Navigating the local foodscape: Qualitative investigation of food retail and dietary preferences in Kisumu and Homabay Counties, western Kenya

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Abstract

Introduction: Non-communicable diseases have risen markedly over the last decade. A phenomenon that was mainly endemic in high income countries has now visibly encroached in low and middle-income settings. A major contributor to this is a shift towards unhealthy dietary behavior. The aim of this study was to examine the complex interplay between individual characteristics and the environment to understand how these influenced food choices and practices in Western Kenya.

Methods: This study used semi-structured guides to conduct focus group discussions with both male and female members of the community, capturing various socioeconomic groups, from Kisumu and Homabay Counties to further understand their perspective on influences of dietary behavior. Narratives were obtained using digital voice recorders, transcribed verbatim and translated to English. Data analysis adopted an exploratory and inductive analysis approach. Coded responses were analyzed using NVIVO 12 PRO software.

Results: From the community’s perspective, the source of food was mainly influenced by individual characteristics such as the cost of goods, the individual’s perspective of the variety of food outlets and the freshness of produce. The major external influence was cited as distance to food vendors. Although participants understood what constitutes a healthy meal, a majority of participants in Kisumu spoke about providing for their family and consuming unbalanced diets due to budgetary constraints. For the majority of households, the woman was the food purchaser and determined day to day meals – reflecting traditional gender roles in the family. Foods consumed in the home were influenced mainly by perceived satiety and cost. Other factors included religion, special occasions and seasons.

Conclusion: Although traditional markets and foods are still popular, there is a steady increase in the preference for global food brands and processed food and drink. Given that a major influence on choice of food source is distance and cost, there is a need for policy makers to ensure easy access to traditional markets and promotion of local healthier choices.

Introduction

There are direct and widespread consequences for disease and death that flow from the foods that we eat. Globally, non-communicable diseases are the leading cause of death. According to WHO estimates, these diseases contributed to 36 million deaths globally in 2008, accounting for 63% of 57 million total deaths [1]. It is also projected that they will account for an increasing absolute number and proportion of worldwide deaths, rising to about 70% of deaths in 2030 [2]. About 80% of deaths related to non-communicable diseases occur in low- and middle-income countries (LMICs) [3]. In many ways, this shift is a continuation of large-scale changes that have occurred over time.

Economic development in LMICs together with recent technological innovations and modern marketing techniques have modified dietary preferences. This has led to major changes in the composition of diet which contributes to a majority of the non-communicable diseases[4-7]. There has been a shift towards
high fat, refined carbohydrate and low-fiber diet [8]. These dietary changes and the increase in diet-related diseases are also on the rise in Africa especially due to the increase in urbanization. With the world increasingly interconnected, this pandemic is emergent in both rural and urban settings in Africa[9]. As seen in other countries, the rise of fast food restaurants and influx of processed fruit juices and fizzy drinks is at an all time high[10]. This is further exacerbated by the transformation of the local food environment with supermarkets infiltrating inner city and even rural neighbourhoods [11], and potentially replacing traditional wet markets offering fresh food and produce[12].

This is particularly true in Kenya where the middle class boom has resulted in a larger market for processed foods from supermarkets and a dip in fresh foods typically available in traditional markets. Supermarkets in urban Kenya have risen from a tiny niche a half decade ago to a fifth of food retail, spreading well beyond the richer consumers to derive more than a third of their sales and half of their customers from low income and poor consumers [13,14].

The Sustainable Development Goal (SDG) 2 seeks “to end hunger, achieve food and nutrition security, improve nutrition, and promote sustainable agriculture” [15]. Against this backdrop, improving knowledge and understanding about food environments – including the who, what, when, where, why and how of food acquisition and consumption – will be key to addressing malnutrition in all its forms. This study therefore sought to understand the complex interplay between individual characteristics and external factors that influence people’s food practices and choices in Homabay and Kisumu Counties in Western Kenya. This evidence is essential in designing policies and interventions that appropriately leverage agricultural biodiversity, in concert with components of other food systems, to address the multiple burdens of malnutrition in LMICs.

The analysis described here draws on baseline findings from a larger ongoing mixed-method natural experimental study evaluating the impacts of a new hypermarket (supermarket combined with a department store) on dietary behaviour and the local foodscape in Western Kenya [16] the main aim was to explore the relationship between food retail and health behaviours, and in particular to understand whether associations varied by socioeconomic status. The study was conducted in two study sites: The intervention site (Kisumu, where the hypermarket is being developed) and a comparison site (Homabay, an equally cosmopolitan town without a hypermarket).

Materials And Methods

Conceptual framework

The ecological model was adopted in the formulation of data collection tools. This model recognizes the complex interplay that exists between an individual and the various levels of interaction with the environment [17]. This was particularly appropriate in the study context of a middle income country facing rapid economic growth and a shift in culture alongside changing local foodscape. The choice of food could be influenced at multiple levels. Individual characteristics such as level of education, knowledge or perception of healthy food and personal preferences could shape choices. Community as
the second level of interaction seeks to understand a community’s norms and culture and the role they play in the general health and wellbeing of its people. Examples can be drawn from taboo foods, communal sporting activities, groups or organizations in the community that promote or hinder health. In addition, the enabling factors at the national level could also potentially influence local foodscape: for instance tax on sugary drinks, levies on fast food restaurants, advertisements on highly processed foods, or policies on school feeding programs.

**Study site**

The study was conducted in Kisumu and Homabay counties, in Western Kenya with a population 968,909, and 963,794, respectively [18] Two study areas were defined: the hypermarket intervention area (Mamboleo, Kisumu) and a comparison area with no hypermarket (Sofia, Homabay). These areas were delineated using existing spatial census data, field visits and local knowledge. A 2km radial buffer was drawn around the hypermarket and matched according to population density with a 2km radial buffer around Sofia as the landmark in the comparison area. Both sites display similar food retail, socioeconomic (both lower and higher) and topographical characteristics. Dominant socioeconomic activities in both sites include fishing, small scale farming and with the steady growth of both Counties leading to an increase in consumer seeking convenient shopping avenues such as supermarkets and upscale grocery vendors.

**Study design**

This was a cross-sectional qualitative study involving members of households who participated in the original quantitative household survey, purposively sampled for follow on qualitative data collection.

**Study participants**

The study recruited 33 and 38 participants in Kisumu and Homabay Counties respectively giving a total of 71 respondents. This group constituted of males and females aged 20-69 years from different socio-economic groups. The socio-demographic characteristics of the study population is summarized in Table 1.

**Focus Group Discussions**

Four focus group discussions (FGD) each with a maximum of 12 participants were conducted in each county (for eight FGD total) stratified by gender, and social economic status: i) Males from low socio-economic status households ii) Males from high socio-economic status households iii) Females from low socio-economic status households iv) Females from high socio-economic status households. Participants were initially randomly selected from the quantitative arm of the study that recruited households from within the study areas. Household socioeconomic status was classified according to the structure of the house and household assets by Community Health Volunteers (CHVs) individuals who serve communities in a voluntary capacity on health-related matters, and who know households well. A list of household heads who consented to participate in the qualitative arm of the study was then
purposefully selected into the FGDs making a careful selection of representation from all quadrants in the study sites within the 2km radius. We separated younger (<40 years) and older participants into separate groups due to differences in perceived status and seniority that could have impeded free discussion.

The focus group discussion guide (Appendix 1) explored sources of food and reasons for their preference. Participants shared on the means of transport used whenever they travel to get food, the specific means, the cost and the time involved. They also discussed the frequency of purchase, the food purchaser as well as who provides money for the food. The guide also sought to understand their views on food storage and cooking methods. The study recruited experienced qualitative data collectors. Prior to the commencement of the study, a three-day training was conducted on understanding what influences people's food practices and exploring the role of the hypermarket within the local foodscape. A refresher training was also offered on focus group discussion techniques and the FGD discussion guide. FGDs were held at local venues such as classrooms, community and church halls and facilitated by study staff. FGDs were recorded using a tape recorder, then transcribed verbatim and translated to English.

Data analysis

Data analysis adopted an exploratory and inductive analysis approach. The audios stored in recorders were transcribed into Microsoft Word. Themes were generated first from the interview guide and later codes were developed from responses. A code sheet was developed from the first few source documents and later a master code sheet was developed. Multiple coders were trained and independently coded the responses using NVIVO 12 PRO software. Each code and sub code were numbered serially to reflect the analysis hierarchy. The source documents included data collected from four FGDs conducted using a similar interview guide.

Results

Socio-demographic characteristic of the study participants

The table below represents a summary of the sociodemographic details of the participants of the focus group discussions held with community members in Kisumu County

Table 1. Sociodemographic characteristics of FGD participants in Kisumu and Homabay
| Description         | Description         | Frequency (n = 33) | Percentage (%) | Frequency (n = 38) | Percentage (%) |
|---------------------|---------------------|-------------------|----------------|-------------------|----------------|
| **Gender**          | **Gender**          |                   |                |                   |                |
| Female              | Female              | 15                | 45.5           | 21                | 55.3           |
| Male                | Male                | 18                | 54.5           | 17                | 44.7           |
| **Age (Years) *    | **Age (Years) *    | 8                 | 24.2           | 9                 | 23.7           |
| 20-29               | 20-29               | 6                 | 18.2           | 12                | 31.6           |
| 30-39               | 30-39               | 9                 | 27.3           | 9                 | 23.7           |
| 40-49               | 40-49               | 7                 | 21.2           | 6                 | 15.8           |
| 50-59               | 50-59               | 3                 | 0.1            | 2                 | 5.3            |
| **Educational Level** | **Educational Level** | 1                 | 0.03           | 0                 | 0              |
| None                | None                | 1                 | 0.03           | 0                 | 0              |
| Primary             | Primary             | 22                | 66.7           | 23                | 60.5           |
| Secondary           | Secondary           | 6                 | 18.2           | 9                 | 23.7           |
| A-Level/college     | A-Level/college     | 3                 | 0.99           | 6                 | 15.8           |
| Didn’t disclose     | Didn’t disclose     | 1                 | 0.03           | 0                 | 0              |
| **Occupation**      | **Occupation**      | 2                 | 6.06           | 6                 | 15.8           |
| Formal employment   | Formal employment   | 17                | 51.5           | 11                | 28.9           |
| Business            | Business            | 10                | 30.3           | 6                 | 15.8           |
| Farmer/Agriculture  | Farmer/Agriculture  | 1                 | 3.03           | 8                 | 21.1           |
| Unemployed          | Unemployed          | 3                 | 9.09           | 6                 | 15.8           |
| Didn’t disclose     | Didn’t disclose     | 0                 | 0              | 1                 | 2.6            |
| **Marital status**  | **Marital status**  | 27                | 81.8           | 30                | 78.9           |
| Married             | Married             | 3                 | 0.09           | 2                 | 5.2            |
| Widow               | Widow               | 3                 | 0.09           | 6                 | 15.8           |
Sources of food

A clear dichotomy was discernable regarding sources of food between the two sites from participant’s responses. In Homabay, a majority of the participants indicated they consumed food from their farms, including a variety of cereals, legumes, root tubers, vegetables, fruits, poultry, and dairy products.

‘Things like vegetable, pumpkin leaves we get from the farm... even things like eggs, chicken... we can get something small from the farms.’ (Homabay Female FGD Respondent)

This was in contrast to Kisumu where most participants reported that they get their food from an open market, small local retail stores (kiosks) and supermarkets.

‘It can happen that Kibuye (open market) is far and you are in a hurry. You go to Obunga to a kiosk here instead of going to Kibuye, I take maybe at the kiosk some sugar. On the side of vegetables, I go to a stall, I take Sukuma (local green vegetable) or omena (small endemic fish) or tomatoes.’ (Kisumu Female FGD Respondent)

Reasons for the choices of food source varied among participants from both men and women. They gave reasons such as variety of produce, distance from the home and resulting transportation costs, and freshness of produce. The majority of participants however reported that the main influence was the cost of goods in the various outlets.

‘I think by going to the supermarket, everything you need is found under one roof, but it’s not that they are cheap for your information...I think...for people to decide where to go, your pocket will determine’. (Homabay Male Respondent)

Distance/proximity to the food source

For both sites, the majority of the participants reported that they mainly walked to the various food sources, taking an average of 10-20 minutes each way. This option was closely followed by use of boda boda (motorbike taxi run by private operators) and matatu (minivan taxi run by private operators). This was reported to cost an average of Ksh.30- Ksh.100 (3-10 USD).

‘You know even if it is far... you look at the 50 bob (5 USD) you are going to spend and you know that amount you can buy something else with it. So you just walk.’ (Homabay Female FGD Respondent)

‘..Sometimes it depends on what is taking you there. If you need to buy many things and sometimes those things are very heavy... how will those things get home? So I can take a matatu from Kibuye (open market) instead of walking.’ (Kisumu Female FGD Respondent)

Foods often consumed in households

A majority of the participants mentioned local vegetables (e.g. sukumawiki), or omena (small indigenous fish) boiled maize and beans and ugali (maize meal) as the staple in households. This monotony would
be broken by beans, eggs, rice or beef. The reasons mentioned by participants as to why these particular foods were preferred include; cost, availability, nutritive value, religion, satiety, medical reasons and personal preferences. These responses were also consistent with their responses about what people in the community in general would normally eat.

‘Ugali is a staple food in western Kenya, and I have said that the fish is readily available... mostly those things…” (Homabay Male FGD respondent)

‘I really like traditional vegetables because I get satisfied whenever I take them, there are some nutritional benefits that our bodies gain whenever we take those food, that is why I like taking traditional vegetables.’ (Kisumu Female FGD participant)

Responses on the frequency of food purchase varied from participant to participant. For some, a weekly budget for the dry goods (cereals, flour) and daily purchase of perishable goods such as milk and vegetables was more feasible. Only a few suggested that they purchase foodstuff once a month. The majority of participants however reported to make these purchases on a daily basis. Reasons provided for daily purchase of food included: the need to ensure the family eats fresh food, daily wage that only allows one to spend what is earned daily, and lack of storage facilities (refrigerators).

‘Because I can’t say that I get money to buy the food for one week. At times I can get like one hundred shillings, I buy breakfast. Maybe I can buy sugar and mandazi(doughnut) for the children to eat. Lunch hour, I can get vegetables and maybe buy supper too. For me to get money to buy food for one month, is hard.’ (Homabay Female FGD Respondent)

Foods for special occasions

For most families, special occasions include Christmas, when a child has done well in school, when the family has guests, or a family celebration. Meals provided on such special occasions include chapati, chicken, soda, and food from the American fast food restaurant Kentucky Fried Chicken (KFC). Participants noted that these meals bring the family even closer together and everyone is happy. Frequency of this also varied among participants with some quoting a weekly routine, others once every month and others once or twice a year.

‘When the Lord bless me then I can cook chapatti with chicken, and the children are always happy because it is rare to get chicken in these areas.’ (Kisumu Female FGD Respondent)

‘That day I can bring them cake, I go to the supermarket and buy cake, yoghurt, milk, and such nice things for them to be happy that day.’ (Homabay FGD Male respondent)

Family roles in food purchasing and preparation

Although some participants in both sites mentioned that both father and mother participate in the purchase of food, the majority agreed that the women are solely responsible. This is however not to be
confused with the financial contribution to food purchase. In some instances, it was mentioned that older children are sent to buy food for the family. It was, however, notable that each gender felt that they were the ones responsible for buying food for the household. Their reasons for this also varied.

‘…the man wouldn't know the whole budget. He can buy vegetables and fail to buy tomatoes. Again for me, on the same amount of money, I may notice the baby may need fruits even if it is 5/- (USD 0.05)- and maybe he won't be able to remember something like that.’ (Kisumu Female FGD Respondent)

‘…You know she has also trained the children very well. When she comes back tired, she can give instructions to the older children on what to buy… even the quantities so at least she can rest”. Homabay Male FGD participant)

‘As for me, this issue why we like to give them (wives) is because of cooking, they are the one who know how they schedule the menu, so you cannot force them to cook the food she did not want, because if she decides on her own, then she will cook it nicely… we do not like buying...She is the one who knows how to coordinate what food to be eaten in her house, you know, that today I want to cook githeri (a mix of maize and beans), tomorrow I want chapatti (type of naan bread), so she is the one who knows how she runs the house, so you cannot just do things your way, so matter food, you leave to her’. (Kisumu Male FGD Respondent)

The majority of the participants were of the opinion that it was the women who prepared meals in the home. Some of the reasons cited include working hours of the man of the house, and traditional expectations.

‘Most of us agree here it is the wife who cooks. I know how to cook, but it is just known she is the one who makes meals for us… you also have to remember we are away from the home most of the day at work, so its easier when she is then one preparing meals‘(Kisumu Male FGD Respondent)

Some participants also observed that both men and women were involved in the cooking while others cited older children lending a hand in preparing meals.

‘In cooking, the children cook, I also cook and my wife also cooks. Because there are children who have grown up and have learnt the art of cooking, and perhaps we may go on a journey like a funeral at my in-laws, will the children sleep hungry? I have taught them how to cook.’(Homabay Male FGD Respondent)

Boiling was mentioned as the most popular cooking method followed by frying which is mainly done for the fish and vegetables.

**Healthy food, and health and well-being of households**

Participants highlighted that food without preservatives and chemicals was considered most healthy. Examples of recently harvested grain without preservatives were given, as well as beans, milk and local vegetables.
‘...foods that we consume in our houses are not healthy...for one, my friends have talked about the vegetables...but the chemicals used for these vegetables...you find that the vegetable are sprayed today...more so Sukuma wiki (local green vegetable) ...its sprayed and brought to the market the following day, and we buy it...that chemical still exist on it.’ (Homabay Male FGD Respondent)

Interchanging meals so the family gets a variety of nutrients within the week; eating fruits and other healthy food; and hygiene (such as how to wash the vegetables and keep the home clean to avoid the family developing diarrhea) were also mentioned as ways to ensure the health and well-being of families. Participants saw eating healthy food as a way to prevent the family from diseases (e.g. worms or malnutrition). Another part of well-being was mentioned to be the proper disposal of waste in the household and choice of healthier cooking methods.

‘To ensure that my household lives a healthy life... I try that today if they eat vegetables and eggs, tomorrow, I look for omena to enable them – that they don't get only one thing every day.’ (Kisumu Female FGD Respondent)

‘As for me, first and foremost we look at the cleanliness, then secondly, we should ensure we eat balanced diet, we should ensure there is some fruit there, the food we eat we must ensure there is protein, carbohydrates and such, it cannot be like the food you eat yesterday is the same you are eating today, like that.’ (Kisumu Male FGD Respondent)

Participants also revealed that it isn't always easy for them to provide a balanced meal for the family due to budgetary constraints, forcing them to only make sure there is a meal regardless of whether it is balanced or not.

*I can say that this thing called balanced diet, where we are or stay, we cannot really follow it strictly because there could be days that you had planned to buy something else to change your diet, but in your budget, it cannot get in, so as for me, I can say that there are some days that we can deny our self that diet but we rather get full and continue with life, because there are some things that if you want to go and buy, it will cost you more money than the usual.* (Homabay Female FGD Respondent)

Participants were also worried about the type of foods eaten (sugar, fatty food) in the house and the diseases that could come with it such as obesity and high blood pressure.

‘Okay what worries – what worries me are the disease that comes from the foods that we consume... like for example sugar levels, pressure and overweight... yeah... it really scares me’ (Homabay Male FGD Participant).

Health and well-being of the community

Participants indicated that they were worried about the health of the community, especially the youth and the elderly who in most instances were not in a position to earn an income and provide food for themselves.
‘...majority are youths and now these youths they are jobless, so whatever I was driving to is that...low income... they take one meal per day and that is due to the low income...there are the elderly people in the village they cannot go to work...so they expect these young people to provide for them...yet these young people are unemployed or they are employed but they just get peanuts...’ (Kisumu Male FGD Participant)

It was also the general view of participants that economic disparities in the community resulted in many households being unable to provide basic necessities including safe water and toilets for the families.

‘When it comes to drinking water...some people do take dirty water...but some use tap water... there are those who cannot get access to the tap water... there are those who fetch water from the rivers... and they don’t care who is taking a shower upstream or the cows that are also drinking the same water upstream... they just get there and they drink that same water... yeah... and that is very harmful to our health...’ (Homabay Male FGD Respondent)

‘Looking into the health of our people in the community... most of them do not have latrines, racks... those that are used to put dishes after washing to dry... so we lack these.’ (Homabay Female FGD Respondent)

The abuse of drugs and alcohol by the youth was also raised as a concern for the wellbeing of the community.

‘... young people mostly have involved themselves in alcohol abuse... and some drugs... but after taking them... it does not give you the chance to do something that can give you some income... this affects them to a point that you find most of them... the little they get, they use it to buy alcohol... so maintaining his health becomes a challenge...’ (Homabay Male FGD Respondent)

**Awareness of the hypermarket**

Almost all participants were aware of the hypermarket being developed in Kisumu. Although the hypermarket was not fully operational, participants from the Kisumu site were excited of its close proximity to their homes and mentioned that it would then be convenient to purchase various household items in one location.

‘I recently heard everything would be brought there; vegetables, everything that if you desire, you go and see and buy.’ (Kisumu Female FGD Respondent)

‘According to me, this supermarket will make our work easy since we initially we were forced to travel to other places in search for a supermarket, we will therefore consume less time since the supermarket is near us.’ (Kisumu Male FGD Respondent)

There was a concern on the impact the supermarket would have on the other vendors in the surrounding.

‘I don’t know much about this mall because it has not started operation, most people have the opinion that this supermarket will render most of the business people jobless since it is near and there is no need to go other places.’ (Kisumu Male FGD Respondent)
‘I have heard those business people near the supermarket complaining that this supermarket will take most of their customers and this is not good for their business.’ (Kisumu Male FGD Respondent)

Other participants were also looking forward to the social activities that will be provided in the mall, a place for both the children and the parents to enjoy and have a good time.

‘From what we have heard... you know in that big mall there will be places for children to play, even places for adults to just relax. So am really [looking] forward to that.’ (Kisumu Male FGD respondent)

It was perceived that the hypermarket would bring lower prices to items.

‘One of the reasons why I can go to the supermarket is to purchase sugar, two-kilogram salt, tea leaves and other items, the price of the local shop is not the same when you decide to purchase some of these items from the supermarket.’ (Kisumu Male FGD Respondent)

There was concern that the opening of the supermarket might have a negative impact on the public transport business.

‘When that supermarket is opened at the mall then we will not use transport money, it will also have a negative impact to the public transport business, those who operate a motorcycle are the people who are going to benefit from this supermarket.’ (Kisumu Female FGD Respondent)

**Discussion**

Householders procured food through growing or rearing it themselves, and through buying it. We found that cost, variety, satiety and freshness were key drivers of where people purchased food and what they purchased. Distance to food vendors, and thus the modes and cost of transport required to access them, were important considerations. Participants understood what constituted a healthy meal and tried to provide healthy food for the household but were often limited by cost or convenience. Though roles could be spread amongst members of the households, women typically assumed the greatest day to day responsibilities for food procurement and preparation. Traditional foods were popular and considered healthy, but processed food and drink was purchased periodically and was often considered a special family treat. Food choices were made within the context of other, often severe, challenges in the community including high unemployment, substance abuse and lack of basic facilities.

Evidence-based approaches are increasingly prominent on national agendas for health policy and health research especially in LMICs in relation to NCDs [19]. This shift is partly in response to the high incidence of diabetes, high blood pressure and obesity in these settings, a phenomenon linked to poor diet and nutrition. This study contributes to the evidence within various disciplines that suggests that food choice is influenced by environmental, individual, and behavioral factors [20]. The family is described as a context that is most influential in a child’s life [21] and plays a major role in socializing its members on food practices and beliefs. In this regard, this study offers insights on the parents’ perspective on the influences of dietary preferences in households.
The results of this study demonstrate that the influences on dietary preference and local foodscapes are multifaceted. While public health interventions aimed at changing dietary patterns often focus on healthy food choices and increasing nutritional knowledge, the complexity of how people select their food remains a grey area [22]. Food choice is a complex phenomenon, affected by many interrelated factors described in various levels of influence; interpersonal, community and national/policy levels. Although this study stratified the focus group discussions by socioeconomic status, which has been shown to be a major inter-personal influence on food choice [23,24], this was not clearly demonstrated in this study. This could have reflected a true relationship, as reflected in other studies [25], but may also be at least partially related to potential misclassification of household SES. Using CHV judgements of socioeconomic status may have biased the sample towards lower socioeconomic status households.

Interpersonal influences – such as perceived satiety experienced with some foods in comparison to others, cost of certain foods and transportation costs – all influenced participants’ choice and source of food. This is consistent with findings from other studies [26]. The majority of participants in our study described some foods as ‘light weight’ thus contributing to over reliance on starch dense foods to sustain individuals much longer. This was partly associated with the nature of work and some individual’s inability to have regular meals. Although it is widely believed that the urbanization phenomenon is largely associated with a shift in cultural dynamics [27], traditional foodscapes and an increase in unhealthy food [28], it is noteworthy that participants in both sites cited the preference of local indigenous vegetables and locally available fish species as a staple with only an occasional indulgence in highly processed foods during special occasions. This could be attributed to the culture of the people, vibrant fishing industry and perceived lack of satiety from fast foods. The decision to eat fast foods was also noted in other studies [22] and could also be looked into more as a community influence where special occasions and socializing is associated with processed food and drinks.

This study is one of few qualitative investigations into food choices and practices in this context. However, the limitations of this study must be recognized. As described, CHV judgements of socioeconomic status may have biased the sample towards lower socioeconomic status households; greater diversity may have provided additional insight. Though efforts were made to stratify focus groups in such a way to promote frank discussion (e.g. males separate from females), it still may be that social factors prohibited the discussion of some topics or the expression of opinions perceived to differ from the norm. One-to-one methods of qualitative data collection, such as interviews, may be considered to provide complementary information in future research. To further qualify the responses by participants, it would be beneficial to include quantitative assessment of daily food consumption in households since studies have shown significant variations in reported dietary intake as compared to actual consumption. In addition, to fully appreciate the multifaceted nature of the influencing factors in dietary preference, future studies, especially in Africa, would need to incorporate detailed views of the participants with regards to cultural influences, family dynamics and political influences that were not fully explored in this study but have acted as a backdrop to the responses from the participants.
In conclusion, this study demonstrated that although there are various factors that come into play when deciding on what food a family will consume, a major contributor is the access to food vendors that offer variety as well as the variation of price of food items. A possible next phase of this study would be to identify the factors that influence the price of food, as well as those that influence the location of food retail including open food markets and supermarkets.

Declarations

**Ethical Considerations:** As described, this analysis forms part of a wider mixed-methods study. All methods were carried out in accordance with relevant guidelines and regulations. The study was reviewed and approved by the Scientific Ethical Review Committee (ERC) of the Kenya Medical Research Institute (KEMRI, SSC ≠ 3730). Thereafter, additional permissions were obtained from the County administration: Ministry of Education, Commissioner and Ministry of Health. The purpose of the study and its objectives were explained to local authorities, opinion leaders, village elders and community members involved in the study. Written Informed consent was obtained from the participating respondents who were also assured about confidentiality of information obtained from them. Personal identifiers were removed from the dataset prior to analysis.

**Availability of data and materials:** The focus group discussion guide used in this study is provided as a supplementary document. The transcripts generated for the FGDs will be availed upon request. The corresponding author will be available to provide these, and any additional information required.

**Competing Interests:** I declare that the authors have no competing interests as defined by BMC, or other interests that might be perceived to influence the results and/or discussion reported in this paper.

**Consent for publication:** Not Applicable

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