The Social Demographic Characteristics, Social Economic And Health Status Of Lactating Mothers In Mwanamukia-A Case Of Nairobi Metropolis

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Abstract
Socio-economic status is a multi-factorial condition which is embedded in environmental, material and personal characteristics. The aim of this study was to determine the social demographic and social economic characteristics of lactating mothers in Mwanamukia, Nairobi and their health condition. This cross sectional study was conducted on 260 purposively selected lactating women living in Mwanamukia, Nairobi Kenya. A structured, validated and pre-tested questionnaire was used to obtain information on social, economic and demographic characteristics and the health staus. Data was entered into SPSS version 20 and analyzed using descriptive statistics and Pearson correlation coefficient was used to determine associations. Majority of the respondents were married (62.7%) or single (25.4%). 44.4% had achieved primary school education while 40% had attained Secondary 'O' level education. The maximum number of people living in households was 12 while the average number was 6. The study had respondents from different ethnic backgrounds. Majority Meru (25.5%) and Luhya (17.3%). The average monthly income was 27, 154.12 Kenyan shillings. Majority were business people (28.6%) and housewives (23.9%). 71.5% of household heads were men while 28.5% were women. Majority 73.5% suffered from fever, worm infestation 12.1%, Diarrhea 2.2%, diabetes 2.1% and HIV/AIDS 2.1More than half of the respondents interviewed were literate, married and lived in households headed by men. A quarter of them were business people, single and had Meru ethnicity. The highest number of people fell in the 36-40 years age category. More than half of the respondents had a given form of health condition.

Key words: socio demographic; socio-economic characteristic; health status; lactating mothers.

1. Introduction
Socio-economic status is not a straightforwardly measurable human trait, but rather a multi-factorial condition which is embedded in environmental, material and personal characteristics. These mutually interact in a complex way and often reinforce each other through self-perpetuating trickledown spirals, not only on individual level and social layer level, but also on intergenerational level (De Henauw et al, 2003).
Most Nairobi farmers belong to the group with low to very low incomes. Generally, the farmers' households spend a very large part of their income on food; over one third of them spend even 70 -75% of their income. This percentage would be even higher if these households were cut off from their farming activities, or otherwise they might starve from hunger. Few people in the farming households in Nairobi are employed in the formal sector. Many are either unemployed or perform some casual labour. In the slum areas of Korogocho and Pumwani/Eastleigh, informal trade and food selling were the most frequently mentioned sources of income. Among the non-farming households in Korogocho, illegal trade and practices (like manufacturing and selling alcoholic brews, prostitution, street begging and stealing) scored high (24%) in comparison with the farmers' group (10%)v (Foeken and Mwangi, 2000).

Urban agriculture gardening in high-density areas or unplanned settlements is mostly subsistence oriented and a clear survival strategy for the poorer households (Jacobi,P et al., 1996). Stevenson et al. (1996) estimated that about 35,000 farming households depend on periurban fruit and vegetable production for their income.

The majority of the urban farmers in Nairobi are women. Particularly among the low-income farmers, the percentage of female-headed households is relatively high. For many poor women who lack the presence of an adult man in the house and who have children to feed, farming is something of a last resort. This has also to do with their relatively low level of education in comparison with the men. Almost one-quarter of the heads of the low-income farming households had completed secondary school education (Foeken and Mwangi, 2000).

There is a strong link between the socio-economic status of the family, the objective of the production and the involvement of women. In poor urban households, women produce mainly for subsistence; very little produce is sold in the marketplace (Kogi-Makau, 1995). In medium-income households, both men and women are involved and they produce for both subsistence and sales.

Agriculture is a part of diverse livelihoods and provides a significant contribution to income. Formal employment, business, and trade dominate (Prain and Lee-Smith 2010). Despite the subsistence character of farming in Nairobi, the importance as a source of income should be appreciated. Selling is quite common among the "subsistence" crop cultivators though it usually concerns small quantities. Sales are important to meet other basic needs, such as maize flour, paraffin, school fees, etc. Those who keep livestock for subsistence also sell some animals, though at a very marginal scale (Foeken and Mwangi, 2000).

Lactating mothers are among the vulnerable populations in the world and especially in the developing countries. Women of reproductive age, living in the slum and such low income areas are more vulnerable to malnutrition due to poverty and other related factors. There are various causes of malnutrition in lactating mothers such as physiological factors, which come with child bearing and pregnancy outcomes. Also during lactation the protein, iron, zinc and energy needs of these mothers is enormous, this is because the body's nutrient demand increases within this time. When these needs are not met the mothers are likely to suffer malnutrition (Dadou and Tsang, 2012). The factors which exacerbates maternal malnutrition are usually related to failure of lactating mothers getting enough energy and nutrients in their diets which risk maternal depletion leading to poor quantity and quality of breastmilk for the infant (WHO, 2017). This can adversely affect the nutritional status of the infants and will consequently lead to compromised overall development and cognitive domain of the child. According the conceptual frame work of malnutrition (UNICEP), the immediate causes of malnutrition are inadequate dietary intake and diseases. This is because with diseases such as diarrhea and intestinal infestations consumed nutrients are not absorbed in the body but get wasted away by diarrhea or are consumed by the intestinal worms. The underlying causes are unhealthy environment, inadequate access to food, inadequate care to women and insufficient health services (Balde *et al.,* 2007). Anemia which is results from deficiencies of nutrients such as iron and folic acid is an important risk factor for hemorrhage; a leading cause of maternal mortality (FAO, 2004). Diseases such as malaria, diarrhea and fever in the tropical countries are known to affect lactating mothers causing life-threatening infections by decreasing the body's immune system (christen *et al*., 2009).

1.2. Objective
The objective of the study during both the baseline study was to determine the social demographic and social economic characteristics of lactating mothers in Mwanamukia.
2. To determine the health status of lactating mothers in the study area.

2. Materials and methods
The study targeted lactating mothers. It was carried out in Mwanamukia. It was a baseline survey with a sample size of 260 respondents.
Data on socio-economic demographic and health of lactating mothers was collected using a structured questionnaire.

2.1 Analytical methods
Socio-demographic and socioeconomic

Responses on Socio-emographic and socioeconomic were coded and analysed quantitatively, using statistical package SPSS.

2.3. Statistical analysis

Upon study completion, questionnaires were coded. Data was then entered and cleaned using statistical packages for social sciences (SPSS version 20).The data was then analyzed per household. The variables for each objective were defined and coded for ease of analyzing the data. Frequencies mean, standard deviations, percentages were determined.

3.0 Results

Age of the mothers

The age categories of the respondents are shown in Table 1.The minimum age of the respondents was chosen as 20 years because it is generally at that age that women in the country are expected to be married. The maximum age was chosen as 49, years the maximum for reproductive age. The highest number of mothers fell in the range of 36-40 years. The least number of mothers were within the age ranges of 20 – 25 years and 46 years; this may indicate low tendencies to have children below age 25 and age above 46 - 49 years.

Table 1: Distribution of mothers by age categories

Age categories (years)	Number of respondents (N=260)	Percent of mothers
20-25	18	6.7
26-30	43	16.5
31-35	45	17.3
36-40	86	33.1
41-45	52	20.1
46-49	16	6.3

Marital status of the mothers

Majority were married (62.7%), Single mothers were 25.4%. The remaining mothers were either divorced or widowed and each at less than 10%.

Table 2: Distribution of the mothers by marital status

Marital status	Number of respondents N=260	Percentage (%)
N/A	5	1.9
Divorced	16	6.2
Widow	10	3.8
Married	163	62.7
Single	66	25.4

Education level of the mothers

The education levels of the mothers are shown in Table 3. As the Results show that, 44.6% had primary and 40 % had secondary education. The remaining mothers had either college diploma or university degree. There were no illiterate mothers. That means that all the mothers participating in the study had at least primary level education. This means that they were all capable of accessing nutrition and health information from the common sources available. The main education level attained was primary at 44.6 % which is higher than the average of 43% indicated by KDHS study (2014).

Table 3: Distribution of mothers by education level

Education level mothers	Number of respondents (N=260)	Percent of
Illiterate	21	8.1
Primary level	116	44.6
Secondary (O level)	90	34.6
Secondary (A level)	14	5.4
College	17	6.5
University	2	0.8

Size of the household
The distribution of household sizes is as shown in table 4. In this study, the maximum house hold size was 12 while the average was 6. The number is higher compared to 3.9 the average household size in Kenya according to KDHS (2014).

Table 4: Distribution of mothers by household size

Members in the household	Number of households (N=260)	Percent of households
1-5	146	56.3
6-10	94	36.2
11-15	20	7.5

Occupation of the mothers
The occupations of the mothers are shown in Table 5. As Table 2.4 shows, there were many differing occupations among the respondents. Majority were running small businesses mainly in the informal sector at 28.6%, while 23.9% were housewives and 21.2% were farmers, probably practicing urban agriculture.

Table 5: Distribution of the mothers by occupation

| Occupation of the mothers	Number of mothers (N = 260)	Percentage (%)
Business	75	28.6
Housewives	62	23.9
Farmers	55	21.2
Teachers	20	7.8
Hairdresser	17	6.3
Tailor	8	3.1
House help	8	3.1
Laborer	5	2.0
Others	10	4.0

Distribution of the mothers' households by monthly income
The monthly income levels of the households in Kenya shillings (KES)* of the households are shown in table 6. As the Figure shows, the largest group of households had income of KES 11000 – 20000. About 27% of the families had income of between KES 1,000 – 10,000. These figures show that at least 18% fall within the lower socio-economic group of the country considering the cut-off of KES 15000. Also the incomes show that 68% of the households had income of less that KES 30,000, and therefore lived below the World Bank poverty line of $1 a day. It is possible that this number could go down considering that the communities do not necessarily entirely depend on the monetary income especially for food. Much of the food consumed is usually grown by the households under urban agriculture.

**Table 6: Distribution of mothers' households by income**

Monthly income Categories	Number of respondents	Percentages
1000 – 10,000	39	27.2 %
11,000 – 20,000	103	40.6 %
21,000 – 30,000	24	9.4 %
31,000 – 60,000	28	10.2 %
>70,000	25	12.6 %

Figure 1. Ethnicity
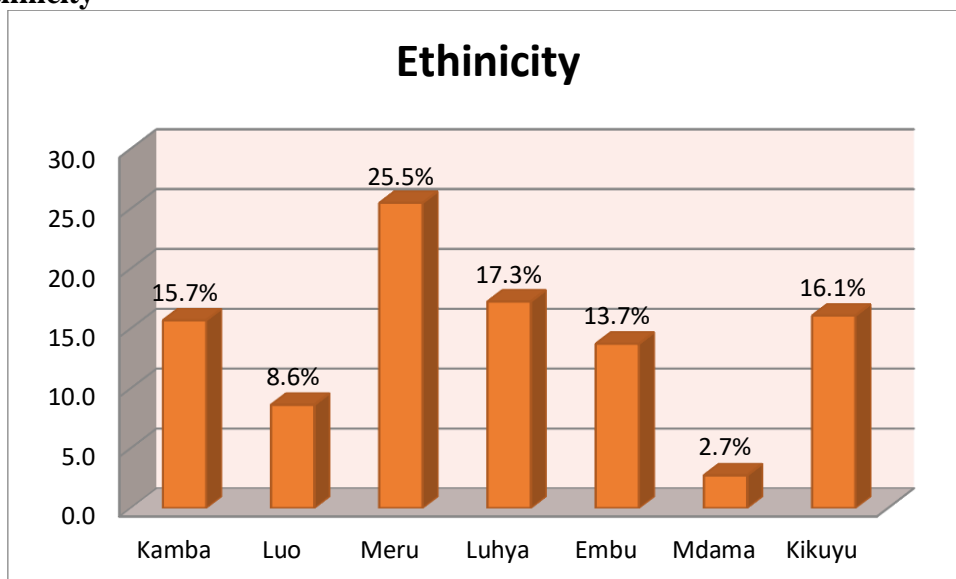
The study had respondents from different ethnic backgrounds. Meru (25.5 percent), Luhya (17.3 percent) and Kikuyu (16.1 percent) formed the majority of the respondents.

Figure 2. The number of children in the HH
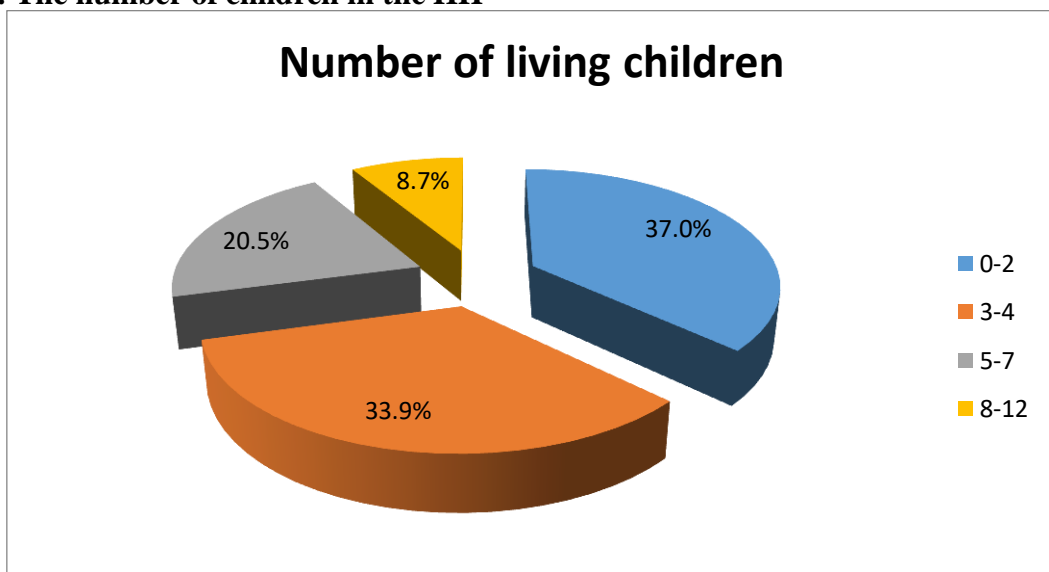
The maximum number of children in the household was 10. The average was 4 children. The category of 0-2 children per household had the highest percentage (37%).

Figure 3. Children below 5 years The Maximum number of children under 5 years was 4. The average was1.
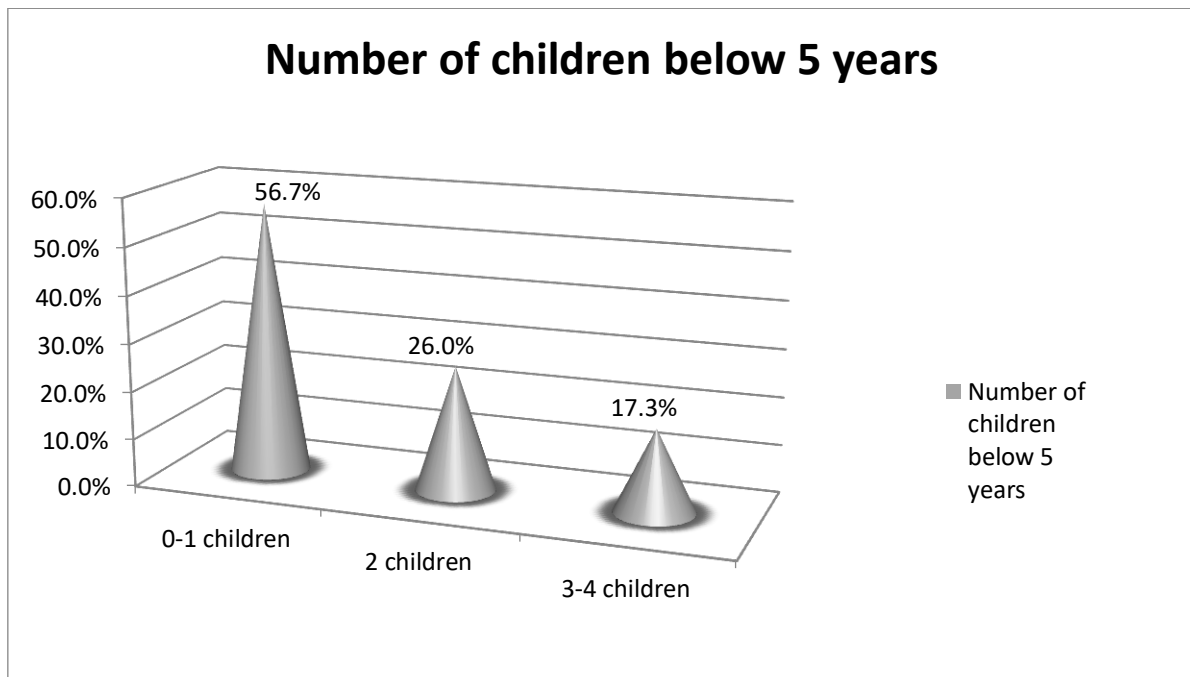

Table 7.The head of the household

The study showed that majority 71.5%% of household heads were men while 28.5% headed by women.

	Frequency	Percentage
Men	**186**	**71.5**
Women	**74**	**28.5**

Table 8: Correlations of various variables.

 Lactating mothers who had monthly income less than KES 1,000.00 and KES 10,000.00 to 15,000.00 were 2.3 and 3.0 times more likely to have low dietary diversity than those who had monthly income above 70,000.00 respectively [[AOR = 2.3, 95 % CI (1.2–4.6)] and [AOR = 3.0, 95 % CI (1.4–6.3)] respectively]. Among the lactating mothers, those who did not have primary education were 2.1 times more likely to have low dietary diversity than those who had acquired primary and tertiary education [AOR = 2.1, 95 % CI (1.01, 4.2)]. Regarding ownership of land and urban food production, lactating mothers who reported not having urban food production as the main source of food were 4.5 times more likely to have low dietary diversity than those who reported urban production as the main source [AOR = 4.5, 95 % CI (1.1, 18.2)].

Correlations								
		How much is your monthly income?	How many people live in your HH you included?	What is your occupation?	How many living children do you have of your own?	How many are below 5 years?	Who is the head of the Household?	At what age did you start giving your child additionalfood or fluid
What is your age?	Pearson Correlation	.151[*]	.498[**]	-.278[**]	.535[**]	.184[**]		-.135[*]
	Sig. (2-	.016	.000	.000	.000	.003		.031

	tailed)							
	N	254	254	254	254	254		254
What is your ethnicity?	Pearson Correlation				-.135*	-.166**		
	Sig. (2-tailed)				.032	.008		
	N				254	254		
	Pearson Correlation	.298**	-.154*	.208**	-.182**	-.188**		
	Sig. (2-tailed)	.000	.014	.001	.004	.003		
*. Correlation is significant at the 0.05 level (2-tailed).								
**. Correlation is significant at the 0.01 level (2-tailed).								

Table 9: Health status of lactating mothers

	Number	p.value
Malaria	20.8(8.0)	0.004
Diarrhea	5.7(2.2)	0.003
Fever	191(73.5)	0.04
Worms	31.5(12.1)	0.001
HIV|AIDS	5.5(2.1)	0.002
Diabetes	5.5(2.1)	0.002

Majority 73.5% suffered from fever, malaria 8.0% and worm infestation 12.1%.diabetes and HIV/AIDS had 2.1% while diarrhea had 2.2%. The high percentage of fever could be because the study was done during the rainy season when fever infection is high.

Diet diversity

The respondents had a high dietary diversity of more than 6 food groups. The first group was starchy staples which included food like maize, rice, wheat and potatoes. Group two contained dark green leafy vegetables specifically amaranth, group three contained vitamin A rich fruits and vegetables, these included carrots and sweet potatoes. Group four contained other fruits and vegetables mainly tomatoes, oranges and avocado. Group five contained meats and fish, group six contained eggs, group seven contained legumes, nuts and seeds, among them were dried beans and nuts. Group eight contained milk and milk products specifically yoghurt. The results are shown in table 3.2 below

Table 10: Food consumption frequency of lactating mothers in the study

Food group	Foods	Yes or No
Starchy staples	Maize, rice, Wheat, potatoes	Yes
Dark green leafy vegetables	Amaranth	Yes
Vitamin A rich fruits and vegetables	Carrots, Sweet potato	Yes
Other fruits and vegetables	Tomato, Oranges, Avocado	Yes
Organ meat	-	No
Meats and fish	Fish	Yes

Eggs	Chicken, duck, quail	Yes
Legumes, nuts and seeds	Dried beans, nuts,	Yes
Milk and milk products	Milk, Yoghurt	Yes

4. Discussion

Age

The minimum age of the respondents in the current study was 20 while the maximum age was 49. The mean age was 36 years. This is in agreement with a study in Ghana which found that 63% percent of the farmers were in the age bracket of 21-40 years (Ackerson and Awuah, 2010). In Namibia as well, majority of the respondents (66.3%) were young people falling in the age range of 21-40 (Dima, S.J et al., 2002).

In Eldoret, the mean age of respondents was 28 years (Kadenyeka, M.V. et al., 2013). In Gweru city, Zimbabwe, the average age was 41 years (Jongwe, A. 2014). In their research, Salau and Attah (2012) discovered that the mean age of the respondents was 50 years. Most (35.56%) of the respondents were within the age of 41–50 years followed by those within the range of 51–60 years (24.44%). In their study, Yusuf et al., (2015) found that the majority of respondents (76.1%) were aged 41-60 years. This contradicts the findings of the current study and this is because the respondents on this study although they practiced farming they were lactating mothers. In Accra Ghana, 83% of the farming household is of 40 years and above while 17% were between 20-29yrs of age. None of the farmers was below 30 years (Danso et al., 2004). However, Stevenson et al., (1994), states that, farming is not restricted to certain age groups.

Marital status

Majority of the respondents were either married (62.7%) and single (25.4%) others were divorced.
A study in Nigeria had findings similar to the current study. Majority (90%) of the respondents were married while 7.78% were single (Salau and Attah, 2012). A study in Namibia found that 58% of the respondents were single, 23.4% married, 13.5% cohabiting and 4% divorced and 6% separated (Dima, S.J et al., 2002). In Samre Woreda, Ethiopia, 92.3% of the respondents were married, 5.8% divorced and 2% widowed (Haileslassie et al., 2013). In Ibadan, Oyo state, Nigeria 90.9% of the farmers interviewed were married (Yusuf et al., 2015).

Education level

44.6% had achieved primary school education and 40% had attained Secondary 'O' level education. This was higher than the national averages in the primary education and lower in the secondary education. According to the KDHS 2014, 25% women and 23% men had completed primary education while 43% women and 49% men had attained post secondary education. In Nigeria, Salau and Attah (2012), also found that most (33.33%) of the respondents had primary education while 22.22% had secondary education. About 67% of the respondents in Kumasi Ghana had dropped out or completed basic education(Ackerson and Awuah, 2010).
 In a study in Eldoret, the respondents level of education was 25% for Primary and Secondary 15% (Kadenyeka, M.V. et al., 2013). In a study in Nigeria, majority of the respondents(50.5%) had tertiary education followed by primary(25.4%) then secondary (24%) (Yusuf et al., 2015). In Accra Ghana a greater number of farmers interviewed had primary (33%) or secondary (37%) education while 6% had Tertiary education (Danso et al., 2004).

Household size

In this study, the maximum number of people living in households was 12 while the average number of people was 6. In Samre Woreda, Ethiopia, the mean family size was 6. The category of ≥5 persons was highest at 63.5% (Haileslassie et al., 2013). In Ghana, Ackerson and Awuah, (2010) found the highest family size to be 5-6 (28%). According to Stevenson et al., (1994), farm families are generally bigger than the average Dar es Salaam household (5-7 compared to 4-5 members). Larger households have a higher demand for family income and are thus using their resources to produce more of their own food (Stevenson

et al. 1994).). In Ibadan, Oyo state, Nigeria, majority of the respondents (92.3%) had a household size of 4-8.

In Pretoria, South Africa the average household counted 4.4 members (Averbeke, W.V 2007). In a study in Eldoret, the Mean household size was also 4 (Kadenyeka, M.V. et al., 2013). In Gweru city, Zimbabwe, the average household size was 4.62 (Jongwe, A. 2014). In a study in Namibia, majority of respondents had household sizes ranging from 3 to 8 persons. In Windhoek 76% of the respondents had family sizes of 3-8 persons, 22% had less than 3 persons per household and only 2% had members greater than 8. In Oshakati the respective figures were 71% with 3-8 persons, 11% with less than 3 persons and 18% with more than 8 persons living in their families (Dima, S.J et al., 2002).

Occupation
Majority of the respondents in this study were business people (28.6%) and housewives (23.9%). These findings concur with those of Foeken and Mwangi (2000) who established that farming activities in the urban areas were mostly carried out on a part time basis by people in other livelihoods. Their participation in urban agriculture was to supplement their family food or income. This study agrees with research conducted by the Planning Commission and the Ministry of Labour and Youth Development of Daresalaam (1995) which found that, about 30% of the urban population gains an income in the informal sector and about 6.5% of the informal urban workforce works in urban agriculture. Stevenson et al. (1996) found that, for 90% of interviewed peri-urban farmers, agriculture was their primary economic activity. Farming was the primary occupation of most (90%) farmers, although they all had other sources of supplementary income, such as trading, teaching, etc (Danso et al., 2004).

The results of Salau and Attah's study (2012), showed that majority (63.33%) of the respondents were civil servants, 22.22% with trading as their major occupation while 14.45% were full time farmers. In Zimbabwe, Mudzengerere's study (2014) showed that 55% of the respondents were unemployed whilst 24% worked in the informal sector. Only 13% were formally employed. In total, 87% of the interviewed people were unemployed and they were dependent on the informal sector for employment. In Pretoria, South Africa the contribution to mean total household income of employment was 67.1%, public welfare grants 16.0%, service provision 7.2%, trade 7.0%, transfers by kin 2.5% and agriculture 0.2% (Averbeke, W.V 2007).

Head of household
The study showed that majority (71.5%) of the households where lactating mothers resided were headed by men and 34.6% by women. This study differs with a study done in Zimbabwe, where female headed families constituted 31% of the urban households and these families are vulnerable to poverty (The National Gender Policy, 2002). In Namibia, in Windhoek the male headed households were 78% and female headed households 22% while in Oshakati, the respective figures were 90 (63%) and 53 (37%) (Dima, S.J et al., 2002). In Accra Ghana, all the households interviewed (100%) are headed by men (Danso et al., 2004).

Gender
In this study, more women (49.7%) made decisions on what to plant in the farms than men (33.7%). More women (56.5%) provided labor in the farms than men (21%). In Kumasi Ghana, majority (98%) of the farmers practicing urban agriculture were males. Females were not so much involved in the vegetable farming (Ackerson and Awuah, 2010). In Gweru city, Zimbabwe, males were 66.4% and female 33.62% (Jongwe, A. 2014).

In their study, in Oyo state Nigeria, Yusuf et al., (2015) discovered that 85.5% of the farmers were male while 15.5% were female. In Nasarawa State Nigeria, Salau and Attah (2012), found that majority (55.56%) of the respondents were females while 44.44% were males. Hovorka *et al* (2009) describe that women were the greater part of urban farmers worldwide. They comprise 80% of urban farmers in Uganda and 56% in Kenya. The farming households interviewed in Accra Ghana were predominantly (73%) men (Danso et al., 2004)

The health of lactating mothers showed that majority of them did not sufer from any medical condition during the study, while 88.2% suffered from fever and 31.2% had malaria infestation and 13% diarrhea and

18.2 had worms' infestation. In terms of chronic degenerative conditions 18.2% were diabetic and 5.2% had kidney disease that was chronic. The infection from worms could be due to lacking hygiene skills in homes since some do not have tap water they fetch from nearby kiuu river which ishighly polluted by industrial waste and even human waste from sewer lines directed to the river upstream. Malaria would also due to the presence of rivers bordering the area of study that is Maji mazuri,Gitamayu and Kiuu rivers which do not flow fast and can harbor mosquito eges and therefore make the area rampant to mosquito infestation leading to high incidences of malaria to the respondents.

Most rampant in degenerative conditions was diabetes with a prevalence of 18.2%. This could be due to the feeding patterns of the lactating mothers who consumed mostly Irio (mashed potatoes) and matoke (cooked bananas). These are fast carbohydrates have glycemic index and therefore cause rapid elevation of the blood glucose level.

Health of lactating mothers
The study found that majority 73.5% suffered from fever, these findings agree with a study done in Pakistan by Wagar, 2016 which found 73% of mothers suffered from fever. 12.1% had worm infestation, 8.0% malaria. This study contradicts with a study done on Western Kenya that found 28% of mothers affected by malaria (Oluwafolaha et al,.2001). The study showed the respondents with diabetes at 2.1% and HIV/AIDS at 2.1% respectively. The prevalence of diabetes and HIV/AIDS was higher than that reported in a study done in Ethiopia which found a prevance of 1.9% for diabetes patients and 1.5% for HIV\AIDS patients (Balde et al., 2007) The higher percentage of diabetes prevalence in this study could be contributed by the difference in the areas of study since this study was done in an urban set up while the one done in Ethiopia was from a rural set up. This prevalence is also loweer than that found in Kenya rural women which was at 2.2% (Christen et al., 2009) however these rural women were not lactating mothers six months postpartum like is the case with this study respondents. This could be because majority practiced urban farming and could get vegetables to eat during the time of the study. Consumption of vegetables improves body immunity (Whitney and Rolfes (2016)).

Food frequency
The respondents in this study mainly consumed maize, rice, wheat and potatoes food items as starchy staples. Findings from this study also indicate that green peas and green grams were the commonly consumed legumes and carrots were the frequently consumed vegetables. Beef and chicken were the most commonly consumed meats and eggs were often consumed at a frequency of almost 50%. These are common foods consumed in Kenya. Their availability is considered synonymous with food security. The foods are also available in the study area open air markets at reasonable and affordable prices. Eggs consumed came mainly from the local chicken that respondents keep in their household.

Foods that were less frequently consumed include ground nuts, arrow roots, yoghurt, Chicken and fish. These may have been influenced by affordability, seasonality and the availability of these foods in the market.

According to Whitney and Rolfes (2016), wheat is rich in calcium, iron, sodium, folate and niacin. Maize is rich in iron, folate and niacin. Carrots are rich in potassium and vitamin A. Dark green leafy vegetables are rich in calcium, potassium, vitamin A and folate. Sweet potatoes are rich in Vitamin A and potassium, Irish potatoes and sweet potatoes are rich in Niacin, pantothenic acid, vitamin B6, green peas and green grams are rich in vitamin B6, Beef and chicken are rich in pantothenic acid, vitamin B6 vitamin B12, Milk is rich in niacin vitamin B12 and fat soluble vitamins, Eggs are rich in niacin, biotin, pantothenic acid, vitamin B12, vitamin A. Because these foods were consumed frequently, the respondents were unlikely to have deficiencies of these vitamins depending on individual bioavailability.

Conclusion
More than half of the respondents interviewed were literate, married and lived in households headed by men. A quarter of them were business people, single and had Meru ethnicity. The highest number of people fell in the 36-40 years age category. Majority of the study population suffered from fever. Those who practiced urban farming had high dietary diversity.

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