation and to a lesser extent feeding supplementation has
effect on cognitive development. There is some evidence that sustained iron supplements before 2 years of age improves cognitive development substantially (1.35D) and robust evidence for the effect of supplementation in children aged 2-6 years. Iron deficiency also affects young children’s social and emotional behavior and in the long term, it also leads to an increased incidence of psychosocial problem. Other micro nutrients are implicated in impairments of cognitive development. Children’s cognitive abilities are poorer in iodine deficient areas. One study done in Kenya found a harmful effect of zinc supplementation on cognitive development possibly by creating Feeding imbalance (King and Cousins, 2006).

Ann (1986) confirms that human body functions best when supplemented with the right kind of food in the correct proportions. Food is a basic need and a right for survival for all humanities especially for children whose rights are to enjoy the highest attainable standards of health nutrition and education (CRC, 1989). It is also a biological need. Maslow (1970) emphasized that human beings have a hierarchy of needs raging from lower level needs of food, survival and safety to higher needs. So this should be provided before we can ask the children to be motivated to learn. Nutrients in substances are like food that functions in number of ways to keep the body healthy. The body should receive enough of each nutrient because food also varies in their chemical composition (KIE, 1998).

2.4 Number of Times Meals are Taken and School Attendance of Children in Early Childhood Programmes

Providing children with healthy school meals, including breakfast and lunch, is a key strategy for improving their attendance. Obese children and adolescents have been found to report many more missed school days than the general student population. In
addition, children who come from food-insecure families are more likely to be suspended from school, have higher absenteeism rates and have poor health compared to children who come from food secure homes. Ensuring children have access to healthy school meals is a proven strategy for addressing childhood obesity and food insecurity and, as a result, improving children’s school attendance. For example, research shows that universal breakfast programs are directly associated with reduced absenteeism for children, specifically minority children (Yoshizawa, 2002).

The methods vary depending on the objectives of the program. Thus it is important to define the objectives of the program before choosing the targeting approach. For instance, if the objective is to reach out to the most vulnerable groups, then the target may constitute orphans and most children. Whereas, a program with the objective of enhancing school enrollment may target areas with high level of food insecurity, high numbers of out-of-school children, high gender and social gaps in enrollment and poor retention of girls in school (WFP, 2008). There are two commonly used approaches of targeting: geographical and individual (Bowlby, 1998).

It is argued that when the size of proposed School Feeding Program is small, then geographical targeting can effectively reach the poor segment of the population but as the coverage grows and becomes universal, a significant proportion of non-eligible children can sneak in to the program there by raising the operating cost. Often rural areas are identified as more subject to poverty and food insecurity compared to urban areas. Consequently, urban areas are overlooked when School Feeding Programs are targeted. However, rapid urbanization and growing number of slums in cities also made urban areas to have large concentration of people living under extreme poverty.
Thus school feeding can also be introduced in such areas to support children (Bundy et al, 2009).

Having decided where to target School Feeding Programs, the next decision is on which schools to select based on implementation criteria (minimum standards) and these standards are usually established in consultation with all stakeholders. Generally schools that qualify for targeting should be more disadvantaged than others based on the measure of implementation criteria (Cooper, 2004).

Description of the intervention (including the process of procuring food, what type of food was fed, serving size and nutritional value, how frequently it was fed, time of the day the food was fed, social and institutional setting of the intervention, etc.). What is also significant is that the report noted that the school-feeding programme improved diet diversity and frequency of food consumption in treatment communities, as compared to control communities, despite higher food prices (WFP, 2008). It is evident that these studies were conducted in other countries whose financial setting and education system is different from Kenya. Burndy et al (2009) in their study established that rural areas are more subjected to poverty and food insecurity compared to urban areas. The study recommended that SFP be introduced in urban areas especially schools within the slums. However, with the rapid growth of slums, there is need to evaluate the frequency by which this program can be effective in the long run without. This will ensure that high number of out-of –school children and food insecurity is reduced. This study therefore hopes to feel this gap focusing on the frequency of SFP and how it affects the enrolment of pupils (Bobins, 2001).
2.5 Food Quantity and School Attendance of Children in Early Childhood Programmes

According to Bowlby (1988) food quantity should be considered. Children should be given light nutrients to enhance their growth and development and survival in the community. He also argued that the frequency of meals should be noted. The food should be served regularly and the schools set good designs and programs to affect this. He also said that there should be a design or department to deal with this issue within the school.

In order for a child to have a good Feeding status he/she should take meals that contain a balanced diet. A health balanced diet which include water, protein, fats, vitamins and carbohydrates ensures a healthy body. It is important that one eats a variety of foods from within and across the food groups. This ensures that a child gets the maximum recommended nutrition from the food groups. A nutritious diet rectifies underlying causes of diseases and restores a child’s wholesome of mind and body. Maintaining good health is a matter of making the right food choices leading to health life style of a growing child.

2.6 Health and School Attendance of Children in Early Childhood Programmes

Currently, 76% of children aged 6-9 months receive Vitamin A supplements in less developed countries. Maternal and child iodine is the leading cause of preventable mental retardation. Health and nutrient can also affect parental enrollment decisions. Children who are stunted are more likely to enroll in school late. The delay is higher in girls than in boys. Two recent studies provide examples of how programs to improve children’s Feeding status have beneficial effects on attendance of pre-school institutions. One study in informal settlements in East Delhi gave a course of iron
supplementations and deworming treatment to children attending preschools run by women from the local community. Attendance of the preschools rose by 5.8% from the levels of around 70% representing a one fifth reduction in absenteeism (Bobonis Migue; & Sharmas, 2006).

Polio causes paralysis in around in 200 cases. New cases of polio have been reduced from 350,000 in 1998 to under 500 in 2001 with increased vaccination coverage particularly in Sub-Saharan Africa. There is increasing evidence of the impact the HIV/AIDS pandemic is having on children’s schooling. Children from AIDS affected families suffer from the stigma attached to the diseases, with some children turning away from school. However, the disease probably has its effect on children’s education when one or more parents die. In Malawi, 9-10 percent of children were found to drop out of school the year following the death of one parent. A decline in preschool enrollment is one of the most visible effects of HIV/AIDS epidemic. This is because of the many challenges the children face.

In this context, the devastating effects that AIDS is having remained a big concern in African countries. It has been reported that school enrollment has fallen by 20-30% due to AIDS AVERT Africa. The ECD centers have not been spared either, the rate of enrollment has gone down due to the death of parents, children and care givers. The affected children face discrimination even if they are not infected themselves. This discrimination results in the children being denied the special attention and care that they are desperately in need of (Tata Mbugua, 2004). In some cases the infected and affected parents who are expected to enroll children in preschool may lack funds to meet their children’s education demand economically. They spend much of their money on drugs and medication having very little for their children’s education.
According to Obai (2003), some caregivers may die resulting to orphanhood and eventually affecting enrollment. Indeed such children suffer silently for being denied their rightful need to be in preschool although they have attained the age. Some of these children end up being street children and others in orphanage homes and may end up being enrolled when over age.

Attendance involves going to school regularly or participating in a regular process. As parents and guardians and members of the community increasingly become infected by HIV/AIDS and eventually succumb to disease, children are increasingly lacking basic needs such as food, that force them to be out of school regularly. According to Ndurumo (1993) some affected children who are already enrolled in the ECD centres do not regularly attend school. This is due to opportunistic diseases. Such as Malaria, pneumonia, whooping cough, TB which comes along with AIDS. Therefore, children from homes with higher levels of education are not much affected by this opportunistic disease unlike children from parents with low income and low level of education. The children affected may remain at home until the time they regain strength to attend school. Some are on and off the hospital that makes it almost impossible to attend school according to Siringi (2009). Children from low income single parents may remain absent from school to attend to their ill parents as there is nobody else to do so. Some other children from poor families do not attend school because they have nothing to eat and lack energy to attend schools. Some families are large and they lack enough resources. Some children are left with old grandparents who are unable to help their grandchildren in school work. This is according to Maisha Newsletter (2005). Other infected parents may have lost hope in life and they do not care about their children’s performance in school (Maisha Newsletter, 2005).
According to the research which was done by Controls for Diseases and Control in Massachuschs (1994) infected children often miss school due to lack of medication. These children are out of school for 2-3 weeks annually. In Kenya, children’s health deteriorates due to poverty, lack of knowledge, health facilities in some areas and ignorance due to cultural beliefs and practices. All these contribute to absenteeism in preschool.

2.7 Summary of the Literature Review

The literature reveals that SFP enhance preschool attendance and enrolment in some areas while in some it has not yielded any impact. A study carried out in Asia indicates that Armenia food attracted thirty thousand children to school. Another study carried out in India reveals that mid-day meals attracted 15% children to school. According to Ann (2009) reviews carried out in selected international schools yielded mixed results on enrolments. Jansen (2009) further purports that SFP do not always achieve the same effect due to factors like modality of SFP, gender of beneficiaries and types of food provided. Other studies carried out in Malawi and Burkina Faso ascertains that SFP increased enrolment and attendance by a big margin. In another study carried out in Kenya by Wamaru (2012), SFP led to an increase in enrolment in some schools while in others there have been a decline in enrolment. Based on this study, there was therefore need to investigate whether SFP has an impact on school attendance and enrolment in Meru County. Murungi (2012) indicated that 65% of children in Kenya do not attend pre-schools and suggested that provision of SFP may increase enrolments of pre-school children. Based on Murungi’s findings there was need to find out whether there are SFP in all preschools in Meru-County. The findings of this study reveals that there are no SFP in some pre-schools in Meru-county and that in schools that provided the programme, the enrolment and school attendance were high.
CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction
The chapter addresses research design, target population, location on the study, sampling procedure and sample size, data collection and tools, piloting, data analysis and logistical and ethical consideration used in the research study.

3.2 Research Design
The study adopted qualitative research approach using a descriptive survey to investigate the influence of children’s Feeding status on school attendance in early childhood development programs in Meru County. Descriptive survey design suits this study because it allowed the researcher to gather information, summarize, present, and interpret for the purpose of clarification.

3.2.1 Variables of the Study
The study examined two types of variables, namely, dependent and independent.

Independent Variables
The independent variables in the study were; balanced diet, number of times meals are taken, quantity and health of children in the preschool programme. Specifically, it was any adequate and balanced food commodity served in pre-school or home that had value to promote holistic growth as well as development in children and ultimately their academic performance.

Dependent Variable
The dependent variable in this study was School Attendance of Children in Early Childhood Programmes in pre-school activities as gathered through analysis of pupil’s
progress records kept in school and observation of their engagement in pre-school activities during normal class sessions.

3.3 Location of the Study
The study was carried out in Meru County. Some parts of the area are very dry and therefore receive very little rainfall. Most of the times this area experiences drought. The children in the area face difficulties concerning the nutrition. This location is appropriate because it has low ECD enrolment, and a few schools with feeding programmes. Socio economically, the parents are not highly placed (Education Director, 2013). In addition, the high poverty levels in the area hinder parents from participating fully in provision of SFP and there was evidence that there are no SFP in some pre-schools in the county.

3.4 Target Population
The study concentrated mainly on preschool within Meru County. The study assessed how ECE centres responded to issues of child care; survival and development as far as feeding programmes are concerned. To generate data, head teachers, teachers, and children were requested to respond to issues. These institutions were selected based on geographical positions within the County and on the provision of feeding programmes. The target population for the study was 44 pre-schools, 34 public and 10 private with a total of 3282 children enrolled and 115 teachers.

3.5 Sampling Techniques and Sample Size
3.5.1 Sampling Technique
Mugenda and Mugenda (2003) states that stratified random sampling technique is used to achieve desired representation from various sub groups in the target
population. Using a list of pre-schools sought from the County Education officer, the schools were stratified into private and public schools and later 13 schools were randomly selected giving equal allocations on the bases in the County.

3.5.2 Sample Size

The sample size constituted 13 pre-schools. This was a 30% of the total 44 schools in the County. According to Orodho (2005), 10-30% of the population is an adequate sample. Which was further subdivided into the same percentages as of the sample size as shown on Table 3.1

Table 3.1 Study Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Respond e rate</th>
<th>Non- response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Head Teachers</td>
<td>9</td>
<td>100%</td>
</tr>
<tr>
<td>ECD teachers</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>Children</td>
<td>341</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source (2018)

3.6 Research Instruments

The researcher used questionnaires and interview schedules.

3.6.1 Questionnaires

The study used both open and close ended questionnaires which were administered to the head teachers and ECD teachers. The questionnaires were used because they can be completed at the respondents’ convenience, and they offer great assurance of anonymity among other advantages. The questionnaires included closed and open ended questions. Closed ended questions were used in an effort to save time and
money as well as to facilitate an easier analysis as they are in immediate usable form; while the open ended questions were used as they encourage the respondent to give an in-depth and fill response without feeling held back in revealing of any information. With open ended questions, a respondent’s response was expected to give an insight to his or her feelings, background, hidden motivation, interests and decisions. The questionnaires were administered to the respondents, and then collected immediately after they were filled in.

3.7 Piloting

The pilot study was carried out in two public schools from within Meru County. The schools were selected since they provided a population similar to the target population for study. Pilot study was done to detect any weaknesses and if the questions in questionnaires, interview schedule and observation schedule were clear. Problems like inappropriate use of words, poor sentence construction and typing errors that arose during the pre-testing were sorted out with the help of an editor and experts in the area of study. Piloting helps in establishing validity and reliability of the instruments.

3.7.1 Instrument Validity

Validity of questions and other research instruments is validated by experts in the field of early childhood education who were given the instruments to go through to avoid ambiguity and misinterpretation by respondents which could arise at the time of data collection.

3.7.2 Instrument Reliability

A pretest method was used to test reliability of instruments before they are administered to assess their clarity. It was done by administering them to a group of
respondents and collecting the responses. Then after one week, the same instruments were administered to the same respondents to compare the results of initial responses with latter.

3.8 Data Collection Procedures

The researcher booked appointments with sampled schools through the head teachers. The researcher gave questionnaires to the respondents in person for self-administration. The researcher arranged with the head teachers the most convenient time to conduct the interviews. The information given by each respondent was put together and recorded down accordingly for interpretation and analysis.

3.9 Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to prepare and organize data for analysis. Descriptive analysis involved calculation of various measures of central tendency which include: mean frequencies and standard deviation. Inferential statistical analysis involved testing the relationship between variables. The quantitative data from observation schedules and questionnaires were coded using symbols based on variables of enrollment, and attendance. Further, the raw data were then tabulated and chi-square was used to test the significant relationship between variables. The significance level of 0.05 was used and probability value was established using Statistical Package for Social Science (SPSS). The qualitative data from interview on the other hand were analyzed thematically based on variables of enrolment and attendance.
3.10 Logistical and Ethical

3.9.1 Logistical Consideration

The researcher obtained clearance from relevant authorities: the ethics committee of Graduate school, Kenyatta University, the National Council for Science and Technology and Ministry of Education, Meru County.

3.9.2 Ethical Considerations

Director of Education Meru County, Head teachers and pre-school teachers were notified of the research that was being carried out and their consent was obtained. Participation was voluntary and respondent’s opinions were kept private and confidential.
CHAPTER FOUR
FINDINGS INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter presents findings which have been discussed under the thematic areas and sub-sections in line with the study objectives. The objectives were:

i. To establish the type of meals given to children in early childhood programmes.

ii. To assess if balanced diet influence school attendance of children in early childhood programmes.

iii. To establish whether the number of times meals are taken influence school attendance of children in early childhood programmes.

iv. To find out whether eating the correct amount of food influence school attendance of children in early childhood programmes.

v. To investigate whether the health of the child contribute to school attendance of children in early childhood programmes.

The presentation and discussions were in line with the objectives.

4.2 Study Response Rate

This section presents the response rate of the study respondents. The study targeted 9 head teachers 14 ECD teachers, 341 preschool children. Table 4.1 below shows the response rate of the study
Table 4.1 Study Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Response Rate</th>
<th>Non response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Head Teachers</td>
<td>9</td>
<td>100%</td>
</tr>
<tr>
<td>ECD teachers</td>
<td>14</td>
<td>100%</td>
</tr>
<tr>
<td>Children</td>
<td>314</td>
<td>100%</td>
</tr>
</tbody>
</table>

The study obtained 100% (23) respondents from the head teachers and ECD teachers whereas children recorded 100% (341). In which according to Hagger et al., (2003), the researcher should strive to achieve a response rate of 50 percent, 60 percent or 75 percent.

4.3 Demographic Information of ECD Teachers, Head Teachers and Children

Demographic information gives the background information of the respondents in a study. Below is the demographic information of the various respondents sought, namely?

1) Gender of ECD Teachers, Head Teachers and children.
2) Age of ECD Teachers and Head Teachers
3) Level of education of ECD Teachers and Head Teachers.

The results are discussed in table 4.1, figure 4.1, table 4.2 and figure 4.2 below.

4.3.1 Gender

The gender distribution of teachers, parents and pre-school children is presented according to sex. The result in the table 4.2 below shows the findings.
Table 4.2 Gender

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head Teachers</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>31%</td>
<td>69%</td>
<td>100</td>
</tr>
<tr>
<td>ECD Teachers</td>
<td>4</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>27%</td>
<td>73%</td>
<td>100</td>
</tr>
<tr>
<td>Children</td>
<td>167</td>
<td>174</td>
<td>341</td>
</tr>
<tr>
<td></td>
<td>49%</td>
<td>51%</td>
<td>100</td>
</tr>
</tbody>
</table>

From the results in the table 4.2 above the results indicate that majority 69% (6) of Head teachers were female whereas 31% (4) were male Head teachers. Majority 73% (10) of the ECD Teachers respondents were female while 27% (4) were male ECD Teachers. Lastly, majority 51% (174) of children involved in the study were female while 49% of them were male.

4.3.2 Age of ECD Teachers and Head teachers

The table 4.3 below shows age distribution of respondents (teachers and head teacher) of the study. The results were analyzed and the findings are as shown below.
Table 4.3 Age of ECD Teachers and Head teachers

<table>
<thead>
<tr>
<th>Years</th>
<th>Head Teachers</th>
<th>ECD Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>18-22</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>23-27</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>28-32</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>33-37</td>
<td>5</td>
<td>56%</td>
</tr>
<tr>
<td>38-42</td>
<td>1</td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the results in the table 4.3 above, is evident that the majority 56% (5) and 36% (5) of ECD Teachers and Head teachers were between the age bracket 33-37 and 28-32 respectively. This indicates that most parents and teachers were in the capacity of tackling Feeding problems of the children.

4.3.3 Level of Education of ECD Teachers and Head Teachers

Results of teachers and head teachers level of education are presented in the table 4.4 below
Table 4.4 Level of education

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Head Teachers</th>
<th>ECD Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Primary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Secondary</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Post-secondary /collage/professional Training</td>
<td>6</td>
<td>98%</td>
</tr>
<tr>
<td>University</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No schooling</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

It was necessary to establish the education level of teachers since it has been strongly associated with health of children and also the importance attached to education. From the results in the table 4.4, majority 98% (6) of the Head teachers reached up to Post secondary /college/ professional training while 2% (3) had attained secondary school level of education. Majority 51% (7) of ECD teachers have studied up to Post secondary /college /professional training, 17% (3) only reached primary level, 14% (2) studied up to secondary level, 18% (3) reached up to university level of education.
4.4 Number of Meals Served to Pre-School Children in a Day

The first objective of the study was to determine the number or frequency of meals given to preschool children to enhance their school attendance. The results in the figure 4.2 below shows the results of responses by parents when they were asked the number of meals they offer to their children in a day.

**Figure 4.1 Number of meals served to Pre-school children in a day**

![Bar chart showing the distribution of meals served to pre-school children.](image)

The figure 4.1: show that majority 49% (144) of the parents give their children’s a meal a day whereas 29% (82) give their children three meals in a day and 23% (67) give their children two meals a day.

4.5 Types of Packed Meals offered to Pre-School Children

The second objective was to determine the types of meals offered to Preschool children. ECD Teachers were asked the type of meals they offer their children. And the figure 4.2 below shows the results of the findings
From the figure 4.2 above the results indicate that majority 46% (135) of the respondents offered Ugali and Vegetables to their children, 23% (67) offered githeri, 21% (62) of the respondents offered porridge whereas 10% (29) offered beans and rice. The findings are in line with Mungai (2004) who states that school feeding programs (SFP) provide meals or snacks to school children on the site. The meals served at school may be nutritionally dense and can be easily fortified with additional nutrients that may be scarce in local diets, such as iron or vitamins A and E. Targeting is broad in that all children at the school are fed; it would be difficult to discern between children of different socio-economic status (SES) within a school setting and likely disruptive to the educational experience if some children were fed while others were not.

4.5.1 Children’s Age, Weight and Height

The anthropometric measurements of age, weight and height of pre-school children were sought. Table below 4.5 shows the results.
Table 4.5: Children’s Age, Weight and Height (N=341)

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Childs weight(kg)</th>
<th>Childs height (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>60.5</td>
<td>15.550</td>
<td>37.1</td>
</tr>
<tr>
<td>Median</td>
<td>62.1</td>
<td>15.738</td>
<td>37.379</td>
</tr>
<tr>
<td>Mode</td>
<td>63.0</td>
<td>14.0</td>
<td>36.72</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>9.9905</td>
<td>2.6911</td>
<td>3.878</td>
</tr>
<tr>
<td>Range</td>
<td>72.0</td>
<td>23.0</td>
<td>45.2</td>
</tr>
<tr>
<td>Maximum</td>
<td>63.0</td>
<td>24.482</td>
<td>48.2</td>
</tr>
</tbody>
</table>

According to table 4.5, the average age was five years (60.5 months) and most of the children in the study were aged 63 months. The mean weight of children was 15.550 kg and height was 37.1 inches. Majority of the children had a weight of 14kg and were measured to have a height of 36.72 inches. The children’s maximum weight was 24.482 kgs and maximum height was 48.2 inches or 122.6 centimeters. This finding is also closely related to that of Mwema (2006) that the number of meals consumed in a day is related to stunting. To get the height in centimeters, the inches were converted. Using the information derived from tables; 4.5 on children’s age, weight and height.

4.5.3 Feeding Status (height for age Z scores) (stunting)

This information was categorized and summarized into Feeding status in terms of stunting and underweight using the cut-off points given in table 4.6 and 4.7 to establish Feeding status.
Table 4.6 Feeding Status (Height for Age Z Scores) (Stunting)

<table>
<thead>
<tr>
<th>Feeding status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal ($Z \geq -2$)</td>
<td>133</td>
<td>39%</td>
</tr>
<tr>
<td>Moderate ($-3 \leq Z \leq -2$)</td>
<td>167</td>
<td>49%</td>
</tr>
<tr>
<td>Severe ($Z \geq -3$)</td>
<td>41</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>341</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Means less than, $\geq$ Means greater than or equal to, $\leq$ Means less than or equal to. Children’s Feeding status in terms of stunting was further characterized into three groups; the normal, the moderate and the severe. Table 4.6 shows that among the 341 pre-school age going children in Meru County, majority of the children 167 (49%) were moderately stunted, 133(39%) of them were normal and only 41(12%) were severely stunted.

Table 4.7: Feeding Status (Weight for Age Z Scores) (Underweight)

<table>
<thead>
<tr>
<th>Feeding status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal ($Z \geq -2$)</td>
<td>53</td>
<td>15.4%</td>
</tr>
<tr>
<td>Moderate ($-3 \leq Z \leq -2$)</td>
<td>269</td>
<td>78.9%</td>
</tr>
<tr>
<td>Severe ($Z \geq -3$)</td>
<td>19</td>
<td>5.7%</td>
</tr>
<tr>
<td>Total</td>
<td>341</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Means less than, $\geq$ Means greater than or equal to, $\leq$ Means less than or equal to.
From table 4.7 it is shown that among the 341 pre-school age going children in Meru County many of them 269 (78.9%) confirm this figure were moderately underweight, 53 (15.4%) of them were normal and only 19 (5.7%) were severely underweight. These findings corroborate with findings of Bellisle (2004) which concluded that growth retardation observed among school age children in East African sub region is striking and their Feeding status is at risk hence the importance of this study.

4.6 Influence of Feeding Status on School Attendance of Pre-School Children

This was the third objective of the study under which the following subheadings were discussed: performance in the pre-school children’s previous tests, participation in ongoing activities and how nutrition influenced school attendance of pre-school children.

4.6.1 Influence of Nutrition on School Attendance of Pre-School Children

The ECD teachers and Head teacher participants in this study were asked if nutrition status affected school attendance in early childhood development programs as shown in the table 4.8 below.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>ECD Teachers</th>
<th>Head Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>67%</td>
</tr>
<tr>
<td>No</td>
<td>5</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4.8 Whether Nutrition Influences School Attendance of Pre-School Children
From the table 4.8 above the results imply that, majority 67% (9) ECD Teachers, 80 % (7) Head teachers agreed that nutrition influences school attendance of pre-school children whereas 33% (5) ECD Teachers and 20% (2) Head teachers did not agree to that statement.

4.6.2 Teachers’ Responses on Level of Feeding Influence School Attendance of Pre-School Children

Teachers were presented with questions of likert scale (1-5) to indicate their level of agreement on statements of how nutrition influences school attendance of their children and the results in the table 4.9 show their responses.

Table 4.9 Level of Feeding Influence on School Attendance of Pre-School Children

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither disagree nor agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children, who go to school hungry, without break first, lower math scores and are more likely to have to repeat at least once in the same class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic problems, as well as emotional and behavioral difficulties can be tied directly to poor nutrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undernourished kids tend to lower score on cognitive tests than those who get the right nutrition.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children, who eat breakfast at school, closer to the time they tests, perform better on standardized tests.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children who participate in school breakfast programs tend to show improved math grades, and have higher attendance and punctuality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the results in the table 4.9 above, majority 36.2% (5) of teachers strongly agreed that children, who go to school hungry, or without breakfast, tend to have lower math scores and are more likely to have to repeat at least once in the same class. 23.6% (3) agreed, 16.9% (2) neither agreed nor disagreed to the statement, whereas 14.5% (2) disagreed while 8.8% (1) strongly disagreed.

Majority 40.5% (5) agreed that, Academic problems, as well as emotional and behavioral difficulties can be tied directly to poor nutrition. 26.7% (3) strongly agreed, 13.9% (2) neither agreed nor disagreed to the statement whereas 21% (2) disagreed. On the statement undernourished kids tend to score lower on cognitive tests than those who get the right nutrition, majority 56.4 % (7) strongly agreed, 19.9 % (2) agreed, 12.5% (2) neither agreed nor disagreed whereas 5.7% (1) disagreed while 5.4 % (1) strongly disagreed.

Once again, majority 38.2% (5) of respondents strongly agreed that, children, who eat breakfast at school, closer to the time they take tests, perform better on standardized tests. 29.4% (4) agreed to the statement whereas 26.4% (3) neither agreed nor disagreed while 8.8 % (1) disagreed. The results indicate that children who participate in school breakfast programs tend to show improved math grades, and have higher attendance and punctuality. Since majority 35.8% (5) agreed to that, followed by 24.1% (3) who disagreed while 16.9% (2) strongly agreed whereas 15.9% (2) strongly disagreed and lastly 6.8% (1) neither agreed nor disagreed. These results are consistent with findings from other studies, including Kabubo-Mariara et al. (2009) in Kenya and Mbuya et al. (2010) in Zimbabwe.
4.6.3 School Attendance in the Previous Years.

It was of great essence for the study to establish the school attendance of the pre-school children, thus a linkert scale of 1-3 was used to rate the individual performance of children in the pre-school institutions and the findings were as tabulated in table 4.10 below.

Table 4.10 School Attendance in the Previous Years

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
<td>52</td>
<td>15%</td>
</tr>
<tr>
<td>Good</td>
<td>89</td>
<td>26%</td>
</tr>
<tr>
<td>Fair</td>
<td>200</td>
<td>59%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>341</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

From the results in the table 4.10 above, the study indicates that majority 59% (200) of the pre-school children attendance in the previous years was fair, followed by 26% (89) whose attendance was good while only 15% (52) performed very good. This indicates that the pre-school in Meru County zone attendance record was fair.

4.6.4 School Attendance in the Previous Years Observation Checklist

The researcher observed children’s attendance and performance in class activities conducted by the teacher that relate to their attendance. Thus the researcher used an observation checklist to determine school attendance in the previous years in various activities as indicated in the table 4.11 below
Table 4.11 Participation in Different Activities Checklist

<table>
<thead>
<tr>
<th>Nature of discipline</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateness to school</td>
<td>266</td>
<td>78%</td>
</tr>
<tr>
<td>• Sleeping /dozing in class</td>
<td>276</td>
<td>81%</td>
</tr>
<tr>
<td>• Crying during class session</td>
<td>259</td>
<td>76%</td>
</tr>
<tr>
<td>• Reluctant in doing assignments</td>
<td>269</td>
<td>79%</td>
</tr>
<tr>
<td>• Sneaking out of school</td>
<td>283</td>
<td>83%</td>
</tr>
<tr>
<td>• Dorman in participation in class activities</td>
<td>286</td>
<td>84%</td>
</tr>
<tr>
<td>• Poor eating habits</td>
<td>310</td>
<td>91%</td>
</tr>
<tr>
<td>• Poor class room concentration</td>
<td>297</td>
<td>87%</td>
</tr>
<tr>
<td>• Participation in physical activities</td>
<td>280</td>
<td>82%</td>
</tr>
</tbody>
</table>

From the findings in the table 4.11 above the results indicate that a great number of children 266 (78%) arrive to school very late. This might be due to laxity in coming to school or having meals late or no meals at all in the morning. The findings also indicate that 276 (81%) of students are prone to sleeping /dozing in class which may be coursed by overeating or not having taken any meal at all. Also majority 259 (76%) were observed to be crying in class without a course which is an indication of hunger.

A greater number 269 (79%) especially from schools without feeding programmers were observed to be reluctant in doing class assignments, which was due to lack of concentration and hunger, and thus leading almost all 286 (84%) to be dormant in participation in class activities. As most of the 310 (91%) were observed to be having poor eating habits while others 283 (83%) sneaked out of school.
It was observed that most 297 (87%) were poorly concentrating in class while majority 280 (82%) were observed to have little participation in physical activities. It affects school children directly through absenteeism and frequent illnesses, poor school enrolment, early drop out and poor classroom performance (FAO/WHO, 1992).

4.7 Balanced Diet and School Attendance of Children in the Previous Years

The forth objective was on Balanced Diet and School Attendance of Children. Pearson Product Moment Correlation Coefficient was utilized to test this objective. The Correlation was tested at 0.05 significant levels. Table 4.12 presents findings for this objective:

Table 4.12 There Is No Significance Influence of Nutrition on School Children Attendance in Previous Years

<table>
<thead>
<tr>
<th>Related</th>
<th>Not related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation sig (2-tailed)</td>
<td>Related</td>
</tr>
<tr>
<td>N</td>
<td>341</td>
</tr>
<tr>
<td>1</td>
<td>132*</td>
</tr>
<tr>
<td>0.033</td>
<td>341</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related</th>
<th>Not related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation sig (2-tailed)</td>
<td>Related</td>
</tr>
<tr>
<td>N</td>
<td>341</td>
</tr>
<tr>
<td>1.372*</td>
<td>1</td>
</tr>
<tr>
<td>0.033</td>
<td>341</td>
</tr>
</tbody>
</table>

Table 4.12 indicates that there was a positive correlation between the two variables where \( r = 1.372, \ p = 0.033, \ n = 341 \). There was therefore a positive correlation between nutrition and school attendance of pre-school children. The results also revealed that the p-value was 0.033, which is less than 0.05 (\( p=0.033<0.05 \)). This
implies that statistically there is a significant relationship between the two variables. It also means that an improvement in nutrition status significantly relates to an improvement in performance. The results here therefore agrees with Haltermann (2001), that good nutrition has been said to have favorable effects on educational attainment and it is expected that a well-nourished child will learn more readily than poorly nourished one, hence the need for this study.

4.8 Food Quantity on School Attendance of Pre-School Children from Schools with Feeding Programmes and Those Without

The final objective was on food quantity on attendance of preschool children. This section 4.6 sought to find out the difference in school attendance in the previous years of children in pre-schools with or without feeding programmes as stated in objective three and the results are discussed as per the sub-objective;

☐ Eating correct amount of food influence Attendance of pre-school children
☐ Effects of school feeding programmes on performance of pre-school children
☐ Comparison of performance of school with and those without feeding programmes.
☐ HO2: No Significant Difference in school attendance in the previous years of Pre-School Children from Schools with Feeding Programmes and Those Without.

4.8.1 Quantity of Food on Attendance of Pre-school children

The table below 4.13 shows the results of the findings of attendance of pre-school children.
Table 4.13 Quantity of Food on Attendance of Pre-school children

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Schools with quantity feeding programmes</th>
<th>Schools without quantity feeding programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>Percentage</td>
</tr>
<tr>
<td>Term 1</td>
<td>89.3%</td>
<td>94%</td>
</tr>
<tr>
<td>Term 2</td>
<td>89.3%</td>
<td>96.1%</td>
</tr>
<tr>
<td>Term 3</td>
<td>85.23%</td>
<td>97.8%</td>
</tr>
</tbody>
</table>

Table 4.13 above shows the attendance of pre-school children based on quantity of meals given in a school, in the year 2012 and 2013 for the three terms. The results indicate that in the years 2012 and 2013 the schools with a feeding programme had a higher attendance than the schools which do not have a feeding programme. This shows that a feeding programme is one of the factors influencing the attendance of the pre-scholar.

4.8.2 Effects of on School Feeding Programme on the School Attendance of Pre-School Children in Meru County

In the area of attendance, the respondent teachers from the schools with the feeding programme confirmed that there has been an increasing trend in attendance with many pre-school children being attentive in class. On the other hand, schools without feeding programme had an increasing trend in attendance during earlier years while in the present years the trend was on the decline. This was most likely attributed to changes in the feeding programme in the schools. All the teachers from the schools offering the feeding programme further graded their school feeding programme as good and all respondent teachers noted the effects of the feeding programme on attendance as good. This indicated that the feeding programmes had a positive impact.
on performance. This was further supported by the fact that children’s participation in activities before meals was slow and there was poor concentration as opposed to participation after meals where concentration was good and the children were jovial. The children’s favorite meal was ugali.

4.8.3 Comparison of Attendance in Pre-Schools on Quantity of Food Feeding Programme with those without the Programme

Table 4.14 Comparison of Pre-schools’ attendance

<table>
<thead>
<tr>
<th>Schools with a feeding Programme 2013</th>
<th>Schools without a feeding Programme 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School A</strong></td>
<td><strong>School H</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>13.5</td>
<td>12.3</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>18.9</td>
<td>11.5</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>19.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>17.5</td>
<td>12.2</td>
</tr>
<tr>
<td><strong>School B</strong></td>
<td><strong>School I</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>18.7</td>
<td>16.3</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>17.4</td>
<td>17.0</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>17.9</td>
<td>15.7</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>18.00</td>
<td>16.3</td>
</tr>
<tr>
<td><strong>School C</strong></td>
<td><strong>School J</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>16.6</td>
<td>15.4</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>19.4</td>
<td>14.4</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>17.4</td>
<td>13.4</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>17.8</td>
<td>14.4</td>
</tr>
<tr>
<td><strong>School D</strong></td>
<td><strong>School K</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>18.4</td>
<td>14.3</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>19.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>19.8</td>
<td>14.1</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>19.3</td>
<td>14.2</td>
</tr>
<tr>
<td><strong>School E</strong></td>
<td><strong>School L</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>17.9</td>
<td>13.2</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>17.3</td>
<td>13.2</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>18.6</td>
<td>13.2</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>17.9</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>School F</strong></td>
<td><strong>School M</strong></td>
</tr>
<tr>
<td>Term 1</td>
<td>Term 1</td>
</tr>
<tr>
<td>16.9</td>
<td>11.6</td>
</tr>
<tr>
<td>Term 2</td>
<td>Term 2</td>
</tr>
<tr>
<td>16.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Term 3</td>
<td>Term 3</td>
</tr>
<tr>
<td>17.0</td>
<td>12.5</td>
</tr>
<tr>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>16.0</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>School G</strong></td>
<td></td>
</tr>
<tr>
<td>Term 1</td>
<td>18.4</td>
</tr>
<tr>
<td>Term 2</td>
<td>18.3</td>
</tr>
<tr>
<td>Term 3</td>
<td>18.7</td>
</tr>
<tr>
<td>Mean</td>
<td>18.5</td>
</tr>
</tbody>
</table>
Pre-schools within Meru County do a common examination every term. Table 4.14 shows the end of term attendance for pre-schools, which offered children feeding programme and those that were without it. The comparison of the mean of schools which had a feeding programme with those which did not have one shows that the former had performed better.

The lowest mean score for the schools which had a feeding programme was 17.0, while the lowest mean for the schools that did not have a school feeding programme was 12.2. The highest mean for the schools that had a feeding programme was 19.8, while the highest mean for the schools that did not have a feeding programme was 16.3.

This clearly indicates that an SFP -not in the acronyms was one of the factors that contributed to performance of Pre-schoolers. The fact that some schools which did not have a feeding programme were performing better than those that had a school feeding programme shows that there were other factors that contributed to improved performance and not a feeding programme alone.

4.8.4 HO₂ testing, No Significant Difference in attendance of Pre-School Children from Schools with Feeding Programmes and Those Without

Pearson Product Moment Correlation Coefficient was utilized to test this hypothesis. The Correlation was tested at 0.05 significant levels. Table 4.5 presents findings for this hypothesis;
Table 4.15 No significant difference in attendance of pre-school children from schools with feeding programmes and those without

<table>
<thead>
<tr>
<th>Related</th>
<th>Related</th>
<th>Not related</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation sig (2-tailed) N</td>
<td>1 3</td>
<td>0.090* 0.013 13</td>
</tr>
<tr>
<td>Not related</td>
<td>Pearson correlation sig (2-tailed) N</td>
<td>0.090* 0.013 13</td>
</tr>
</tbody>
</table>

Table 4.15 indicates that there was a positive correlation between the two variables where r = 0.090, p = 0.013, n = 13. There was therefore a positive correlation between nutrition and academic performance of pre-school children. The results also revealed that the p-value was 0.013, which is less than 0.05 (p=0.013<0.05). This implies that statistically there is a significant relationship between the two variables. It also means that an improvement in Feeding status significantly relates to an improvement in attendance. The null hypothesis was therefore rejected. These findings support Kar et al (2008) who stated that malnourished children showed lower results than the adequately nourished ones on different tests administered.
CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

5.1 Introduction
This chapter presents the summary, conclusion and implications based on the findings. The recommendations are also made based on the findings. The chapter also provides suggestions for further studies.

5.2 Summary of Objective Findings

5.2.1 Types of Meals and School Attendance of Children in Early Childhood Programmes
The findings revealed that SFP is available in some pre-schools in Meru County even though they are on and off depending on the availability of food. In pre-schools that provide SFP, meals are offered once and Ugali and Vegetables is the common meal in most pre-schools. The discontinuation of SFP during famine implies that SFP is not consistently provided in ECD centres hence its benefits may not be fully realized.

5.2.2 Balance Diet on School Attendance of Pre-School Children
The study findings indicated that balance diet has a great influence on the attendance of pre-school children. Most children who were undernourished recorded low attendance as compared to those who were well fed and had good nutrition status. The study also found out that most pre-school children are not offered sufficient meals which provide a balance diet for them hence results to low concentration in, class and dormancy in class participation. Under nutrition impairs all the aspects of school readiness, cognitive, motor and socio emotional development. Preventative supplementation improves cognitive development and educational achievement of
pre-scholars with girls benefiting more than boys where gender differences are found. For moderately under nourished children psychosocial stimulation and to a lesser extent feeding supplementation has effect on cognitive development.

5.2.3 Difference in Attendance of Schools with Food Quantity Feeding Programme and those Without

The study found out that there is a great difference in attendance between schools with feeding programmes and those without feeding programmes. Schools with feeding programmes performed better in class than the other schools without feeding programmes.

5.2.4 Health and School Attendance of Children in Early Childhood Programmes

A number of indicators were used to classify the Feeding status of the school children. These include Weight for age, Height for age. Z-scores for these indices were used in the classification into stunted, underweight or wasted categories according to the WHO standard growth references (WHO, 2007). A general tendency towards under nutrition, that is, stunting and underweight as the mean indices (HAZ & WAZ) lay below the standard means. It can be deduced that the general Feeding status of the children was below the optimal levels as defined by WHO (2007) criteria.

5.3.4 Approaches to Improve Nutrition of Pre-School Children

Stakeholders in pre-schools children’s Feeding status which include teachers, parents, and governments have put in place several measures in various schools to improve Feeding status. At the ground level parents and the community contribute money to finance the school feeding programme in seven pre-schools. There is need for the National government to oversee the county governments to provide necessary
programmes in schools. Despite allocation of funds by the national government to the County, there are no funds set aside for feeding programmes. Furthermore, there are no skilled personnel to create awareness among head teachers and parents on importance of SFP.

5.4 Observation of Children’s Attendance

The results showed that majority of the children had not performed well in the previous tests as indicated in their progress records. The researcher took time to study the children in the morning, before and after lunch.

The findings indicated that in the morning the children looked happy to be in the school, although they looked pale. This could have been due to lack of breakfast in the morning and poor diet in their evening meals. Those interviewed especially from schools outside the feeding programme indicated they even had to sacrifice some evening meal to get enough carry to school to avoid discrimination.

Some hours before meal the children looked jovial and were in a hurry to leave the classrooms. They were observed to fight and made irregular queues to be served first. The best moments were in the afternoon after the meals where the children looked happy and satisfied and concentrated in class. However, some pupils engaged themselves in play and slept peacefully in the afternoon.

5.5 Conclusions

The study also concludes that the school feeding programmes have led to an increase in the level of enrolment in early childhood education. The study concludes that the frequency of school feeding programme have helped in increasing enrolment in early
childhood education and retaining the children in the school since its commencement, reduced absenteeism, improved performance as a result of daily attendance of school by children and the health of the children has also improved as compared to when there was no feeding programme.

On how the types of school feeding programs affect enrolment in early childhood education, the study also concludes that ECD teachers meet with head teachers very frequently to discuss how to make the school feeding programme better. The issues they discuss in the meetings in relation to school feeding programme and performance include planning on the budget of the feeding programme, what the parents should contribute in terms of money, the amount of food each parent should bring to this count, salary of the cook, amount of food each child should get and how many times the meals should be provided. The study further concludes that the schools offer onsite meals where children are fed with food mainly lunch while in school and this type and method of targeting school feeding programmes affect the enrolment in early childhood education in the schools to a great extent.

The study concludes that health diet feeding status of pre-school children greatly affect their school attendance and according to the research findings the study indicates that hungry children have high tendency of performing poorly due to lack of concentration and dormancy in class.

The parent noted that the feeding programme had benefited their children positively and gave out the following advantages of the programme: balanced diet allows time for their children to actively participate in activities since they don’t have to think
about their lunch. Meals offer a good base for concentration in activities and allow all children to view others equally since they eat a common meal.

This study also concludes that the school menu in all schools was porridge for breakfast and ugali/rice/githeri for lunch interchangeably. Parents in schools with feeding programmes supported the feeding programme by constructing the kitchen, paying the cooks, offering facilities like, spoons, plates, and sufurias, offering materials like firewood, taking part in kitchen cleaning activities and volunteering to serve the children.

5.6 Recommendations of the Study
The researcher found out that only 20% of the schools had centrally organized feeding programme which affected children nutrition and school attendance. The researcher, therefore, would recommend the management to come up with solutions so as to allow improvement of nutrition which would help improve attendance in pre-schools.

On the types of meals offered in preschools in Meru County. It was evidenced that different meals are offered. Even though a variety of meals were offered in some preschools, it was found out that they were served in small portions. There is need for school managers to ensure that balanced meals with small portions of all nutrient components are offered in schools. There should be frequent change of the diets to avoid monotony. This will help boost school attendance and enrolment.

From the findings it was evident that the various types of school feeding programmes boost the enrollment to early childhood education. As education is an important aspect in the realization of vision 2030, the government should come up with a way of
supporting the programme to ensure that more pupils are enrolled for early childhood education to boost the acquisition of basic education.

The stakeholders like the County governments should develop curriculum and a programme for equipping parents of preschool Children with knowledge on good nutrition and importance of balanced diet which is vital for good performance. MOE and the parents also need to support all the ECDE Centers in Meru County to organize and sustain centralized feeding programmes and ensure that foods offered are balanced and health. MOE should also partner with other development bodies, NGOs and GOK ministries to identify severely malnourished children and put them on special programmes.

5.7 Suggestions for Further Research

In relation to the findings and the conclusion in this study, the researcher recommends that further studies should be done on the influence of children’s feeding status on school attendance in early childhood development programs. A similar study should be conducted in an urban setting to establish the relationship between nutrition and academic performance of pre-school children urban areas.
REFERENCES


APPENDICES

APPENDIX I: Questionnaire For Teachers

Instructions: Indicate using a tick (√) the most appropriate answer.

Part A: Background Information

1. What is your gender?  Male ( )  Female ( )
   
   Age  25-40 ( ) 41-55 ( )  above 55 ( )

2. What is your highest level of education?
   
   Untrained ( )  PI ( )  SI/SII ( )  Graduate ( )

3. What is the pupil population in your school?
   
   1-20 ( )  20-30 ( )  30 and above ( )

4. Years of service in the school
   
   1-10 ( )  10 and above ( )

Part B: School Attendance

   
   Please indicate using a tick (√) your level of agreement with the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pupils attendance rate in the school is good.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeding status influence attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health of the child affects school attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All pupils attend school daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of absenteeism is low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. In your opinion, what factors mostly influence pupils attendance?

7. How would you describe the attendance of pupils in your school?
   - Regular ( )
   - Inconsistent ( )
   - Seasonal ( )

8. Is the school attendance related to the school meals?
   - Yes ( )
   - No ( )


   Please indicate using a tick (✓) your level of agreement with the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of food gives more energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein rich foods are key in child’s growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of meals attract pupils attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snacks given at 10.00 am attracts attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provision of lunch attracts attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. In your opinion, how has the school meal influenced the pupil attendance in school?

________________________________________________________________________

________________________________________________________________________
**Part D Influence of Balanced Diet on School Attendance**

10. Are the meals given to the pupils in school balanced?
   
   Yes (   )                      No (   )

11. Tick the category of the nutrients contained in the meals given to the children.
   
   Carbohydrates (   ) protein (   ) vitamins (   ) fats Minerals (   )


   Please indicate using a tick (√) your level of agreement with the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy giving foods influences school attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein giving foods attracts attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A child fed on a balanced diet is active and regular in school attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A child fed on a balanced diet is very motivated and looks healthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A well fed child develops faster and does not miss school.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part D Influence of Number of Meals on School Attendance

13. Indicate the number of times children take meals in school

   Once     (   )   Twice (   )   Thrice (   )


Please indicate using a tick (✓) your level of agreement with the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>The school provides breakfast to children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At 10.00 am children are provided with energy giving drink</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch is provided to all children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of meals provided attract school attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All children take three meals in a day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children take a snack after school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All children take breakfast before coming to school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part E: Influence of Food Quantity on School Attendance

14. The children are satisfied with the quantity of food given to them in school.

   Yes (   )                          No (   )

Please indicate using a tick (√) your level of agreement with the statement.

| Statement                                                                 | SD | D | N | A | SA |
|---------------------------------------------------------------------------|----|--|--|--|--|--|
| Quantity of food given to children attracts attendance                    |    |   |   |   |   |
| Food quantity demand varies with age                                      |    |   |   |   |   |
| Quantity of food is served based on age                                   |    |   |   |   |   |
| Active children require large quantity of food                           |    |   |   |   |   |
| A child fed on correct amount grows holistically and thus does not miss school. |    |   |   |   |   |
| Correct food quantities gives children energy to explore and discover thus motivated to always attend school |    |   |   |   |   |

Part F: Influence of Health on School Attendance

16. The children with good health are always in school.
   Yes (      )              No (      )

<table>
<thead>
<tr>
<th>Statement</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children fall sick during school days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sickness is one of the reasons children miss school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The healthy a child is the more motivated she/he is to attend and learn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The development of a child is determined by the health status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health children participate in school activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unhealthy children are absent from school regularly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX II: QUESTIONNAIRE FOR THE HEAD TEACHER OF

PRESCHOOL

Please complete each of the sections in this questionnaire as illustrated. DO NOT write your name or institution as this information given is confidential.

SECTION A

1. What is your gender?
   a) Male (  )
   b) Female (  )

2. What is your age in years? ________________________________

3. For how long have you worked as a head teacher? _________________

4. (a) what is your highest academic qualification?
   i) KCE/KCSE (  )
   ii) KACE/EACE (  )
   Others specify

(b) What is your professional qualification?
   a) ATS/DIPLOMA (  )
   b) B.A/B.ED Arts/M.E.D ECE (  )
   Others specify ________________________________

5. Indicate the type of institution you lead
   a) Private
   b) Public
6. Indicate the enrolment by gender

Fill in the table below on enrolment for the last 4 years

<table>
<thead>
<tr>
<th>Year</th>
<th>Baby class (2-3) years</th>
<th>Nursery 4years</th>
<th>pre unit (5-6) yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. (a) is there feeding programme in the school? ____________________________
   (b) If yes how long has the feeding programme been operational _______________
   (c) What promoted the need to have the feeding programme in the centre? ________
   (d) How many meals do you serve in a day?
   (e) Who supports /funds the school feeding programme?
      i) Parents ( )
      ii) W.F.P ( )
      Others specify ____________________________________________________________
8. Of what assistance if any have the government agencies, NGOs to you in support of the programmes? ___________________________________________

9. How much do you charge per pupil to finance feeding programmes? ____________

10. What is your rating on parent’s subscription towards sentence of school feeding programme?

   a) Very good (  )
   b) Fair (  )
   c) Good (  )
   d) Poor (  )

11. Rate the pupil’s enrolment /attendance

   a) High (  )
   b) Low (  )

12. (a) What quality of service providers do you prefer to prepare food for your children?

   a) Professional cooks (  )
   b) Teacher (  )
   c) Volunteers (  )

   (b) Where is food prepared? __________________________________________

   (c) What is your source of water? _________________________________________

   (d) What are the conditions of the equipment’s or facilities children use at feeding times?

   ______________________________________________________________

   (e) Comment on the adequacy __________________________________________
APPENDIX III: QUESTIONNAIRE FOR PUPILS

Instructions: Please respond to the items given as honestly and accurately as possible.

1. Gender? Male (  ) Female (  )

2. Age: Below 3 yrs (  ) 3-5 yrs (  ) above 5 yrs (  )

3. Is there school feeding programme in your school?
   Yes (  ) No (  )

4. Were you attracted to attend school because of free meals?
   Yes (  ) No (  )

5. If your answer is Yes in Question 4, give reasons
   There is no regular meals at home (  )
   Am assured of free meals in school (  )
   Others specify-----------------------------------------------

6. What motivates you to attend school regularly?
   I get means in school (  )
   Want to learn (  )
   Education is free (  )

7. Do the school meals help you attend school regularly?
   Yes (  ) No (  )

8. Is school meal the only regular meal for you?
   Yes (  ) No (  )

9. Do you get a balanced diet in school meals?
   Yes (  ) No (  )

10. What meals do you get in school?
    Breakfast (  ) 10.00 O’Clock Snack (  ) Lunch (  )

11. Does your health affect your school attendance?
Yes (  ) No (  )

12. Which is your favorite food in school-----------------------------

13. Is the amount served to you enough?
   Yes (  ) NO (  )

14. Specify the types of food offered in school-----------------------
APPENDIX IV: APPROVAL FROM GRADUATE SCHOOL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

Our Ref: E55/CE/23599/2013

Director General,
National Commission for Science, Technology
and Innovation
F.O. Box 30632-00100
NAIROBI

DATE: 13th February, 2018

Dear Sir/Madam,


I write to introduce Ms. Nancy M. Muthomi who is a Postgraduate Student of this University. She is registered for M.Ed degree programme in the Department of Early Childhood Studies.

Ms. Nancy M. Muthomi intends to conduct research for a M.Ed Project Proposal entitled, “Influence of Children’s Nutritional Status on School Attendance in Early Childhood Development Programs in Meru County, Kenya”.

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL
APPENDIX V: NACOSTI Authorization Letter

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref No. NACOSTI/P/18/18899/22039

Date: 24th April, 2018

Nancy Muthoni Muthomi
Kenyatta University
P.O. Box 43844-00100

NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effect of nutritional status on school attendance of children in early childhood programs in Kiirua Zone Buurt Sub-County, in Meru County, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Meru County for the period ending 23rd April, 2019.

You are advised to report to the County Commissioner and the County Director of Education, Meru County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Meru County.

The County Director of Education
Meru County.
APPENDIX VI: PERMIT

THIS IS TO CERTIFY THAT:
MS. NANCY MUTSONI MUTOMI
of KENYATTA UNIVERSITY, 0-60200
Meru, has been permitted to conduct
research in MERU COUNTY

on the topic: EFFECT OF NUTRITIONAL
STATUS ON SCHOOL ATTENDANCE OF
CHILDREN IN EARLY CHILDHOOD
PROGRAMS IN KIRUZA ZONE BUURI
SUB-COUNTY, IN MERU COUNTY, KENYA

for the period ending:
23rd April, 2019

Applicant's
Signature

Director General
National Commission for Science,
Technology & Innovation

CONDITIONS
1. The Licence is valid for the proposed research,
research site specified period.
2. Both the Licence and any rights thereunder are
non-transferable.
3. Upon request of the Commission, the Licensee
shall submit a progress report.
4. The Licensee shall report to the County Director of
Education and County Governor in the area of
research before commencement of the research.
5. Excavation, filming and collection of specimens
are subject to further permissions from relevant
Government agencies.
6. This Licence does not give authority to transfer
research materials.
7. The Licensee shall submit two (2) hard copies and
upload a soft copy of their final report.
8. The Commission reserves the right to modify the
conditions of this Licence including its cancellation
without prior notice.

Serial No. A 18381
CONDITIONS: see back page