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Gendered attitudes to fruit and vegetable consumption during the COVID-19 epidemic: Implications for policy and programming

Khumo Mngomezulu, Catherine Ndinda , Zintathu Mazamane, Sikhulumile Sinyolo  and Pauline Adebayo

abstract

Existing literature suggests that increased consumption of fruit and vegetables is not only important for general health but is also critical for the prevention and control of non-communicable diseases. However, consumption of fruit and vegetables in South Africa remains low and gendered, with women consuming more vegetables because of social and cultural reasons.

Using the gender and development approach as a theoretical lens, this paper explores the consumption of fruit and vegetables during the COVID-19 epidemic, drawing on qualitative research (focus groups and key informant interviews) conducted among communities and stakeholders in Gauteng, KwaZulu-Natal, and Mpumalanga. The paper draws out key themes emerging from the discussions on consumption of fruit and vegetables in the selected communities through content analysis.

Consistent with the literature, the study findings suggest that fruit and vegetable consumption is low and that gender and cultural beliefs affect consumption. Although communities know about and consume indigenous vegetables, perceptions of these as foods of the poor and their unavailability in major retail stores limit their consumption. Retailers as dominant players in the food system dictate the fruits and vegetables that are sold and consumed, and rather than reflecting the diversity of the population, these tend to reflect the interests and tastes of the owners of the means of production. Social media obfuscated the gender differences in the consumption of specific vegetables and fruits. This paper underscores the gendered attitudes, while unravelling the embeddedness of cultural mores, values, and taboos on the consumption of fruit and vegetables in a time of COVID-19. Policies and programmes for improving consumption of fruit and vegetables need to be culturally appropriate and need to decolonise the food system, to improve access to and consumption of indigenous varieties.

keywords

gender and development, intersectionality, food system, indigenous vegetables, decolonise

Introduction

Existing literature suggests that increased consumption of fruit and vegetables is not

only important for general health but is also critical for the prevention and control of non-communicable diseases (NCDs) (Aune et al. 2017; Miller et al. 2017).

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The World Health Organization (WHO) recommends the consumption of five portions (80 grams each) of fruit and vegetables per day (Darfour-Oduro et al. 2018), but local consumption levels fall far below the recommended intake of two servings of fruit and three servings of vegetables per day (Sinyolo et al. 2020). However, this target seems difficult to reach in poor communities, where only 4.6% of adults consume four or more fruits per day (Okop et al. 2019). The reasons for low levels of fruit and vegetable consumption include a lack of access, affordability, poor attitudes and knowledge about fruit and vegetables, and the power of a global fast foods culture (Burns et al. 2006).

While few studies have attempted to examine the gendered attitudes to consumption of fruit and vegetables (Perreira 2014; Roudsari et al. 2017), even fewer studies in South Africa (SA) have explored these during the COVID-19 pandemic. The low or lack of consumption of fruit and vegetables has been linked to diet-related NCDs such as diabetes, heart disease, strokes, and cancer (WHO 2020).

The objective of this paper is to explore the gendered attitudes to (and consumption practices of) fruit and vegetables during COVID-19 in selected communities in Gauteng, KwaZulu-Natal (KZN), and Mpumalanga. The paper begins with the background and outlines the methods deployed in data collection and analysis. The findings and discussion follow. The final section deals with recommendations for policy and research.

Background

This paper draws its data and findings from a study that began before the COVID-19 pandemic and was completed during the pandemic. With concerns regarding rate of COVID-19 infections, coupled with uncertainty about how to control the epidemic, the Government issued guidelines for total lockdown of the country, a stage now known as lockdown level 5 (March to June 2020). Thereafter, the lockdown levels were relaxed as infection rates decreased. In addition to the complete lockdown of non-essential activities, the Government issued public health guidelines to prevent and control the spread of COVID-19. These

included washing of hands with soap for at least 60 seconds, or sanitising of hands, wearing of masks in public spaces, observing a physical distance of at least 1.5 metres between people in public places, and avoiding crowded indoor spaces. The number of people at public gatherings such as churches and funerals were regulated by the lockdown level. These guidelines were posted on the Department of Health website and in public places such as shopping malls, on public transport, in commuter stations, schools, hospitals, and religious places. Messages about infection rates, prevention and control of COVID-19 were shared on radio, television, electronic and print media.

In communities and social media, myths about the potency of certain herbs, fruits, and vegetables in controlling COVID-19 were widely shared. Africans resorted to indigenous plants for their healing properties, and traders of these medicines remained in business despite the lockdown restrictions which did not permit informal trading. Among the indigenous plants whose use increased during the pandemic were *umhlonyane* and moringa. In Southern Africa, *umhlonyane* (isiZulu) or wormwood (English), which goes by different names among Southern African indigenous peoples, is used to treat pneumonia and influenza and is "inhaled as a steam bath" (Van Wyk & Gericke 2018, p. 168). Among the baSotho it is known as *lengana* (Van Wyk & Gericke 2018, p. 168). Regardless of gender, both the urban and rural population sought indigenous herbs and solutions to keep COVID-19 at bay.

Various studies have examined the drivers of fruit and vegetable consumption in SA (e.g. Faber et al. 2013; Okop et al. 2019; Sinyolo et al. 2020) and beyond (e.g. Choudhury et al. 2020) in the absence of COVID-19. One study found that people who were least likely to consume fruit and vegetables were African and Coloured/mixed race males, due to their lower levels of education, their regular smoking habits, and because they are less involved in religious activities (Peltzer et al. 2012).

Naude (2013) found that people in lower income groups in both urban and rural towns tend to consume less fruit and vegetables, because these were considered more expensive in comparison to energy-

dense foods rich in sugar and carbohydrates. The consumption of fruit and vegetables by low-income African and Coloured persons is also affected by accessibility. Supermarkets in urban areas are more likely to have a wider variety of fruit and vegetables compared to those located in informal settlements or rural areas (Naude 2013). The structure of the market economy assumes that 'the poor' or those living in informal settlements and rural villages do not have knowledge of sources of vitamins and minerals contained within fruit and vegetables. Kroll (2016) argued that the poor are not passive victims of neoliberal economies; the poor have power and agency, and some are knowledgeable about indigenous fruits and vegetables that are sources of vitamins and minerals. Furthermore, rural communities have access to food choices that are less intensely processed and offer healthier eating alternatives (Kroll 2016, p. 3) compared to urban communities.

Voster et al. (2016) posit that healthy vegetable food choices, such as green leafy vegetables, are held in different statuses across various South African cultural groups. In their argument, ethnic groups such as Zulu, Shangaan, Tsonga, Pedi, and Ndebele tended to eat leafy vegetables as part of a relish to be eaten with pap [mielie meal], whereas among the Xhosa cultural group, green leafy vegetables were regarded as 'women's foods', while the men would prefer to eat pap and meat (Voster et al. 2016). Food is not just for consumption but embodies commonly held beliefs in society. In SA, meat is associated with 'masculinity, virility, aggression, and bloodshed, whereas leafy green vegetables are associated with the softer, female gendered stereotype (Kroll 2016).

Theoretical framework: Gender and development and intersectionality

This paper employs the gender and development (GAD) approach, that underscores how men and women experience crises and interventions and tackle these crises in society is different (Ndinda et al. 2021). Gender differences result in biases which

often disadvantage women and privilege men in various ways in specific contexts (Ndinda et al. 2021). To understand the impact of crises, and interventions put in place to address these, the GAD approach originates from a place of questioning which gender benefits, and how, why, and what is the balance of power (Ndinda et al. 2021). The GAD approach recognises that women are not a homogenous group, even in the same context. Differences can be in terms of race, class, and ethnicity, among others. This paper interrogates who, between men and women, consumes fruit and vegetables, how often, where, and why. Deconstructing the what, how, when, and where of the gendered consumption of fruit and vegetables during COVID-19 allows us to unpack the values, norms and cultural practices that explain the emerging patterns, and to draw lessons for practice and programming in specific urban and rural contexts.

The GAD perspective was used in the analysis, and three theories were applied to help explain the dynamics surrounding the male and female consumption patterns of fruit and vegetables. These theories include the theory of planned behaviour, feminist theory (GAD has roots in feminist theory), and social constructivist theory. Feminist theorists believe in advocacy of equality of the sexes and the promotion of women's rights.

The theory of planned behaviour argues that people make conscious, logical, and reasoned decisions on how to engage in certain behaviours, based on the information that is available to them at the time that the decision is made (Ryan 2000). The theory shares the same sentiments with social constructivist theory, which postulates that people choose to behave in certain ways based on their context at the time, and the way they make decisions is influenced by the principles and values that are prevalent in their environment (Dillon 2020). Both the theory of planned behaviour and social constructivist theory suggest that the decision of people to consume more pap and meat instead of more fruit and vegetables is influenced by an environment and community lifestyles which promote the consumption of meat (for example, communities where *shisa nyamas* (South African colloquial term for

roasted street meat/barbequed meat) and braais are part of the lifestyle that is prevalent). As with GAD, the theory of planned behaviour can help explain the gender differences in fruit and vegetable consumption, where such consumption is generally determined by factors that include attitudes, knowledge, perceived behavioural control and perceived norms held by those consuming the foods (Emmanuel et al. 2013). When at ease with certain food choices, people are likely to consume them, regardless of nutritional value (Emmanuel et al. 2013).

Methods

Eighteen focus group discussions (FGDs) were conducted across the selected sites. These FGDs, each with between 6 and 10 participants, were grouped by gender – male and female. In total, 132 participants (see Table 3) took part in the FGDs. In addition, 35 key informants were interviewed. These included representatives from community-based organisations, fresh produce export groups, research institutions and universities, community leaders, officials from Departments of Agriculture, Land Reform and Rural Development, Health, and Economic Development, private health practitioners and non-governmental organisations, some of which are members of the South African Non-Communicable Disease Alliance.

Both the FGDs and key informant interviews (KIs) were done in selected sites, to understand diverse perspectives on the drivers and inhibitors of fruit and vegetable consumption in different settings. The provinces selected were Gauteng, Mpumalanga, and KZN. The Gauteng province, with an urbanisation rate of 97%, was selected to represent views and dynamics of those in urban settings. Mpumalanga, which has an urbanisation rate of 48% and

significant populations in semi-urban settings, was selected to represent the peri-urban setting. KZN (45% urbanisation rate) was selected to represent the rural views. However, it was acknowledged that locations in these provinces are not homogenous. As such, three sites were selected in each of the three provinces, representing urban, peri-urban, and rural settlements (Table 1).

In line with the GAD approach, the study was designed to elicit the perspectives of men and women in the selected communities covered in this study. In each community we sought to recruit male and female study participants from different demographic profiles, to ensure that fruit and vegetable consumption perspectives across different generations were discussed, and the rationale was explained from different experiences (Table 2).

The key questions addressed sought to understand the patterns of fruit and vegetable consumption in the selected communities. The study asked about the gender differences in fruit and vegetable consumption in the communities studied. Electronic recorders were used to record the FGDs, and these were supplemented by note-taking. The KIs were conducted throughout the lockdown through online platforms to ensure compliance with lockdown regulations. The FGD and KI recordings were transcribed verbatim. The textual data were analysed using the constant comparative method to draw out the key themes emerging from the discussions.

Like Stewart and Shamdasani (1990), we note that qualitative data can yield quantitative data. In line with this view, some of the data from the FGDs were quantified to shed light on the gendered attitudes and the extent to which these exist in the selected communities. Data from transcripts were categorised into codes and themes.

Table 1: Focus group sites

Provinces	Rural site	Peri-urban site	Urban site
KZN	Ngubevu (Msinga)	Gomane (Impendle)	Welbedatch (eThekwini)
Mpumalanga	Siyabuswa (Dr JS Moroka)	Delmas (Victor Khanye)	Kwaguqa (Emalahleni)
Gauteng	Khutsong (Merafong)	Wedela (Merafong)	Danville (Tshwane)

Table 2: Recruitment of participants per focus group

Age (years)	Male	Female	Total
18–24	2	2	4
25–34	2	2	4
35–54	2	2	4
55–64	2	2	4
65+	2	2	4
Total	10	10	20

Table 3: Focus group participants per province

Gender	Gauteng (%)	KZN (%)	Mpumalanga (%)
Male	12 (41.4%)	27 (45%)	19 (44.2%)
Female	17 (58.6%)	33 (55%)	24 (55.8%)
Total	29 (100)	60 (100)	43 (100)

The data from the attribute form were coded and computed using the Statistical Package for Social Science (SPSS) to provide the demographic and socio-economic profile of the study participants.

Findings and discussion

The findings were derived from participant responses from FGDs and KIs held in various parts of the KZN, Mpumalanga and Gauteng provinces. Of the 132 FGD participants who took part in the study, 74 (56%) were female while the remaining 58 (44%) were male. Table 3 provides further information about gender distribution across the study sites.

As seen in Table 3, the majority of FGD participants (60) were in KZN, followed by 43 in Mpumalanga and 29 in Gauteng. The age of participants ranged from 18 years to 65 and above (Table 4).

Table 5 shows the marital status of the FGD participants. Notably, of the 132 FGD participants who took part in the study, about 127 disclosed their marital status; the status of others is unknown.

More than half of the participants (51.2%) were single or not married. In total, about 26.7% of the FGD participants were married: about 14.9% were married under customary law, while 11.8% were married under civil law. The remainder were either living together but not married (9.4%),

divorced or separated (8.7%) or widowed (4.0%).

Only 124 out of 132 participants disclosed their employment status (Table 6). Most participants (53.2%) were unemployed and looking for work, while 8.9% were unemployed but not looking for work. Of those who were employed, 8.1% worked in the informal sector, 4.8% were self-employed and 4.8% worked on a part-time basis. Over 50% of participants lived with 1–5 people in their households, while approximately 41% lived with 6–10 people. The number of household members is important in understanding consumption of fruit and vegetables or the lack thereof.

Challenges in access to fruit and vegetables

The decades of apartheid spatial planning in cities and confinement of Blacks (African, Indian, or Coloured/mixed race descent) to limited spaces for cultivation in townships explains the challenge of access: “We want to consume the food that we plant. So, the land is number one to all these problems” (FGD, Welbedatch, female). Furthermore, subsidised housing settlements do not have sufficient space for farming: “... see these types of houses, the only space is there for putting a washing line. The houses are close to each other” (FGD, Welbedatch, male). Similar views were

Table 4: Age of FGD participants

Age (years)	Frequency	%
18–24	17	12.9
25–34	35	26.5
35–44	34	25.8
45–54	18	13.6
55–64	17	12.9
65+	11	8.3
Total	132	100

Table 5: Marital status

Marital status	Frequency	%
Married (civil marriage)	15	11.8
Married (custom/traditional marriage-lobola)	19	14.9
Living together (not married)	12	9.4
Widow/widower	5	4.0
Divorced or separated	11	8.7
Single/never married	65	51.2
Total	127	100

expressed in Delmas and Emalahleni. The nature of settlements in urban areas and townships disallows communities from producing their own fruit and vegetables due to limited space. The available space was just sufficient to fit a washing line or build additional rooms to generate rental income: “we are having extra rooms which covered most space in the yard, like I said we are unemployed” (FGD, Wedela, female). Moreover, land for farming had not yet been allocated to women and the physically disabled, despite commitments

to do so. The vulnerable position of women and people with disabilities was amplified by lack of information about the appropriate vegetables that could thrive in their climatic zones. Households in Gauteng and KZN resorted to consuming seasonal fruits like peaches grown in their backyards, due to lack of space to grow more produce.

The costs of inputs such as seeds and fertiliser and lack of extension support services were cited as barriers to vegetable

Table 6: Employment status

Employment status	Frequency	%
Housewife, homemaker, not looking for work	10	8.1
Housewife, homemaker, looking for work	13	10.5
Unemployed, looking for work	66	53.2
Unemployed, not looking for work	11	8.9
Work in informal sector, not looking for permanent work	10	8.1
Sick/disabled and unable to work	2	1.6
Self-employed, full time (≥ 40 hours per week)	6	4.8
Employed part time (≤ 40 hours per week)	6	4.8
Total	124	100

production. Lack of water in Delmas and the cost of water in Welbedatch were cited as a challenge to production of vegetables. Although tap water is available to urban households, the cost of water was a barrier to irrigation: "... we pay for water and [this] is a big challenge" (FGD, Welbedatch, male).

Although rural households have access to land, it is unsuitable for fruit and vegetable cultivation. At Emalahleni water scarcity, arid conditions, and sandy soil with subsequent erosion of nutrients from the soil were barriers to fruit and vegetable cultivation at household level: "it takes time for us to have rain" (FGD, Siyabuswa, male). Another added that "It's too dry. No rain" (FGD, Delmas, female).

In KZN and Mpumalanga people noted that growing their own vegetables provides variety, because relying on local shops does not guarantee access to diverse types of vegetables:

Others they grow because, when you go to location spazas or fruits and vegetable market, you don't get those vegetables, but if you grow them in your house, it is easy for you to have vegetable that you want every day. (FGD, Delmas, female)

This view was also shared by those who do not produce their own fruit and vegetables.

Gendered consumption of fruit and vegetables

Gender differences in the fruit and vegetable consumption patterns were discernible in KZN: men consumed less vegetables than women, but more pap with meat. Study participants explained that pap and spinach were mostly consumed by women (72%), while the consumption of other food was equally distributed between men and women. About 48% of male participants and 39% of female participants considered beans as the healthiest to eat. In all the study sites in KZN, study participants noted that chicken-fat cuts were the unhealthiest type of food, with more male (52%) than female FGD participants considering it so. However, a key informant commented that "there is no such thing as unhealthy food, it depends on how you cook it. For

example, you must not overcook spinach in such a way that it changes colour." There was awareness of how to prepare vegetables among the community leaders, who are well placed to conduct health promotion; this awareness was linked more to visual presentation and taste than nutritional content.

Indigenous vegetables

The participants expressed positive attitudes towards the consumption of indigenous fruit and vegetables due to the health benefits associated with them. For instance, a male participant in Umsinga, KZN attested that mountain spinach, which typically grows after a rainfall, is nice and nutritious. These views were echoed by participants in Gauteng. Some participants contended that the consumption of vegetables, particularly traditional vegetables, is associated with poverty or a lower economic status. Vegetables such as potatoes, cabbage and *imifino* (indigenous spinach) are particularly perceived as food for the poor: "These are for [people living in] poverty... we eat it even if we don't like it" (FGD, Umsinga, female).

Cabbages and potatoes are a staple for low-income households and beneficiaries of social grants, as they can be purchased in bulk quantities for a relatively low amount, especially when compared to the price of fruit. A key informant noted:

... people won't buy fruits. If you have R10 and you have to choose between oranges and mealie meal for example, or potatoes to cater for the night, they will buy mealie meal and potatoes and not the fruits.

The cheaper cost of cabbages makes them an ideal option for the poor, and they tend to consume the vegetable for several days a week compared to households that can afford meat.

In Mpumalanga (Siyabuswa and Emalahleni) traditional vegetables such as *morogo* were among the most consumed vegetable commodities. *Morogo* is a general term that refers to the "leaves of various plants that are traditionally cooked and eaten ... as relish" (Van Wyk & Gericke 2018, p. 69). In Gauteng the belief that indigenous vegetables (*morogo*) were

important for bowel movements meant that these were well-liked (FGD, Wedela, 2020, female). Others hailed the benefits of *morogo*, stating that “they are very nutritious” (FGD, Wedela, male) and they “strengthen and boost the immune system” (FGD, Wedela, 2020, female). Participants in KZN concurred that most people consumed traditional vegetables.

The differences between the way men and women consumed vegetables were underscored in the FGDs, where contributors observed that “men do not like *imfino* and are picky when eating vegetables” (*imfino* is a different term for *morogo* (Van Wyk & Gericke 2018, p. 69)). Similar observations were made regarding the consumption of fruit. Although both men and women transited through taxi ranks daily, women and not men tended to purchase fruit.

In Gauteng (Khutsong, Danville and Wedela) participants reported that they consumed vegetables at least once a day, and all contributors except those in Wedela indicated that they consumed indigenous vegetables such as wild spinach at least once a day. A contributor in Khutsong shared, “We eat a lot of *morogo* in this community. Often people come to the local market to sell”. The types of indigenous vegetables that participants consumed include *morogo*, *imbuya* (wild spinach), *intufeshe* (Ethiopian kale) and *idanga* (pumpkin leaves).

A community representative in Danville noted that a few people consumed indigenous vegetables. Participants at Wedela indicated that more men consumed *intufeshe*, pumpkin leaves, and beans at least once a day compared to women. Pumpkin leaves were preferred because of the belief that they improve sperm count and virility. Wedela women acknowledged that they did not consume indigenous vegetables, and that “men do not like *imfino* and are picky when eating vegetables”. FGD participants concurred that there were differences in the way men and women consumed vegetables; a participant noted that “There are people who don’t eat *morogo* because they don’t like *morogo*.” Some FGD contributors argued that people’s dislike of vegetables had a lot to do with the way they were raised. In Khutsong, a participant lamented as follows:

There are children who grow up in households that do not eat vegetables. When a child grows up eating only meat, the day when there is spinach on the menu, they will have running tummies, others will be vomiting. So, families should provide meals that include vegetables.

Another contributor supported this by stating that “A child should grow up knowing that in this household we eat vegetables.” The discussions suggested that there were gender differences in vegetable consumption, nutrient intake, and attitudes towards food. Women are more concerned about a healthy diet than men. Women not only took care of their own diet, but also the food choices and health of their families.

The consumption of indigenous vegetables in Gauteng was due to the perceived benefits. One participant stated, “I eat fruits and vegetables every day as I am diabetic” and another added that indigenous vegetables are healthy. However, affordability was a barrier to increased consumption: “we don’t eat vegetables every day because we don’t have money”. A community representative in Danville concurred: “people eat pap with meat and vegetables, though I don’t think they eat vegetables every day. I don’t think they can afford them”.

Gendered cultural beliefs/attitudes

Cultural beliefs seemed to be the epicentre for the attitudes towards the consumption of certain fruit and vegetables, including indigenous ones. Male and female participants believed that peanuts, marulas, and bananas improve male virility and sexual performance among women. Participants from Impendle and Umsinga in KZN shared this view about peanuts: “Peanuts is consumed by males it helps improve performance in bedroom” (Impendle, male participant,). A female participant politely noted that “men consume more peanuts because they have a certain belief”. Others in Mpu-malanga also shared similar beliefs about fruits. In Delmas a female contributor shared being forbidden from consuming peanuts by her grandmother because it increased vaginal discharge. Another added that “only man can drink Marula drink, for them to be sexually active” (FGD, Emalahleni, male).

While the study demonstrated that cultural beliefs positively influence men to consume certain fruit and vegetables, cultural beliefs and practices can have the opposite effect. For instance, the consumption of *imfino yamathanga* (pumpkin leaves) is forbidden: “men undergoing male circumcision and initiation (*ulwaluko*) are forbidden from eating *imfino*”. In SA male circumcision is predominantly practiced among the Xhosa. Although the participant did not provide reasons for prohibition, they explained that men can only break a fast from *imfino* by eating raw meat – a symbolic gesture that they were thence allowed to consume vegetables. Consumption of meat is associated with masculinity across different cultures, including within the Afrikaner community.

Taboos

Taboos about the consumption of certain foods and behaviour around crops, like Bambara groundnuts, are common in many African cultures. Bambara groundnuts are among a range of nutritious indigenous legumes that can be processed to add value and earn improved incomes for farmers. Bambara groundnuts are grown in Southern Africa, including Malawi, SA, and Zimbabwe. Bambara groundnuts were cited as an example of a crop around which there are taboos across different ethnic groups in Southern Africa:

Like somebody said maybe is a case of, for instance, Bambara farm they say, young boys should not cross, like you're walking, and you see Bambara farm and you cross It...so now in Malawi, that thing has come to stay. They have so many taboos that even young women will not touch the Bambara... we don't have that serious taboo in South Africa ... except maybe the Venda's, they will not plant it, is it before the rains or something. (KII, academia)

The taboos are gendered and context specific. In Malawi, women are forbidden from touching Bambara groundnuts and young boys from crossing Bambara farms. Among the Venda, Bambara groundnuts are grown when the rain starts, around January. These taboos govern the cultivation of crops to ensure adequate harvest.

However, forbidding women from consuming Bambara groundnuts and circumcised men from consuming vegetables deprives them of important nutrients for improved health.

Cultural beliefs and practices affect the consumption of fruit and vegetables among women. FGD participants concurred that cultural beliefs and traditions forbid women from eating certain food. Women were forbidden from consuming certain fruits and vegetables that were believed to affect fertility. At uMsinga (rural KZN) women shared they were forbidden from eating bananas and pumpkin leaves because they were believed to cause miscarriages. Furthermore, “Women who have not given birth are forbidden from eating meat from a cow that died giving birth; it is believed the meat will cause them to have miscarriages.” Another participant shared:

Pregnant women are forbidden from eating meat from a cow's head; it is believed it affects pregnancy outcome, labour and causes an undesirable body form for the baby.

These taboos surrounding food were constructed to limit the number of mouths to feed. For instance, the head of a cow, sheep or goat is a delicacy in African households, and men tended to fabricate horror narratives to exclude women from consumption. Women did not understand why they were forbidden from eating certain foods during pregnancy but complied with the taboos followed by their mothers and grandmothers, which were entrenched cultural norms.

There is little evidence that COVID-19 impacted on the beliefs and taboos. Instead, COVID-19 seems to have amplified the significance of certain fruits and vegetables and resulted in increased demand, scarcity, and high food prices.

The findings on cultural beliefs and attitudes as factors determining the consumption of fruit and vegetables are consistent with previous studies (Burns et al. 2006). Cultural beliefs and attitudes that influence the gendered consumption of fruit and vegetables include beliefs such as women should avoid eating certain foods, such as beans, eggs, certain fruits, and vegetables

during certain times in their lives. Such times include menstruation, pregnancy or postpartum, menopause and during the mourning period for the loss of their spouse (Burns et al. 2006). Cultural beliefs and attitudes result in women and girls not prioritising their own nutritional needs. Although Burns et al. (2006) found that both men and women were required to eat less during illness, our findings are silent about this. However, we note that men recovering from circumcision were discouraged from consuming vegetables which contain essential nutrients that are critical in aiding recovery (Burns et al. 2006).

Lifestyles that perpetuate consumption of fast foods in SA

Beyond culture, residents deem it beneath their urban respectability to be seen consuming indigenous vegetables. The consumption of indigenous vegetables is not only gendered but is also a marker of rurality/urbanity. Thus, the so-called *mafikizolo* (recent arrivals) would rather not be seen consuming indigenous vegetables commonly referred to as *morogo*. The negative attitudes to indigenous vegetables cut across gender:

So, I think the urbanisation ... and westernisation of food might be a big factor there affecting people's choices and maybe also lack of knowledge. Maybe they think that it's only about tradition while it's about enhancing their personal nutrition. (KII, agricultural expert)

The key informants argued that when young people start earning a higher income or a "fat cheque", they turn away from traditional or indigenous vegetables and embrace western foods: "When we start having money, we start perceiving all those as inferior foods" (female KII, Department of Health). Key informants argued that Africans abandon indigenous foods to embrace western foods that are highly processed and devoid of nutritional content. Traditional fruits and vegetables were perceived negatively, as though they were inferior to other forms. A key informant commented that "meat is an expensive commodity, and you know when they have it, it's a luxury to have meat in food".

Although processed foods (animal products) are more expensive than fruit and vegetables and less nutritious, participants noted that the consumption of animal protein is promoted, considered desirable, and associated with wealth and higher economic status.

Despite desiring meat, participants noted that they consumed it occasionally because of its cost: "We do love meat, but we have it maybe once a month" (FGD, Welbedatch, female). The desire for animal protein resulted in the consumption of cheap alternatives such as animal skin, livers, gizzards, offal, feet, and cow and sheep heads, because these were affordable.

Gender and lifestyle intersect in food consumption patterns. The fast-paced lives in urban areas compel people to consume fast foods which are high in salt, oil, or sugar (SOS). Local fast foods are a favourite for faced-paced workers such as taxi drivers, due to their convenience, availability, and affordability. The global fast-food culture has found expression in local equivalents such as *shisa nyama*, *voetkoeks/amagwinya*, and bunny chow, among others. The places where local fast foods are found are the same spaces where seasonal fruits such as bananas, apples, pineapples, watermelons, and citrus (among others) are also sold. While fruit is 'fast food' that one can grab and go, local perceptions of fast foods do not include fruit.

The theory of planned behaviour argues that people make reasoned decisions on how to engage in certain behaviours, based on information that is available. Both men and women made food choices based on what was available, accessible, and affordable. Fruit and vegetables are affordable compared to fast foods; they are readily available and are a viable option for those with busy lifestyles. The social constructivist theory, which purports that behaviour is influenced by one's context in time, and their decisions by prevalent values, best theorises the preference for fast foods over fruit. What is required is a mind shift for people to understand the nutritional value of fruit, and this can be achieved through consumer awareness programmes in communities and in the spaces that people transit through.

The patriarchal society encourages the consumption of meat or *shisa nyama* and of alcohol. Fruit and vegetables are associated with women and poverty, whereas meat and alcohol are perceived as markers of financial wellbeing among men. These attitudes, embedded in culture and social norms, require the expansion of health promotion programmes to change the value system. The improved consumption of fruit and vegetables helps prevent and control the rise of NCDs and viruses such as COVID-19 which may present more deadly symptoms and outcomes.

Power of retailers in dictating consumption of fruit and vegetables

Indigenous vegetables were mainly sold on the streets by traders, who procure them from farms. Rarely were indigenous vegetables sold by established retail shops (e.g. Shoprite, Checkers, Pick n Pay). Some participants were dissuaded from buying the vegetables because of the unhygienic way the vegetables were “handled and packaged” by street traders. At Wedela a contributor commented: “the venders sell *morogo* that is so dirty that the appearance of the produce puts off potential buyers”. The power of retailers in shaping attitudes and consumption cannot be underrated.

The choice of fruits and vegetables that are consumed is dictated by the variety stocked by retailers:

I have bought *madumbe* from Cape Town there, but I’m not sure your ... I’ve never found it in Checkers, so you see the difference. So is like the owner of the Pick n Pay where I bought *madumbe*, he knows that people eat this. (Key informant, academic)

When asked about their sources of vegetables, study participants listed supermarkets, retailers, and local stores, including *emholweni*—where people collect their government grant money. Two female participants from Welbedatch reported that “I do not buy fruits and vegetables because I have a garden” and “I have tons of fruits [and vegetables] growing in my yard and we eat them”. Those who grew their fruit

and vegetables were predominantly female participants. Those who went out looking for indigenous vegetables in retail shops and markets were also female. The findings point to the gendered roles of women in both the production and preparation of meals.

Consistent with previous studies (Bradley 2016; Gilbert & Williams 2020), the reliance on retailers and their partnership with commercial farmers has meant that the vegetables consumed are what commercial farmers grow, can be mass produced and are profitable (e.g. cabbages and potatoes). The ‘unholy’ alliance between commercial farmers and retailers not only represents the power of capital but structural oppression and inequality. The gender role of women in household food procurement and preparation at household level places them at the centre of the structural oppression and inequality of the food system. Gender, race, and class interlock to place African women at the centre of the inequities of the South African food system. Calls for decoloniality (Gilbert & Williams, 2020) in various sectors of the economy are not only theoretical but have practical implications for the justice and equity of the food system in SA. We argue that promotion of indigenous foods should be viewed as a form of resistance against the dominance of retailers and their over-processed and unwholesome foods, and a shift towards a just and equitable food system, particularly in a time of COVID-19.

Myths about fruit and vegetables as antidotes to COVID-19

Many reports shared that people with underlying medical conditions had higher risks of developing severe COVID-19 symptoms (Centers for Disease Control (CDC) 2022; Maragakis 2021). NCDs such as cancer, diabetes, heart diseases and obesity are some of the underlying conditions that worsened the outcomes of COVID-19 infections. Critically ill patients ended up in the intensive care unit and underwent invasive mechanical ventilation, and some lost their lives (CDC 2022). At the height of the pandemic healthcare facilities were overloaded with patients; oxygen tanks ran out of stock, and COVID-19 isolation and recovery centres were filled.

The lack of space to admit more patients resulted in a change of strategy, and people were advised to isolate and recover in their homes. The pressure on the healthcare system and uncertainties regarding the best treatment options or prevention compelled people to seek help from traditional healers and indigenous medicine. The indigenous herb *umhlonyane*, which is used to treat flu-like symptoms and influenza, gained popularity as an effective treatment for COVID-19, although the legitimacy of this had not been tested and proven.

Although conventional media such as television, radio and print were key avenues for information, social media platforms such as Facebook, Twitter and WhatsApp stamped their importance during the COVID-19 pandemic. Unlike conventional channels, social media spread information to millions of people across the world within a short period of time. The popularity of *umhlonyane* and other indigenous plants and herbs as critical in the prevention and control of COVID-19 was promoted on social media platforms. Social media fuelled the spread of myths and conspiracy theories about the causes of the virus and preventative measures. Myths that gained popularity were that vegetables and fruit such as garlic, onions and lemons possessed healing properties for the control of COVID-19 infections. Lemons are one of the fruits that were believed to aid with COVID-19 recovery, while vegetables such as onions, *moringa*, ginger and garlic were also believed to do the same. So effective were these 'myths' that panic purchases of these commodities resulted in an unprecedented increase in prices as retailers capitalised on the opportunity (Opperman 2021). The Competition Commission of South Africa (CCSA) investigation into the costs of garlic and ginger compelled retailers such as Pick n Pay to cap the price of these commodities in all their stores (Opperman 2021). Whether the other retailers followed this approach is not clear, as the matter did not draw further public attention.

The COVID-19 lockdown caused a loss of jobs, where more women than men were affected (Ndinda et al. 2021). In this case the GAD approach would recommend ways to improve accessibility to fruit and vegetables for women who lost jobs due to

COVID would include offering internships on commercial farms as an avenue for the transfer of agricultural skills to rural communities.

Recommendations for policy and practice and conclusion

This paper set out to discuss gender and access to fruit and vegetables during the COVID-19 lockdown in SA. It has discussed research findings on fruit and vegetable consumption in selected areas in Gauteng, KZN, and Mpumalanga. The findings suggest that women tend to consume fruit and vegetables more than men. Attitudes to consumption are influenced by knowledge, lifestyle, access to suppliers, affordability of the produce and ability to produce for own consumption. The findings suggest that COVID-19 did not alter the gendered attitudes to fruit and vegetable consumption due to entrenched cultural beliefs, norms, values, and entrenched taboos.

Although both urban and rural communities would like to increase consumption of indigenous vegetables, some people deride these as for rural folk. Major retailers do not stock most of the indigenous vegetables that the masses would like to consume. Consumers are at the mercy of commercial farmers and retailers in terms of what they can purchase and consume. It does not help matters those indigenous vegetables, which are not given space in major retail outlets, must be bought on the streets in conditions that are considered unhygienic. The exclusion of indigenous foods from major retail shops points to a discrepancy between customer needs and the interests of big capital, whose key motive is profits. In line with the GAD perspective, this paper advocates women's empowerment through assistance with the inputs (e.g. land and funding) required to produce fruit and vegetables for local consumption.

Gendered attitudes to fruit and vegetable consumption suggest that programmes promoting health and nutrition need to be gender-responsive and anchored in the culture and values of local communities, if they are to succeed in shifting mindsets about foods that are nutritious as

opposed to those that are tasty. Programmes on food and nutrition need to be taken to the spaces frequented by large populations in both urban and rural areas. Decolonisation of the food system needs to move from rhetoric to practice, where local farmers are supported to grow indigenous crops and policy compels local retail stores to stock the foods that communities consume. To decolonise the food system, agricultural policies and programmes need to invest in the production of improved varieties of indigenous vegetables and food in general.


During the COVID-19 lockdown, social media posts on the potency of vegetables such as garlic, ginger, and onions and citrus fruits such as lemons led to increased demand. Increased consumption of these vegetables and fruits during COVID-19 and the hiking of prices due to increased demand brought to the fore the power of social media in influencing attitudes and compelling stakeholders to act. We suggest that deploying social media can help the Department of Health to address negative gendered attitudes around the consumption of fruit and vegetables and improve the health of the nation.


Further research is required to understand taboos around different fruit and vegetables and the most effective strategies for tackling existing taboos and dispelling myths to improve the health and nutrition of communities. We conclude that targeted consumer education programmes are required to change the attitudes of men towards fruit and vegetable consumption in SA.

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