Global Journal of
Health Science
(GJHS)

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CARI Journals

International Journal of Health Sciences

Vol. 3, Issue No.1, pp 13 - 17, 2020

www.carijournals.org

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ABSTRACT

Purpose: The study, therefore, seeks to establish the relationship between the food availability and nutritional status of children of 6 months to 23 months. Specifically, the study will seek to determine the influence of food availability, food accessibility, food utilization and food safety on the nutritional status of children of 6 months to 23 months in Kenya.

Methodology: The study will take a case study of Kenyan referral level 5 hospital. The hospital has approximately 600 mothers to children of 6 months to 23 months attending clinic in a month. This study will adopt descriptive cross sectional survey design. The study will target the mothers to the children of 6 months to 23 months. The study will also target the head nurses and Paediatricians from the nursing units in the hospital as the key informants. Stratified random sampling method will be used to select the respondents. That is, from the mothers of children of age groups 6-8 months, 9-11 months and 12-23 months. Data will be collected using self-administered structured questionnaires and the Key informant interview guides (KIIs). The study will use Fisher formula to select a sample size of 201 mothers from the total population. Pre-testing of the instruments will be conducted to determine the validity and reliability of the instrument. Data will be analysed using Statistical Package for Social Sciences (SPSS) version 20. Data will be analyzed using chi-square to test the association between the variables. Binary logistic regression (Odds ratio regression) will be used to test the multivariate relationships between various independent and dependent variables.

Findings: The study finds that there is a significant impact of food availability on nutritional status of children of 6 months to 23 months.

Unique contribution to theory, policy, and practice: The inadequacy and unavailability of healthy and nutritious food in many households especially in the Sub-Saharan Africa indicates the serious level of food insecurity. Hartman, et al. (2016) additionally, finds out that dietary intake is not different by disease status (remission or relapse) however, in the absence of nutritional supplements, food intake is inadequate for many nutrients in many children stomach problems.

Key words: *food availability, nutritional status, children of 6 months to 23 months*

1.1 Background Study

Achieving zero hunger and ending malnutrition is one the agenda for Sustainable Development. The Second Sustainable Development Goal seeks to end hunger through access to safe, nutritious and sufficient food for all. Achieving food and nutrition security needs a multi-sectorial approach as other SDGs contribute to it i.e., ending poverty, improving health, quality education, gender quality, access to clean water and sanitation, climate change, reducing

inequalities (GoK, 2011). Thus, food insecurity may be a core variable for understanding the nutritional status of low-income populations.

In Kenya, 482,000 children aged 6-59 months are affected by moderate and acute malnutrition and a further 105,000 children affected by severe acute malnutrition. The under 5 mortality rate in Kenya as noted by Kihagi (2012), is on the increase as a result of unfavorable child feeding practices and inappropriate healthcare which is the main cause of malnutrition among these children. KNBS (2015) underscored a significant revelation that 11% of the children below 5 years are underweight, 4% wasted while stunting is at 26% (KDHS, 2014).

Kenya continues to suffer from high levels of food and nutritional insecurity. Household food insecurity is one of the three underlying causes of malnutrition (Betebo, Ejajo, Alemseged & Massa, 2017). A household is considered food insecure if it has limited or uncertain physical and economic access to secure sufficient quantities of nutritionally adequate and safe foods in socially acceptable ways to allow household members to sustain active and healthy living (FAO, 2017). The food insecurity problems in Kenya are attributed to several factors, including the frequent droughts, high costs of domestic food production due to high costs of inputs especially fertilizer, high global food prices and low purchasing power for large proportion of the population due to high level of poverty (GoK, 2011)

1.2 Statement of the Problem

Kenya's economy depends heavily on agriculture. This means that many households not only look at agriculture, which accounts for about 80% of the economy, entirely as a source of food but the main employment and source of income (Republic of Kenya, Food and Nutrition Security Policy, 2011). Achieving food security in its totality therefore continues to be a challenge in Kenya like in many other developing countries in Africa. This problem is not only witnessed in urban areas of Kenya but also in rural areas in Kenya where land shortage remains a big issue (MoH, 2015).

The greatest impact of food insecurity is observed in children who are the most nutritionally vulnerable group of the population. Child malnutrition and illnesses contributes to child mortality (KDHS, 2014). Kenya has a fertility rate of 4.5 children per woman. However, the maternal and child survival rate mortality is quite high. Infant mortality rates stand at 100/1,000 against the national rate of 34.2 /1000 births (Knoema, 2018). Some departments at county referral hospital were not well equipped thus lack of basic infrastructure in health facilities which makes it difficult for the caregivers to deliver. Most of the health facilities are understaffed. The average distance to the nearest facility is 5 Km which is a bit strenuous and would require the use of motorbikes to access the facilities. Despite the County doctor to population ratio is 1:11,840 against the national doctors to population of 1:16,520, the County nurse to population ratio is 1:1,947 against the required international standard of 1:1,000 (MoH, 2018).

According to the MOH (2018), 21% of the total population of children in the county are either underweight, stunted or have wasting condition. Malnutrition among children is a challenge in Kenya and is manifested by 14.8% being underweight, 28.4% stunting and 2.6% wasting (KDHS, 2014). According to the health reports on nutrition status, by the Ministry of Health, approximately 8.3% children are underweight while 66.7% are stunted with the percentage of child births delivered at a health facility indicated at 45.3% (KDHS, 2014; MoH, 2015).

Studies that measure the relationship between food insecurity and nutritional status among children are mostly conducted in developed nations, and, therefore, they frequently assess the effect over excessive weight or obesity. There are still only a few studies in medium or low-income countries, where such relationship can be more complex because of several factors, such as social inequity, poverty, among others. For instance, Abdulrahim (2016), Shitemi, (2018) and Kuchenbecker, Reinbott, Mtimuni, Krawinkel and Jordan (2017) whose studies were based Garissa Sub-Count, Mbagathi hospital, Nairobi and in Malawi respectively among a few. These studies presented several gaps such as the geographical gap and thus the current study looks to fill them by shedding more light on the food insecurity and nutritional status of children aged less than five years old at the level 5 hospitals in developing countries. Therefore, it is worthwhile for the study to seek to establish the relationship between food insecurity and nutritional status of children aged less than five years old at the level 5 hospitals in developing countries.

1.3 Objective of the Study

This study will seek to establish the influence of food availability on the nutritional status of children of 6 months to 23 months in Kenya.

1.4 Research question

Does food availability have an influence on the nutritional status of children of 6 months to 23 months in Kenya?

1.5 Conceptual framework

Smith (2004) characterizes a conceptual structure as a speculated model recognizing the model under examination and the connection between the independent and dependent factors. As indicated by Cargan (2007), it is a diagrammatic portrayal of factors so as to demonstrate their current connections. The independent variables in this study as shown in Figure 1.1 below are the household food security factors i.e., food availability, food accessibility, food utilization and food safety. The dependent variable is denoted by the nutritional status of children of 6 months to 23 months.

1.6 Materials and Methods

The study will adopt a descriptive cross-sectional design to determine the relationship between the household food security factors and nutritional status of children of 6 months to 23 months at the level 5 hospitals. The County's population stands at 612,000 (Census, 2009). However, with an annual population growth rate of 2.51%, the population is projected to be 784176 by the year 2019. The study will take a case study of referral level 5 hospital. The hospital has approximately 600 mothers to children of 6 months to 23 months attending clinic in a month. The study will target the mothers to the children of 6 months to 23 months at the level 5 hospitals. The study will also target the head nurses and Paediatricians from the nursing units in the hospital as the key informants. Stratified random sampling method will be used to select the respondents. That is, from the mothers of children of age groups 6-8 months, 9-11 months and 12-23 months. Data will be collected using self-administered structured questionnaires and the Key informant interview guides (KIIs). The study will use Fisher formula to select a sample size of 201 mothers from the total population. Pre-testing of the instruments will be conducted to determine the validity and reliability of the instrument. Data will be analysed using Statistical Package for Social Sciences (SPSS) version 20. Data will be analyzed using chi-square to test

the association between the variables. Binary logistic regression (Odds ratio regression) will be used to test the multivariate relationships between various independent and dependent variables. Thematic Content Analysis (TCA) will be used to analyse qualitative data after transcription. Data will then be presented in form of tables and graphs for easy interpretation.

1.7 FINDINGS AND PRESENTATION

A case study of Somalia reveals a chronically food insecure. Generally, about 80% of Somalia households rely on natural resource-dependent activities for their livelihood, which makes the m vulnerable to disparities of the fluctuations in environmental factors. The country is only able to produce about 40% of its cereal requirements, even in good years. Availability of cereal food is inadequate to meet the national requirements (WFP, 2014). Pastoralists thus are set to rely on the consumption and sale of milk and animal products for their livelihoods. Livestock milk seem to be the one they can rely on for availability in situations that call for desperate measures. Milk availability and consumption has a very significant influence over the nutritional status described in the assessment (Sabbil, Abdulrahman & Sheriff, 2016). This shows that once availability of milk declines e.g., due to loss of livestock resulting from disease outbreak and or drought conditions, rates of acute malnutrition deteriorate to very critical levels but improve again once the livestock situation recovers and availability of milk increases (Hussein, 2015).

Raymond, Agaba, Mollay, Rose and Kassim (2017) also resonates with the sentiments of Casey (2001), that majority of low-income families with children experience food insufficiency. Children of low-income families, either food-sufficient or food-insufficient, in the study area had similar macronutrient and micronutrient intake. In addition, local foods in the study area had a potential to achieve recommended dietary intakes of some essential nutrients, and that interventions needed to meet the required amount of iron, zinc and calcium for children aged 6–23 months.

According to Agbadi, Urke and Mittelmark (2017), adequate diet is very essential in the health of a child's development. In food insecure areas of the world, the provision of adequate child diet is threatened in the many households that sometimes experience having no food at all to eat. Yet living in a food secure household was no guarantee of child dietary adequacy, since eight of 10 children in food secure households received less than a minimum acceptable diet. Their analysis makes remarkable findings that 49% of children in north in Ghana region received minimum recommended meal frequency, 31% received minimum dietary diversity, and 17% of the children received minimum acceptable diet.

The inadequacy and unavailability of healthy and nutritious food in many households especially in the Sub-Saharan Africa indicates the serious level of food insecurity. Hartman, et al. (2016) additionally, finds out that dietary intake is not different by disease status (remission or relapse) however, in the absence of nutritional supplements, food intake is inadequate for many nutrients in many children stomach problems.

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