

# Factors Associated With Nutritional Status of Children Under Five Years in Kajiado Central Sub-County Kenya

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## ABSTRACT

### Background information

*Nutritional status of children is determined by: age, gender, household characteristics, dietary intake and health status. These are influenced by underlying determinants such as food security and community infrastructure including sanitation, safe water and local market conditions. Other factors include prices of related health inputs and available household resources. Malnutrition which is poor nutritional status, can lead to disability, illness and death and jeopardize future economic growth by reducing the intellectual and physical potential of the entire population.*

### Objectives

To determine the socio-demographic, socioeconomic and environmental factors associated with malnutrition among children under five years in Kajiado Central sub-county Kenya

### Methods

The study was cross-sectional both descriptive and analytical in nature,

designed to assess the nutritional status of children under five years and its association with demographic and socioeconomic characteristics, household food security, water availability, hygiene and sanitation, infant and feeding practices of children under five years old.

### Results

From the findings, 55.3% of the respondents indicated that they were aged between 26 and 32 years, 25.2% of the respondents were aged between 19 and 25 years, 16.5% of them were aged between 33 and 39 years and 2.9% of the respondents were aged below 18 years. 85.4% of the respondents indicated that they were married, 11.7% of the respondents indicated that they were single and 2.9% of the respondents indicated that they were widowed. 85.4% of the respondents indicated that they were under self-employment and 14.6% of the respondents were under paid employment. 38.8% of the respondents indicated that they

had reached primary level, 36.9% of the respondents indicated that they had never attended school at all, 15.5% indicated that they had attained secondary certificate, 5.8% of the respondents had reached diploma level and 2.9% of the respondents had reached certificate level

### **Conclusions**

The study showed that infant and child feeding practices are influenced by demographic characteristics such as age of the child. The study found those children advanced in age were introduced to other foodstuffs in form of complementary feeds. However, introduction of complementary feeding was introduced some times in very early in life. This was mainly as a result of advice caretakers were given by health workers and close associates while attending antenatal clinic or due to lack of knowledge all together. In some cases, the infants and young children are introduced to foodstuffs too early before age of 6 months and this makes them more likely to be malnourished or be exposed to infections associated with contamination, than those who were introduced after 6 months of age according to WHO.

### **1 Introduction**

Nutritional status of children is an indicator of the level of development and future potential of the community. Nutrition and food safety play an important role in creating a safe and healthy child care setting, (Badake, 2014). A well-nourished population has a capacity to be productive and to improve its standard of living through hard work. Furthermore, in children malnutrition adversely affects their cognitive and learning performance. Adults, who as children suffered malnutrition, suffer functional impairments including reduced intellectual performance and working capacity (Ola *et al.*, 2011). Inadequate nutrition is one of a wide range of interlinked factors that form poverty syndrome low income, large family size, poor education and limited access to food, water, sanitation and maternal and child health services (UNICEF, 2012). To address malnutrition, the type of malnutrition and nutrition related risk factors need to be identified and evidence based intervention and policies implemented. According to, Nayak, *et al.*, (2014) the type of family, overcrowding, birth weight, duration of exclusive breast feeding and administration

of pre-lacteal feeds were found to have an effect on the nutritional status. Literacy of mother also contributed to malnutrition in children. Similarly, Senbanjo *et al* (2009), notes that the link between poverty and poor nutritional status among children has been widely reported. Varying indicators of social economic status such as maternal and paternal educational level, parental income, and family assets such as the ownership of land, quality of housing, and foods harvested among many social economic status indicators have all been associated with children's nutritional status. A study in Kenya, (Dabake, 2014) reported a significant negative correlation between children's age and nutritional status based on wasting and underweight. However, household size was positively and significantly correlated to stunting and wasting. In conclusion, malnutrition among children under five years was established as an indicative of chronic food insecurity situation.

## **2 Methodology**

### **2.1 Study Design**

The study was cross-sectional both descriptive and analytical in nature,

designed to assess the nutritional status of children under five years and its association with demographic and socioeconomic characteristics, household food security, water availability, hygiene and sanitation, infant and feeding practices of children under five years old.

### **2.2 Sample size and sampling method**

Systematic random sampling was used to reach 122 households where respondents filled in the questionnaire.

### **2.3 Data collection**

A semi-structured questionnaire was used to obtain demographic and socio-economic characteristics of the study household. Anthropometric measurements were taken for children under five years.

### **2.4 Data analysis**

The coded data were then entered and analyzed using the Statistical Package for the social sciences, which was used to describe and summarize data on mother's socio-economic and demographic characteristics as well as child characteristics.

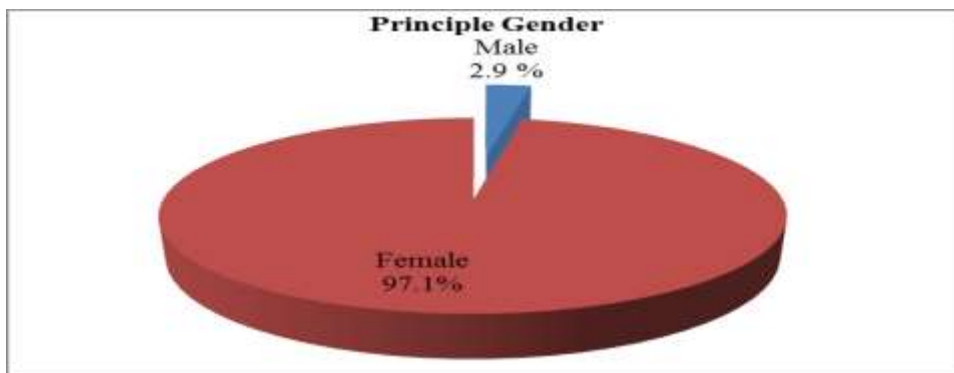
### **2.5 Ethical considerations**

The study protocol was approved by the Kenyatta National Hospital-University of Nairobi ethics and research committee. The researcher further sought formal permission

and authority from the relevant authorities in the study site before commencing data collection. All data obtained were treated with high confidentiality.

### 3 Results

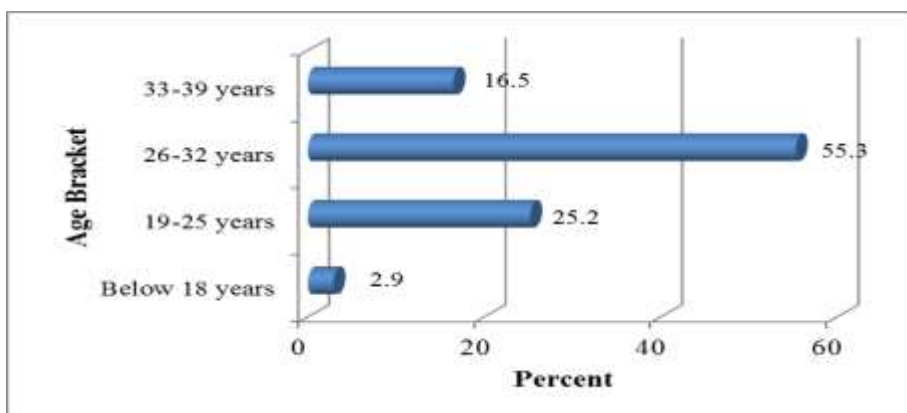
#### Gender



According to the findings, 97.1% of the respondents were female and only 2.9% of the

respondents were male. This depicts most kids were under the care of their mothers.

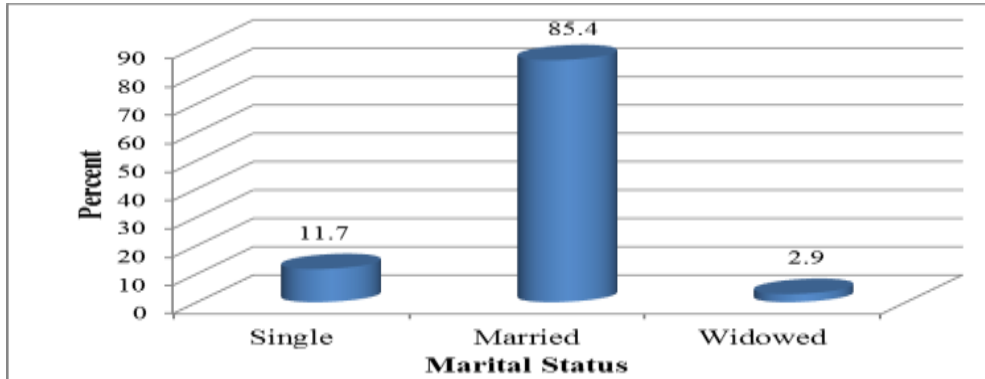
#### Age category



55.3% of the respondents indicated that they were aged between 26 and 32 years, 25.2% of the respondents were aged between 19 and 25 years, 16.5% of them were aged

between 33 and 39 years and 2.9% of the respondents were aged below 18 years. This depicts most of the parents were below 32 years of age.

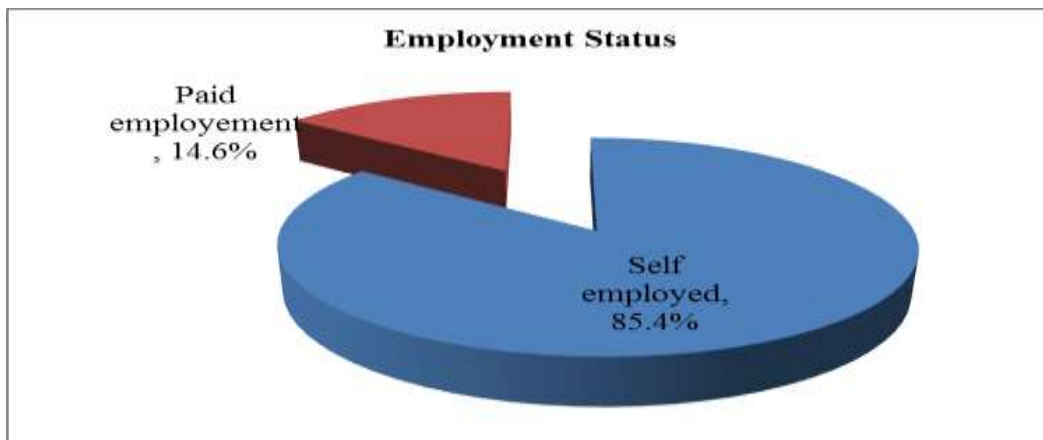
**Marital status**



85.4% of the respondents indicated that they were married, 11.7% of the respondents indicated that they were single and 2.9% of the respondents indicated that they were

widowed. This shows that most of the respondents that participated in this study were married.

**Employment status**



From the findings, 85.4% of the respondents indicated that they were under self-employment and 14.6% of the respondents

were under paid employment. This depicts that most of the respondents were self-employed.

**Income**

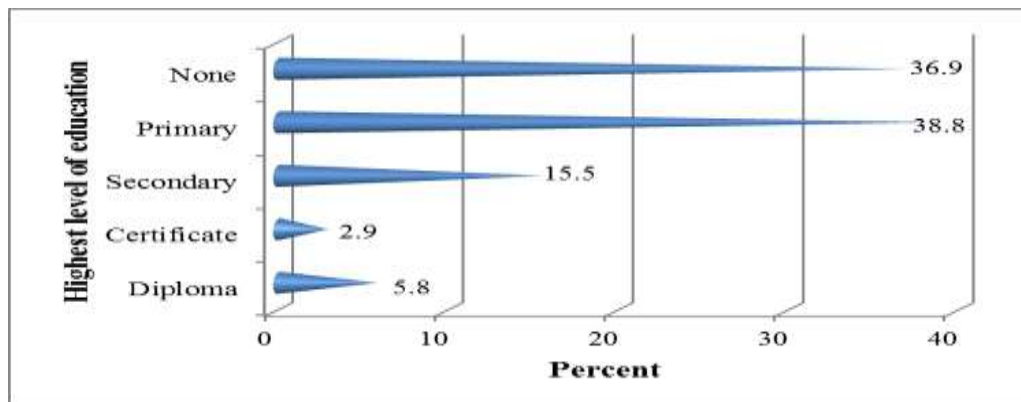
Frequency	Percent
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Below Kshs 2,000	19	18.4
Between Kshs 2001-5,000	46	44.7
Between Kshs 5001-8,000	25	24.3
Between Kshs 8001-11,000	10	9.7
Above Kshs 11,000	3	2.9
<b>Total</b>	<b>103</b>	<b>100</b>

44.7% of the findings indicated that they were earning between Kshs 2000 and 5,000, 24.3% of the respondents indicated that they were earning between Kshs 5,001 and 8,000, 18.4% of the respondents were earning

below Kshs 2,000, 9.7% of the respondents indicated that they were earning between Kshs 8,001 and 11,000 and 2.9% of the respondents indicated that they were earning above Kshs 11,000.

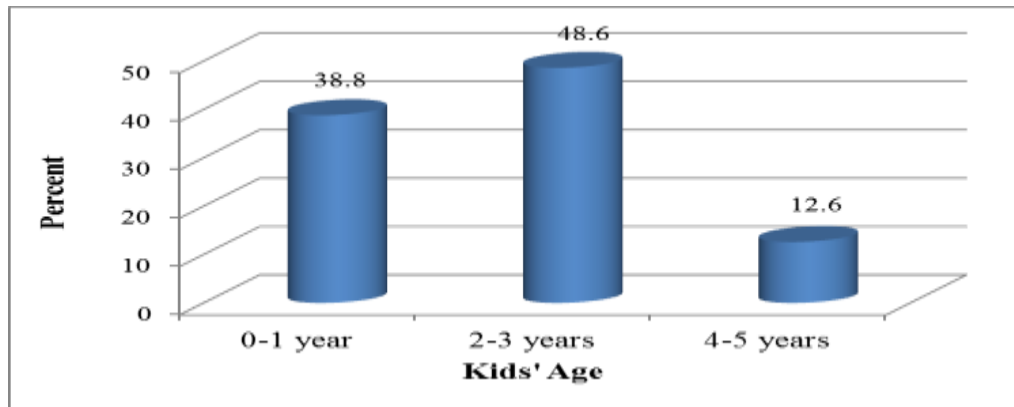
### Level of education



According to the findings, 38.8% of the respondents indicated that they had reached primary level, 36.9% of the respondents indicated that they had never attended

school at all, 15.5% indicated that they had attained secondary certificate, 5.8% of the respondents had reached diploma level and

2.9% of the respondents had reached certificate level.



48.6% of the respondents indicated that their kids were aged between 2 and 3 years, 38.8% of their kids were aged below 1 years and 12.6% of the respondent indicated that

they between 4 and 5 years. This shows that most of the respondents had kids below 3 years.

	Frequency	Percent
Bury	3	2.9
Throw in the backyard	3	2.9
Burn in a pit	97	94.2
<b>Total</b>	<b>103</b>	<b>100</b>

94.2% of the respondents indicated that they burn in a pit, 2.9% of the respondents indicated that they throw in the backyard and 2.9% also indicated that they bury their waste.

### Hand-washing facilities



52.4% of the respondents indicated that there were no hand washing facilities with soap near the toilet, 35% of the respondents indicated that there was hand washing facilities but with no soap and 12.6% of the respondents indicated that there were hand washing facilities with soap. This depicts that in most of the households that participated in this study did not observe hygiene.

#### 4 Discussion

The findings from this study have shed light on the factors associated with nutritional status of children under five years in Kajiado County.

The study found that protected borehole were the main source of drinking water. However, the study found that a few of the respondents (2.9%) were sourcing their

water from unprotected borehole and unprotected well in each case. Further, in regard to type of toilet facility in the household, the study found that majority of the respondents (60.2%) of the respondents had a traditional pit latrine. Also, the study found that most of the respondents (52.4%) of the respondents did not have hand washing facilities with soap near the toilet. Regarding the method to dispose off refuse, the study found that majority (94.2%) of the respondents burn in a pit. The study also found that most of the respondents were accessing healthcare facilities and services in public hospital. Further, the study revealed that most of the respondents were taking less than one hour to get to the healthcare facility. The study also established that most of the respondents had not heard about nutrition among children



first. Also, the study revealed that majority of the respondents (72.8%) were not aware of the food contents contained in the food ration used in the feeding programmes. In addition, the study established that majority of the respondents (63.1%) did not have a nutritional counseling session.

Further, the study established that the caregivers were fully satisfied that the feeding programme improves nutrition status of their children. The findings also revealed that the caregivers were satisfied with the quality of service given by health workers during food ration collection. However, the caregivers were not satisfied with the food ration and the palatability of the food ration.

### **Conclusions**

The study showed that infant and child feeding practices are influenced by demographic characteristics such as age of the child. The study found those children advanced in age were introduced to other foodstuffs in form of complementary feeds. However, introduction of complementary feeding was introduced some times in very early in life. This was mainly as a result of advice caretakers were given by health workers and close associates while attending

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### **6 Recommendations**

The study recommends that nutritionists, health workers and other stakeholders should vigorously advocate the importance and benefits of exclusive breastfeeding for six months and discourage early complementary feeding by pointing out its disadvantages to both the mother and the child.

### **Conflict of interest**

The authors declare that they have no competing or conflicts of interest whatsoever. All the authors read and approved the manuscript for editing.

### **References**

- [1]. Senbanjo, I.O., Adeodu, O.O., Adejuyigbe, E.A. (2009) Influence of socio-

economic factors on nutritional status of children in a rural community of Osun State, Nigeria

[2]. UNICEF, WHO and World Bank (2012). Joint Child Malnutrition Estimates. (UNICEF, New York; WHO, Geneva; the World Bank, Washington, DC

[3]. Badake, D. (2014). Nutritional status of children under five years, and associated factors. A published master thesis from University of Nairobi

[4]. Nayak, N.R. Walvekar, R.P. & Mallapur, M.D. (2014). Determinants of Nutritional Status of Under - Five Children in Nigeria. *Annals of Community Health*. VOL (2). PP 26-30.

[5]. World Health Organization (WHO) (2010). Towards the realization of free basic sanitation: Evaluation, Review and Recommendations. WRC Project NOK. Pg1743-1520

[6]. UNICEF (2008). "Statistics," In: State of the Worlds' Children, UNICEF, New York, 2008, pp. 57-60.

[7]. Okoth, W., Azikoyo, R.N. & Kuria, S.M. (2012). Nutrition Status of Children Under-Five Years in Cassava Consuming

Communities *Food and Nutrition Sciences*, (3), 796-801

[8]. Brhane, G. & Regassa, N. (2014). Nutritional status of children under five years of age in Shire Indaselassie, North Ethiopia: Examining the prevalence and risk factors. *Journal homepage:* <http://www.elsevier.com/locate/kontakt>

[9]. Whaley, S., Sigman, M., Neumann, C., Bwibo, N., Gathrie, D., Weis, R., Alber, S and Murphy, S (2013). The impact of dietary intervention on the cognitive development of Kenyan school children. *The Journal of Nutrition*, 133: pg. 3965-3971 [PubMed]