Journal of Development Communication, Volume 35 (2)

DO YOU CHEW? A QUALITATIVE STUDY EXPLORING THE PERCEPTIONS OF KENYAN STUDENTS TOWARD KHAT (CATHA EDULIS) IN KENYA

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Abstract

Khat is mostly grown in Eastern African countries as a cash crop. Although it has been linked to many health effects and anti-social behaviors – necessitating its control in many countries – khat is legal in Kenya. Founded on the theory of planned behavior (TPB), this study examines the perceived benefits and effects of khat from the perspectives of the residents of khat-growing areas of Meru County in Kenya. Drawing from 15 in-depth interviews (men=11, women=4), the study's data corpus were analyzed using thematic analysis. Findings show five major themes in relation to the perceptions towards growing and consuming khat: source of income, symbol of freedom, identity of heritage, driver of development, and khat as a medicinal plant. On the effects, three themes emerged; school dropouts, health consequences, and violence associated with consuming the khat. Taken together, the findings demonstrate that khat is viewed as an important aspect of people's identity and a major source of income, regardless of the negative effects associated with its consumption. Implications for the study are also discussed.

Keywords: communal identity, heritage, income, khat, perceived benefits, theory of planned behavior

Introduction

Drugs and substance abuse by the youth present a formidable challenge in Kenya and call for multi-sectoral health interventions for meaningful outcomes to be realized. Even so, lack of clear policies and politicization of certain substances, such as khat, have impeded the effective control of this menacing drug. For instance, although khat (*Catha edulis*) is classified as a Schedule 1 drug in the US (National Drug Intelligence Center, 2024) and banned in most European countries (European Monitoring Center for Drugs and Drug Addiction, 2011), it is still legal in Kenya and many horn of Africa countries due to its monetary value. For this reason, khat (also popularly known as Miraa by local communities in Kenya) is consumed widely in these regions and the governments are reluctant to formulate policies to guide its farming and consumption.

Previous studies (e.g. Ketema et al., 2015) show that khat has far-reaching health and social effects when consumed for long periods of time, including an increase in school dropouts, poor academic performance, suicide, and domestic violence. Other substances mostly abused by Kenyan youth include alcohol, tobacco, and marijuana (Ndetei et al., 2010). However, although most of these substances, such as alcohol and tobacco, are regulated, khat farming and consumption remain uncontrolled, thus its effects continue to wreak havoc in Kenyan communities with little government intervention.

The paucity of research on khat and how its effects can be ameliorated is a case for concern, hence one of the reasons for the current research. Thus, the present research investigates the perceived perceptions and effects associated with growing and consuming khat in Meru County in Kenya. One overarching goal of this study is to bridge the above-mentioned research gap, thus creating new knowledge and useful insights about the perceptions and effects of Miraa. Taking into account there is little research related to the current topic, this study provides an important foundation for future studies examining perceptions and effects of growing and consuming khat. This research is also significant because it contributes to the development of the theory of planned behavior (TPB) and related literature, especially considering the paucity of this type of research in Kenya. In addition, scholars in development and health communications, farmers, governments, development partners, and policymakers could benefit from the study's findings. For instance, policymakers could develop more robust policies to mitigate the effects of khat among local communities.

Theoretical Framework

The present study utilizes the theory of planned behavior (TPB) as its theoretical anchor. The roots of TPB can be traced to Ajzen's theory of reasoned action, which suggests that the success of health campaigns can be enhanced by targeting normative and control beliefs that are the foundations for behavioral attitudes (Ajzen, 1991; Zemore & Ajzen, 2013). TPB has been used with success in many health-related studies such as research on cancer, addictions, and eating disorders like obesity and anorexia (Pickett et al., 2012). The concept assumes that individuals are rational decision-makers who consider the implications of their behaviors before acting (Andrews et al., 2010). Thus, in the context of the current study, it is reasonable to infer that people weigh the benefits and effects associated with growing and consumption of khat.

According to TPB, behavioral intention is the most important aspect in predicting behavior (Andrews et al., 2010). Thus, if residents from khat-growing areas are aware of the effects associated with khat consumption, such as increased risks of cardiovascular diseases, infertility, and violence (El-Menyar et al., 2015; Ketema et al., 2015), then they will be more likely to engage in activities that buffer them against such effects and support health campaigns aimed at regulating khat. TPB posits that the likelihood of engaging in certain behaviors is determined by intention, which is a product of one's attitudes, subjective norms, and perceived control (Ho et al., 2015; Zemore & Ajzen, 2013). In TPB, an attitude is viewed as an individual's evaluation of a situation based on the perceived positive and negative effects associated with a behavior, while perceived control refers to one's ability to perform a given behavior (Zemore & Ajzen, 2013). In the current study, the attitudes of people toward khat are assumed to be shaped by their cultural and economic values associated with it.

Ho et al. (2015) argue that TPB perceives knowledge as an aspect of behavioral control that enables an individual to perform certain tasks. Ajzen defines subjective norms as the perceived social pressure to engage in certain behaviors. People often compare their behaviors with that of others and are, thus, likely to be affected by the actions of people in their social circles compared to those outside their networks (Ho et al., 2015). Therefore, raising awareness about the effects associated with khat can encourage people to get those in their social networks to be proactive and support regulation of growing and consuming khat and activities that can help to address societal and health effects associated with khat.

Literature Review

Khat is a shrub that grows in Eastern African countries and the Arabian Peninsula and is chewed for stimulating amphetamine-like effects (Kalix, 1988; Sallam et al., 2018). Thus, the effects of khat are usually similar to those experienced by users of psychoactive substances such as cocaine (Beckerleg, 2010; Carrier, 2005). Khat is consumed because it stimulates the central nervous system leading to an increase in perceived levels of alertness and energy (Kalix, 1988; Sallam et al., 2018). This has been identified as one the motivations for consumption of khat by the nomadic herders of North Eastern Kenya, who chew khat to stay active for long periods, especially when migrating in search of pasture and water for their cattle (Carrier, 2005). Khat business involves hurriedly harvesting its leaves, tying them in bundles, and immediately transporting them to the market for consumption to preserve their freshness. Due to the perishability of the khat's leaves, its speedy transportation to the markets in Kenya is often characterized by reckless driving and traffic violations, and so, the business is often associated with chaos.

The consumption of Khat has been linked to increased risks of cardiovascular diseases, cognitive impairment, digestive disorders, anemia, liver, and renal failure (El-Menyar et al., 2015; Ketema et al., 2015). Also, Al-Maweri et al. (2018) argue that chewing khat causes dental problems due to increased fluoride in the water contained in its leaves. Al-Maweri and colleagues further posited that the sugary powders used to attenuate the bitter taste of the khat's leaves can lead to tooth loss, discoloration, and periodontitis. Further, Widmann et al. (2017) observed increased association between use of khat and stress-related conditions such as post-traumatic stress disorder (PTSD), anxiety, and depression. However, some of the effects associated with khat can be attributed to other drugs, such as tobacco products that are used concurrently with khat (Al-Maweri et al., 2018). The negative effectives

associated with khat point to a growing urgency for regulation of the stimulant plant as a way of mitigating its effects on health and bolstering health interventions aimed at curbing its usage.

Khat is chewed in social gatherings for pastime or during special occasions like weddings (Al-Maweri et al., 2018; Kalix, 1988). This brings consumers together and creates avenues for other drugs, used alongside khat, to be exchanged. To enhance its effects, Khat is chewed slowly and for long hours and kept as a bolus in the mouth to release stimulant sap content (Widmann et al., 2017). Due to khat's intricate connection to culture, control of khat remains a challenging public health issue because although the negative effects associated with khat suggest the need to regulate its use, its adored place in the communities that grow and use it undermines interventions to mitigate its effects.

The social effects of Khat in society cannot be underestimated, as it has been blamed for families' break up among other impacts. For instance, in areas where khat is consumed, there are rising cases of divorce because some men neglect their families and misuse their income from khat sales (Mohamed & Ibrahim, 2012). Also, Khat has been linked to prostitution, as couples who separate seek sex services from commercial sex workers, and this increases the risk of infection with sexually transmitted infections, such as HIV/AIDS, and family wrangles (Mohamed & Ibrahim, 2012). These effects further complicate interventions to curb consumption of khat.

Extant studies on khat have revealed that there are increasing school dropout cases and juvenile delinquency in khat growing areas. For example, Bururia and Nyaga (2014) noted that most boys in khat growing areas drop out of school to engage in the business of khat. Lack of clear policies to control khat is one of the reasons why khat continues to negatively influence effective education in Kenya. To curb the effects of khat consumption, there is a need to engage communities in design and implementation of interventions. Previous studies (e.g. Nyaga, 2016; Patel, 2005; Riehman et al., 2013) indicated that engaging communities, especially their leaders, enhances the success of health campaigns as the locals view them as credible and so are willing to engage in deliberations aimed at understanding a health issue and work with health professionals to address the problem. Therefore, this literature review paves the way for the study's two research questions:

RQ1: What are the perceptions associated with the growing and consumption of khat in Kenya?

RQ2: What are the perceived effects associated with the growing and consumption of khat in Kenya?

Method

This qualitative research relied on 15 in-depth interviews (semi-structured interviews) to generate data for the two research questions. In-depth interviews are known to provide a wealth of detail, as well as accurate answers to sensitive questions (Wimmer & Dominick, 2006) – hence the reason they were preferred for the present study. Several studies examining the perceptions and effects of growing and consuming khat have successfully employed in-depth interviews in data collection (see Beckerleg, 2010; Habtamu et al., 2023; Mohamed & Ibrahim, 2012). Similarly, semi-structured interviewing allows for flexibility in the study of implicit beliefs and attitudes (Keyton, 2014; Lindlof & Taylor, 2011; Rubin & Rubin, 2012).

Sampling

Snowball sampling was used to recruit the 15 participants (11 men and four women). Basically, snowball relies on referrals of similar participants who meet the recruitment criteria, which was a student from khat-growing areas in Kenya. Therefore, the first participant who was recruited referred the researcher to another potential interviewee. This referral procedure was repeated until the sample size of the 15 participants was attained. The 15 participants were aged between 19 and 27 years. The participants were students from the leading khat-growing areas of Lare, Igembe, Imenti, and Maua in Meru County – studying at a leading university in the Rift Valley region of Kenya. Their selection was based on the assumption that being more educated than most people in their communities, they have a better understanding of the effects and benefits of khat. Also, students represent the future of their

societies, so they are more likely to be concerned about anything that has the potential of negatively affecting the future of their communities. In addition, having grown up in khat-growing areas, the students had more knowledge and information relevant for this study.

Data Collection

The data for the study were collected in 2017, and was funded by a college of liberal arts at a large Midwest University in the US. Before taking part, the participants were informed of their rights like the voluntary and anonymous nature of the study, as well as being audio-taped using a voice recording software (Audacity). After fully understanding their rights in the research, the participants signed the consent of participation form. Specifically, responsive interviews were conducted in which the researcher varied the interview process to accommodate the needs of individual participants. Rubin and Rubin (2012) argue that responsive interviews help a researcher to monitor the direction an interview takes and adjust as necessary so as to enhance the interviewing process. As such, the interviews varied from one interviewee to another especially depending on the level of knowledge depicted regarding khat. The participants were asked questions about their knowledge and perceptions of khat, perceived benefits and risks associated with khat, as well as their willingness to advise their families to seek alternative sources of income. Each interview lasted between 30 and 45 minutes. To ensure confidentiality of the participants, any information that could lead to the identification of the interviewees was redacted from the data and participants were assigned pseudonyms. The audio taped interviews were also destroyed upon completion of transcription and collected data was stored on a safe computer. The research was approved by the Institutional Review Board (IRB).

Validity

Chaffee (1991) describes validity as the relationship between conceptual and operational definitions. To increase the validity of the study, the interview schedule was pilot tested with a group of three graduate students at a large Midwestern university and modifications were made to the questions to increase clarity and remove ambiguities that were discovered. Also, interviews were transcribed as soon as the interviews ended to ensure the researcher remembered as many details as possible. In addition, the researcher took field notes during interviews to ensure crucial information was not forgotten and the notes were complemented with daily reflective memos (all from Chaffee, 1991).

Data Analysis

Data were analyzed using thematic analysis because it helps to make the themes under study explicit and also allows for flexibility in data analysis (Braun & Clarke, 2006). Braun and Clarke (2006) define thematic analysis "as a way of analyzing and reporting patterns within data" (p. 79). Rubin and Rubin (2012) argue that themes "describe what the researcher thinks is occurring in the research process" (p. 157). Thus, in this study, themes were determined by the extent to which words or phrases captured issues pertinent to the research questions and depicted the participants' attitudes toward khat. The researcher used unitizing to inductively break and analyze answers from the interviews and daily memos into idea units depending on emerging themes (Lincoln & Guba, 1985).

Rubin and Rubin (2012) argue that coding of qualitative data involves two steps—separating the qualitative material into units and establishing category-sets into which the unitized material can be classified. Thus, in this study, the units of analysis were words, phrases, and emerging patterns (Lindlof & Taylor, 2011) that addressed the research questions and revealed pertinent information about khat—especially its effects, benefits, and significance in society. The idea units were then developed into categories depending on their similarities and how well they addressed the research questions. The themes were then recorded in MS Excel for ease of analysis and were later developed into categories.

Findings

Perceptions Toward Khat

The first research question asked about the participants' perceptions toward growing and consuming khat. Five major themes emerged;

a. khat as of source of income;
b. khat as a symbol of freedom;
c. khat as an identity of heritage;
d. khat as a driver of development; and
e. khat as a medicinal plant.

Khat as a Source of Income

This theme emerged as participants talked fondly about khat as an economic gain where people who grow it benefit from job opportunities, thus a major source income, resulting in their improved well-being. Participants argued that the proceeds from khat served various purposes such as a source of school tuition, and their families' daily basic needs like food. From the interviews, some participants see khat as a major source of income. For instance, Murungi says that the advantages of growing khat are many because people from his place depend so much on miraa, as it is seen as an important source of income.

> *To me, it helps Meru community because we get cash from it. Let me say it is assisting [our community] because we have some youth who are buying boda bodas (motorcycles) after selling miraa so they get some other source of income. After form four [high school] those who are not able to continue with higher education, let's say colleges, are able to get some money from miraa. They buy motorcycles and continue with daily lives. [Murungi].*

> *It's good because my parents get some income from miraa after selling it. They get money to pay for our fees. I'm also able to meet basic needs on a daily basis from the cash from miraa sales. [Muthiora].*

The above comments from Murungi and Muthiora portray khat as a profitable crop – its negative effects notwithstanding. Relatedly, the participants also depict khat as a vital source of income for the Ameru community considering its contribution to meeting family needs like education expenses. The following comments show that khat not only benefits communities where it grows, but also creates employment opportunities for many people beyond its location of growth.

> *One thing, the most important thing is about income generation. It [khat] helps not only the people from Meru but anybody involved in miraa business. Because we can see that many people in different places, like there is a very big business of miraa in Mombasa and you find that the coastal people are in that business and also, we have people from Somalia. They are benefiting from miraa [khat]. That's the main point why [khat] miraa should be planted. [Muthuri].*

> *When I weigh the positives [of khat], there are more advantages than the disadvantages because when you talk about miraa [khat], [it] is a great income generating cash crop in Kenya. Indeed, it is the most expensive cash crop in Kenya [because of] the amount of money that [khat] miraa brings to the country. [Kawira].*

These revelations indicate that the proceeds from khat are vital to the growth of the economy because people rely on it for sustenance. These opinions from the participants show that although previous studies (Asfaw, 2023; Cox & Rampes, 2003) have indicated that khat is associated with negative effects on heath, it also has economic benefits to the people who rely on it to meet their daily needs.

Khat as a Symbol of Freedom

Besides its contribution to the economic stability of the Ameru community, consumption of khat, especially among youth, epitomizes freedom and the freewill to make decisions without relying on parental guidance. The participants revealed that in the Ameru community, children are not allowed to chew khat until when they grow into teenagers and undergo initiation. As such, the initiates are allowed to chew khat during the circumcision ceremony as a sign that they are entering adulthood. In this context, Muthee observes:

> *It [khat] symbolizes that you are allowed to chew miraa [khat] at that age because before then you have been sleeping in your mother's house. So, now you will be sleeping in your own house and be able to interact with your age mates [freely]. So, you are allowed to chew miraa.[Muthee].*

This comment shows how khat acts as a symbol of freedom among youth and also illustrates how khat can help to preserve the cultural heritage of the Ameru community through its use during initiation ceremonies. Initiation rites, like circumcision, are highly revered aspects of African traditions, and so the use of khat in such events symbolizes its centrality as a cultural artifact. The next theme illustrates vividly how khat ensures the continuity of the Ameru culture.

Khat as an Identity of Heritage

Closely related to the preceding theme, participants argued that farming and consumption of khat were part of the identity of the Ameru people. During the interviews, participants narrated how khat gives them a communal identity through its use in cultural events such as marriage and initiation ceremonies. The participants also revealed that children are socialized into learning about khat from a young age – one reason why other communities in Kenya associate people from their county (Meru) with khat. Below sample some insightful observations from the interviewees:

> *It [khat] gives identity to Meru people. Though not all people plant [khat] miraa, it's done in the whole of Meru County. Miraa [khat] is specifically found where I come from and is seen as a cash crop. [Naomi].*

> *Yeah, when you tell someone, you come from Meru, everybody thinks all of us chew Miraa, but not everyone who comes from Meru engages in miraa farming. Like some have potatoes, and other crops, but people know much about miraa [khat] than those other plants. [Purity].*

> *When you are born, you are taught to look at miraa [khat] like an important source of income. That [it] is like any other cash crop. Let's say like the Maasai community take cattle as their main source of income and identity. So, for us we view miraa as a source of income. So, as you grow up you take care of the [khat] plants. [James].*

Therefore, the comments from Naomi, Purity, and James encapsulates how khat in some ways creates an identity for the Ameru people through their association with it. Meru county happens to be the largest producer of khat in Kenya, so people from this region are almost always associated with khat farming. The below comments show some of the uses of khat, especially in marriage and initiation ceremonies.

> *Like when, for example, a man is ready to marry then you [groom] have to carry some type of [khat] miraa to [the family] where you are marrying from. So, you have to take some miraa over there. Also, during circumcision [initiation] ceremony there is some miraa [khat] you need to take before the following day when you go for circumcision. [George].*

> *When it comes to marriage, it symbolizes our identity, that it [khat] is our cash crop. If I come from Meru, I need to take that miraa to the place where I am going to marry. During marriage*

[meetings] like dowry you are told to bring a bunch of miraa when you are going the first time to visit the lady. [Muthuri].

These comments suggest that khat is not just a plant, but a community artifact that connects to the identity of Ameru culture. Although khat is a stimulant plant with amphetamine, in Meru County, it is considered an aspect of heritage that helps to preserve the culture of the community. This revelation might necessitate future campaigns to approach consumption of khat as a cultural issue rather than just a health problem.

Khat as a Driver of Development

This theme emerged as participants recounted some of the development projects that khat farming had brought to their county. This includes construction of roads by the government to facilitate effective transportation of khat to the markets, uplifting of the living standards of people who engage in khat business as they can use the income generated from khat to meet their daily needs and also start businesses. The comment below shows some of the views expressed by the participants:

It has facilitated some of the developments, for instance, in road transport. For miraa [khat] to be transported because it's very perishable, the roads have been improved to ease transport. Again, it has provided job opportunities to some of the people like we have some boda boda [motorcycles] SACCOS [Savings and Credit Cooperative Organizations] in our community. We have guys who have planted miraa and are getting money from miraa [khat] so are able to purchase some of the boda bodas (motorcycles for public transport). [Mutembei].

Closely related to its pertinence as a source of income, this comment portrays khat as a vital cash crop that creates job opportunities, spurs economic development, thus leading to improved living standards of the people who either plant or engage in khat related business.

Khat as a Medicinal Plant

During the interviews, khat was discussed as a medicine for various human illnesses. As a medicine, some participants asserted that khat helps to alleviate nausea, treat obesity, and suppress hunger. As such, the participants did not see the crop as a drug, rather as a medicinal plant that is useful to the community. The following some expressions from the participants:

There are times you feel like you want to vomit. You feel bad and you can't eat anything. If you chew some miraa [khat] leaves whatever [it] is ailing you is cured. [Kawira].

And also, there are some other medicinal uses, [like] in teeth infections. When you boil miraa [leaves] and pour that liquid in [khat] miraa [in a cup] and then put your mouth on top of the cup and direct that moisture [vapor] like this (toward the mouth) it kills certain bacteria in teeth. [Muthomi].

Therefore, Kawira's and Muthomi's comments contradict some past studies that link khat to increased risks of cardiovascular diseases, dental problems, and infertility in men (see Al-Motarreb et al., 2010; Mwenda et al., 2003). This points to the need for more awareness on the negative effects of khat on health. Further, the participants described khat as a stimulant plant that helps with concentration, especially when one is working in a strenuous job or one that needs a lot of attention, like driving or keeping guard at night. Below shows some of the views from participants:

Most of the drivers who drive for long distances, you find that they chew Miraa [khat]. They are not chewing because it's like food. But it's like a (stimulant) to refresh their mind. You won't get to sleep, so you'll be able to drive for long distances and [khat is] also used by security guards. You find that they chew miraa over the night so that they can stay awake. [Kiogora].

Although these views are consistent with the effects of khat identified in previous research (see Manzar et al., 2018), it points to ignorance about the reasons for some of these perceived benefits derived from using khat. Because of its amphetamine content, khat stimulates the central nervous system and keeps it alert. This stimulation in the long run is detrimental to the health of the consumer.

Perceived Effects of Khat

The second research question asked about the perceived effects of khat. Three major themes were captured from the interviews: school dropouts, health effects, and violence associated with consuming khat.

School Dropouts

Participants described one of the most conspicuous effects associated with khat as increased cases of school dropouts and delinquency among students as they opt to engage in the "profitable" khat business. The khat business involves daily wages for those who pluck the leaves and transport them to the markets. These wages can be deceptive as they blind some students from pursuing education so as to maximize their proceeds from khat.

> *If you go to places where there is that [khat] business, kids drop out of school to pluck miraa [khat] to get that little money they are paid, and in the long run it is not worth it. [Njogu].*

> *The money we get from miraa is almost on a daily basis. So, some of the children might perceive that miraa [khat is profitable] because they are getting money on a daily basis; and so, they drop from school to pluck miraa and get money. Also, they see that miraa generates money on a daily basis, so they don't see the need of remaining in school because they get a lot of money. [Mutembei].*

These and the other comments provided by the participants indicate that, although khat has many benefits, it also has the potential of impeding education success in the areas it is grown.

Khat and its Effects on Human Health

Participants also were asked about some of the effects that khat has on its consumers. The following narrations show that khat has health effects touching on mental health and damage to teeth.

> *You get sleepless nights and it [khat] gives someone anxiety and paranoia and you start being fearful. People say that like when men consume it, they get sexually inactive. [Mutembei].*

> *You also find that if one continues chewing miraa and then they don't maintain teeth, then surely those teeth will get rotten because of miraa [khat]. Also, when you consumer [khat] miraa you have no appetite to eat so you lose weight. [Naomi]*

> *You find that [after chewing khat] you are affected mentally, and you find that some guys have become mad because of miraa [khat]consumption. We have seen a lot of problems in the community. For example, we have seen a lot of people overuse miraa and they develop some madness. We have good examples in our village. [Kiogora].*

These responses suggested that khat can have negative effects on the health of users, especially when consumed over a long period of time. Although these comments are devoid of any medical proof that these effects are solely a result of chewing khat, the comments indicate some level of awareness about health effects associated with Miraa. Some participants also expressed views that contradict scientific knowledge that link khat to infertility.

Well, you can't like, for example, take infertility literary. So many people have children in Meru so you can't link miraa [khat] to infertility. Like in my village I know a lot of people who are miraa [khat] addicts and they have like ten kids. [Elijah].

Well, I think you just get sexually inactive for some time, but you can't say it [khat] causes infertility because I know a lot of people who consume miraa [khat] but they still have a lot of kids. People say so, but when I look around it is rare to find such things because most couples have children. [Muthuri].

In context, these comments contradict medical knowledge. It is possible that some of these views are as a result of inadequate awareness on how khat affects the lives of its consumers, thus there is a need for more awareness on the medical effects associated with khat. Such campaigns could help increase people's knowledge about effects related to khat use and, possibly, help to mitigate the existing medical complications caused by khat.

Khat and Violence

During the interviews, the participants linked miraa to domestic and societal violence. At the family level, the participants opined that succession disputes are common when siblings fight for the land that grows khat or when a spouse (mostly the husband) uses the proceeds from khat on alcohol and commercial sex workers, leaving nothing for the family. Also, the respondents said that khat precipitate societal violence, when community members choose to communally punish those who steal khat. The following excerpts illustrate the sentiments expressed by participants:

It gets crazy when you get caught [stealing khat]. Like some people cut your hands if they catch you in in the miraa plantation. It is like that serious. And when children grow up and maybe they [had] dropped out of school, they fight for the part of land with khat. [Mugambi].

We have seen our age mates [being affected by khat]. When they started chewing [khat] miraa they were very young and until now it has made their lives become useless. And sometimes when it comes to families it may cause divorce. For instance, when the man after selling [khat] miraa gets some money and goes away and comes after two weeks when the money is over. So, you find that the wife is left alone with the children suffering because the mother is the one who has been left alone with the children. So, you feel the mother is the one being oppressed. [Grace].

In summary, these observations indicate some of the ways in which khat can contribute to violence in society. Although there may be other causes of violence, these views indicate that khat in some ways has influence on societal harmony and further highlights the need for controlling consumption and farming of khat in Kenya. The findings of this study as well as their implications are explored in detail in the next section.

Discussion

This study offers interesting findings about khat and also sheds light on how health practitioners through communication campaigns could raise awareness about the effects associated with khat consumption. The findings can be summarized as: khat as a cultural artifact, khat as a source of revenue, and khat as a plant with both positive and negative effects. As discussed in this section, these findings have theoretical and practical implications within the larger health discourse, and reflect results from past similar studies. The findings reveal that khat is used in cultural ceremonies such as marriage and initiation rites. This attests to its importance in preserving the culture of Ameru people. This nexus between khat and culture in the communities where khat is grown supports the argument by Carrier (2005), who posited that khat is deeply interwoven with culture. Thus, owing to its central place among members of the Ameru community, campaigns aimed at raising awareness about khat's consequences need to be culture-centric and take into consideration the perceived value of the plant. Although khat is

legal in Kenya, previous studies (e.g. Asfaw, 2023; Ketema et al., 2015) indicated that it has severe health effects on consumers, such as increasing the risk of cardiovascular diseases and infertility among men. However, the findings of this study, to some extent, suggest that the participants viewed khat as having a medicinal value, such as in treatment of nausea, obesity, and dental problems. Therefore, there is a need for balancing between focusing interventions on controlling khat consumption, but also aim at tapping into the local indigenous knowledge on the medical value of miraa. The theory of planned behavior can help in such research by offering insights into why people continue to produce and consume khat despite its health and social effects.

Previous studies (see Nyaga, 2016; Patel, 2005; Riehman et al., 2013) argue that engaging communities in solving their health problems can empower them to own and participate in suggested interventions. Therefore, because the findings indicate that the participants lacked knowledge on the negative effects of khat, one of the implications of this study would be for health practitioners to partner with the miraa farming communities to find ways of raising awareness about its health effects, as well as encourage them to find alternative sources of income. Yet another implication would be to use mass media to create public awareness on effects of khat on the consumers, their families, and society at large. Media plays a vital role in behavior change through transmission of health-related mass information in powerful ways that shape opinions, create awareness, and help practitioners to set the health agenda for the public (D'Angelo et al., 2013). Previous studies (e.g. Mogambi & Ochola, 2015) contend that the media, especially community radio, create platforms from which members of the target communities can tell their stories and voice their grievances in ways that the mainstream media are not able to achieve. Further, use of vernacular radio cultivates a sense of ownership of the news content as the target community is able to identify directly with the language and content (Mogambi & Ochola, 2015). Use of mass media therefore, can help to engage the residents of khat growing areas by encouraging them to voice their concerns about the leafy plant.

Further, although the participants concur that khat has economic and cultural importance to Kenyan communities, they also agree it leads to violence. For instance, the interviewees inferred that family succession disputes involving inheritance of the farm land where khat is grown often leads to violence within families. Also, they opine that those found stealing khat are subjected to mob justice – people taking the law into their hands to punish the accused. Thus, the social and health effects related to khat raise fundamental concerns as to why it should continue being grown and consumed. The findings also indicate that people chew khat in groups, thus applying TPB assumptions, one of the ways of ensuring the success of interventions is targeting those groups, and their extended social networks. Further, another possibility would be for the Kenyan government to find alternative sources of livelihood for khat growers as a way of incentivizing them to venture elsewhere, ultimately mitigating the effects associated with the crop. Similarly, health scholars, health communication scholar and other key stakeholders could lobby the government to regulate khat's production and consumption, considering that it is legal in Kenya.

Conclusion

Anchored on the theory of planned behavior (TPB) in development communication, this research examined the perceived perceptions and effects of khat in Kenya's Meru County. In relation to perceptions towards khat, findings indicate five major themes; source of income, symbol of freedom, identity of heritage, driver of development, and medicinal value. School dropouts, health effects, and violence emerged as the main themes related to khat's effects. These findings suggest that khat is deeply embedded in the culture of the communities that grow it, thus its perceived value cannot be overlooked by researchers. Therefore, scholars should incorporate the views of communities that produce khat because a more balanced view could offer a better inclusive context for studying khat effects.

Though the findings provide useful insights, the study suffers from some limitations which future research could strive to address. First, this is qualitative research, which employed snowball sampling (a non-probability sampling technique) – meaning the findings are not generalizable to the larger population. Thus, the findings should be interpreted within the context of a qualitative inquiry which focus more on in-depth exploration of a phenomenon rather on generalization of findings to the general population. Future research could take a survey approach which would utilize a larger sample size, and

representative sampling methods like systematic random sampling, or stratified sampling. However, the qualitative information gathered in the present research is highly reliable to understand the perceptions towards khat and its effects on communities, taking into account that one of the merits of in-depth interviews is providing a wealth of accurate information. Asher (2012) has clarified that while some nonprobability sampling could potentially mislead, like those using volunteer respondents, others are "very legitimate and informative" (p. 92). Even focus groups utilize nonprobability sets of respondents, yet they still yield important insights about many topics (Asher, 2012). Thus, using survey and a larger representative sample size, would take us closer to the truth about perception of khat and its effects in society. Yet, still using qualitative approach, future studies could also consider ethnography research – specifically micro-ethnography – popular in the communication field. Ethnography would not only put the researcher in the middle of the khat topic, but would also help study the perceptions and effects of the leafy plant from participants' frame reference in their natural settings, producing a wealth of accurate information.

Despite the weaknesses of this study, it also has its unique strengths. First, its involvement of participants from khat growing areas enhances its validity as their views represent the voice of people with significant experience with khat. Second, this study provides useful insights into how residents from khat-growing areas perceive khat—something which could help in designing and implementation of health campaigns about the crop. Another possible route for research would be implementing an intervention communication campaign based on the present findings aimed at raising awareness of khat and mitigating its effects. Such a campaign, especially using the entertainment education would reach a wider audience and could help in boosting the knowledge of local khat-planting communities regarding the plant's harmful effects. This would be an important step towards mitigating the khat effects by persuading communities that rely on it for economic gains to consider alternative sources of income—thus eschewing khat consumption.

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