

Target audience perception of radio messages promoting behaviour change among alcoholics in Central Kenya: A Health Belief Model analysis

***ROSE MWANGI-MBURU, PH.D.; **GEORGE NGUGI KING'ARA, PH.D. & ***JOHN MUGUBI, PH.D.**

Abstract

Radio has been used to solve many social problems in Africa. It is common for radio presenters to 'play' doctor in their programmes, offering a variety of remedies for social problems afflicting their audiences. Media practitioners are motivated by the belief that media is powerful in influencing social and behaviour change, including health matters. Research shows that media consumers have higher health literacy and can adopt protective behaviour measures against health risk especially when messages are theory-based. Coro FM and Inooro FM, popular Kikuyu radio stations in Kenya, produced and broadcast messages aimed at influencing behaviour change among alcoholics in Central Kenya. It was not known whether these messages were theory-based. The study interpreted the radio messages guided by the health belief model (HBM) through focus group discussions. Participants listened to each sampled radio message before discussing questions relating to it, guided by the HBM constructs. Findings showed that majority of the messages promoted severity and susceptibility perceptions that were known and experienced by the participants. Moderating constructs that include perceived benefits, self-efficacy and a demonstration on removal of barriers were neglected, which can lead to denial of the dangers of alcoholism or rejection of the radio messages.

Key Words: Health Belief Model, Behaviour Change, Vernacular Radio, Alcoholism, Health Communication

Introduction

Research has showed that people with higher levels of health literacy use media and are more likely to adopt protective measures against health risks (Ishikawa, Kato & Kiuchi, 2016). This is because they can benefit from health

education which helps them internalize appropriate health information that guides their healthy behaviour since people's behavior is dependent on the information available to them (Gever

About the Authors

*Rose Mwangi-Mburu, Ph.D., is a lecturer in Strategies of Communication, Persuasion and Communication across Cultures in the Department of Strategic and Organizational Communication, School of Communication, Daystar University, Kenya. Research interests are in strategic health communication and behaviour change.

**George Ngugi King'ara, Ph.D., is a Senior Lecturer in Communication and Media Studies in the Department of Communication, Media, Film and Theatre Studies, Kenyatta University, Nairobi, Kenya. His research interests are in the cultures of television production and conceptualization of audiences and new media cultural formations.

***John Mugubi, Ph.D., is an Associate Professor of Film and Dramatic Arts in the Department of Communication, Media, Film & Theatre Studies, Kenyatta University, Nairobi, Kenya and Chairman of the Kenya Film Lecturers and Instructors Association. His publications focus on Screenwriting, Film Theory, History of Kenyan Film and Film Genres.

JCMR Journal of Communication and Media Research, Vol. 17, No. 1, April 2025, pp. 13-26

© Association of Media and Communication Researchers of Nigeria (AMCRON).

Article Citation

Mwangi-Mburu, R., King'ara, G. N. & Mugubi, J. (2025). Target audience perception of radio messages promoting behaviour change among alcoholics in Central Kenya: A Health Belief Model analysis. *Journal of Communication and Media Research*, 17 (1): 13-26.

& Ezeah, 2020). Information is a cognitive determinant that influences behaviour (Conner, 2010; Limaye et al., 2020). This implies that poor knowledge on healthy behaviour can have negative implications in the lives of a people. One of media's role is surveillance, which is fulfilled by monitoring the environment and identifying potential life-threatening health issues and then promote appropriate healthy behaviour through information, communication and education (Anwar, et al., 2020; Gever & Ezeah, 2020). Educating the public on health issues is like preparing them for war, which is best done before a health crisis occurs, not when the health issue is a pandemic (Gever & Ezeah, 2020).

Radio plays a significant role in the promotion of behaviour change, which can be attributed to its easy accessibility in different languages especially to populations in African (Smith, Menn & McKyer, 2011; Thompson & Yeboah, 2013). It is cheap and the continent has high levels of illiteracy, which might explain radio's role in the promotion of behaviour change in Africa. Research shows that radio messages have impacted behaviour change in diverse ways. Ankomah (2014) researched on the effects of a national radio campaign on the use of insecticide treated bed nets among pregnant women in Nigeria. The health messages aimed at sensitizing the public on the benefits of correct and consistent use of the treated nets during pregnancy. English language, Pidgin English and three local languages were used in the promotion. The quantitative research showed that respondents who listened to radio were more likely to use the treated nets and pregnant women who listened to the campaign messages were more likely to adopt the malaria preventive strategies (Ankomah; 2014)

Local radio stations in South Sudan promoted two deworming campaigns that targeted school-going children (Ortu et al, 2017). The radio stations campaigned daily for one month before distribution of the mass drug administration, clarifying the targeted population, the distribution sites, the importance of the treatment, its likely side effect and the need to eat before treatment (Ortu et al, 2017). Evaluation of this first deworming radio

campaigns showed a 90% satisfactory programme coverage (Ortu et al, 2017). In Mali, The National Blindness Prevention Programme promoted health behaviour to eliminate blinding trachoma using a radio broadcast strategy (Bamanii et al, 2012). Evaluations of the campaign showed high listenership (60%), audiences became knowledgeable about trachoma and its preventive measures.

Research also shows that audience response to behaviour change promotions is more effective when the messages are theoretically framed (Schmalzle, Renner & Schupp, 2017). The use of theory in crafting radio messages enables the audience to not only become aware of the health risks but also promotes perceptions that are theory guided. Theory guides on the inclusion of components needed to influence perceptions of risk, which are a prerequisite for adoption of protective behaviour, and also guides on the inclusion of theoretical components that lead audiences to adopt the recommended positive action (Schmalzle, Renner & Schupp, 2017). Audience recognize behaviour change messages promoted in the radio as significant and this heightens the perceptions of health risks and behaviour change (Paek & Hove, 2016).

Examples of African radio campaigns that used theory includes a radio drama from Ethiopia. Evaluation of the edutainment drama that was theoretically designed to promote perceived susceptibility and self-efficacy constructs in a family planning programme, showed an increase in audience perceptions of the components promoted. Some 97% of the respondents reported increased self-efficacy in using family planning methods, while six percent reported an increase in perceived susceptibility to getting more children than desired (Witte, 2005). Evaluations of a polio vaccination radio campaign in Somalia showed that the population adopted a vaccination after they perceived the severity of the health condition and the fact that Somali children were portrayed as susceptible to the negative health condition (BBC Media Action, 2014). Theory designed messages trigger perceived risks involved in a health condition and also guide the targeted audiences in the adoption of the

recommended healthy behaviour (Schmalzle, Renner & Schupp, 2017)

The research problem

This paper seeks to determine the targeted audiences' perception of the recorded Kikuyu radio messages that promoted behaviour change among alcohol consumers in the Central Region of Kenya. The messages were produced and broadcast by Coro and Inooro FM. Kikuyu language is spoken mainly in the Central Region of Kenya that has suffered severe consequences of alcoholism: multiple deaths, injuries, infertility, blindness, unemployment and male dependency on their mothers (Muturi, 2014; Muturi, 2020; NACADA, 2010). Preliminary research showed that the radio messages aimed at creating awareness of alcohol-related problems and also influence behaviour change. It was not known whether the messages were theoretically designed with an inclusion of behaviour change constructs. The study aimed at investigating the targeted audiences' interpretations of the radio messages using the health belief model.

Health Belief Model

The study used the health belief model (HBM) to determine audience perception of the radio messages. HBM is one of the most used theories in the design and evaluation of behaviour change communication (Jones, Jensen, Scherr, Brown, Christy & Weaver, 2015). HBM has six constructs: perceived severity, susceptibility, benefits, self-efficacy, barriers to action and cues to action (Janz & Becker, 1984; Rosenstock, 1961; Rosenstock, Strecher & Berker, 1988). The model predicts that when people perceive the severity or seriousness of a negative health condition, they will be motivated to adopt the recommended health behaviour to avoid the negative consequences (Rosenstock, 1961). If the negative health condition does not appear to have an impact in an individual's life, then they are not motivated to take up the recommended positive action (Janz & Becker, 1984; Jones, 2015; Rosenstock, 1961). Perception of the severity of a health problem is therefore a significant predictor of self-protective behaviour

and a motivator for behaviour change (Ruiter et al., 2014).

Perceived susceptibility is the perceived probability that an individual assigns to the personal vulnerability of experiencing a health threat (Janz & Becker, 1984; Rosenstock, 1961; Rosenstock et al., 1988; Witte, 1992; Witte, 1998). Individuals adopt a promoted health behaviour once they perceive their vulnerability to a risk conditions (Janz & Becker, 1984; Jones, 2015; Rosenstock, 1961; Rosenstock et al., 1988; Witte, 1992).

Perceived benefits are the gains that come with adopting a recommended healthy behaviour (Janz & Becker, 1984; Rosenstock, 1961; Rosenstock et al., 1988). An individual must perceive that a recommended behaviour will provide positive gains (Janz & Becker, 1984; Rosenstock, 1961). Self-efficacy is an individual's belief in their ability to confidently enact the desired health behaviour (Bandura, 1977).

The model predicts that the presence of perceived barriers to action hinder an individual from adopting the preventative behaviour (Jones et al., 2015; Rosentock 1961). The recommended preventative behaviour may be viewed as expensive, challenging or risky (Carpenter, 2019). Cues to action are media messages that prompt audiences to adopt a recommended health behaviour. Cues to action in this study were the Kikuyu radio messages that promoted behaviour change among alcoholics in Central Kenya. HBM posits that media messages, which includes radio, will achieve optimal behaviour change if they successfully promote perceived severity, susceptibility, benefits, self-efficacy and demonstrates a reduction of barriers to action (Jones et al., 2015; Rosentock 1961; Janz & Becker, 1984).

HBM has been strengthened as an explanatory framework for communication research using two models: the parallel and the moderated mediation models (Jones et al., 2015). The models were designed to help scholars interested in testing the direct and indirect effects of messages grounded in HBM (Champion & Skinner, 2008; Jones et al, 2015). In the parallel mediation model, radio messages

grounded in HBM are thought to influence audience perception through one or more constructs. In the moderated mediation model, some of the HBM components moderate the mediational influence of others (Champion & Skinner, 2008; Jones et al., 2015). For example, high severity and susceptibility in the behaviour change messages can lead to defensiveness or rejection by the targeted audience. However, low perceived barriers, high benefits or high self-efficacy can increase the chances of the audience performing the desired behaviour. Likewise, low perceived barriers can increase one's self-efficacy and confidence in the recommended behaviour's benefits.

This study sought to determine the targeted audiences' perception of the Kikuyu radio messages that promoted behaviour change among alcohol consumers in Central Kenya. It was not known whether the audience perceived behaviour change constructs that lead to the adoption of the recommended preventative action of not drinking alcohol. The study filled this gap by seeking the audience interpretations of the recorded Kikuyu radio messages using the HBM model. These messages had been broadcast before the study was carried out targeting listeners in the communities where the FGD members (the would-be audience) were sourced. HBM has been used to study many health outcomes, however, its application to media content, which includes radio, has not been well documented (McWhirter & Hoffman-Goetz; 2016). Literature also shows that HBM's cues to action construct has been less measured or researched over the years (Carpenter, 2019; McWhirter & Hoffman-Goetz; 2016). This study sought to fill this gap by investigating the targeted audiences' perceptions to the Kikuyu radio messages, which are the cues to action, used to promote behaviour change among alcohol consumers in Central Kenya.

Method of Study

The physical area of study was Murang'a County that was purposively selected to represent the Central Region of Kenya. Central Kenya has five counties: Kiambu, Kirinyaga, Murang'a, Nyandarua, Nyeri and the population speak Kikuyu as their local language. The

participants in the study were drawn from Murang'a County, which was identified as a region most affected by the negative consequences of alcoholism, and where some members of the community were reported to mock those who abstained from alcohol consumption (NACADA, 2010). Alcohol was identified as a major cause of family conflict in Murang'a and at least 42% of the families have alcoholic members (National Council for Population and Development – NCPD, 2023). Like the Central Region of Kenya, Murang'a County is reached by the Kikuyu FM stations that are ranked among the 10 most listened to radio stations in Kenya (Communications Authority of Kenya, 2019).

The target population for the study included audiences targeted by Kikuyu FM stations, aged 18 and above, who lived in Kangema Constituency of Murang'a County. The constituency has a total population of 80,447 (Kenya National Bureau of Statistics [KNBS], 2019). According to the KNBS, people in Kangema are small-scale farmers growing tea or coffee, maize, bananas, cassava, and beans and they keep exotic dairy cattle (KNBS, 2013; KNBS, 2019). Participants of the study were drawn from the population around Kangema Town because preliminary research showed that the Ward was one of the most affected by abusive alcohol consumption.

Thirty-three subjects participated in four focus group discussions (FGD) comprising of about eight members, which allowed maximum participation. Four focus groups were conducted in the study on the rationale that qualitative researchers conduct at least three FGDs on the same topic to compare results for validity and to check for similarities or differences across the data collected (Creswell, 2023; Krueger & Casey, 2015; Wimmer & Dominick, 2014). Such a number of groups normally achieve saturation, which occurs when groups no longer provide new information but are likely to repeat what has already been discussed (Krueger & Casey, 2015; Wimmer & Dominick, 2014).

Two gender-sensitive focus groups were identified through maximum variation sampling, a variant of quota sampling where the researcher purposively and non-randomly tries to select a

set of cases, which exhibit maximal differences in the variables of interest (Wimmer & Dominick, 2014). The participants in the male and female FGDs comprised of persons who had experienced behaviour change, members of affected families, persons who did not consume alcohol and others who consumed alcohol. Such a combination of participants was important as previous studies showed that respondents can under-report their susceptibility to a health condition (Kim & Niederdeppe, 2015). The construct of perceived susceptibility was best studied with the involvement of a variety of participants, especially those who may not have had a bias in their reporting since they did not consume alcohol. Purposive sampling was used to select a group comprising of male and female local opinion leaders and another of alcohol consumers. Opinion leaders were preferred since they were known to monitor broadcast information (Katz, Lazarsfeld & Roper, 2017).

Quota sampling was used to select radio messages discussed in the focus groups. Coro and Inooro FM provided 98 short recorded messages that were divided into subgroups based on their radio formats. Coro FM had songs, community recordings, and the *Mutaari* (Counsellor) series, while Inooro FM had community recordings called Trails of Destruction. Quota sampling has stratification features that enhance the representation of samples and the ability to compare subgroups in the population (Creswell, 2023; Creswell & Creswell, 2023). Four short messages were purposively sampled from each quota to allow discussions within 90 minutes of the FGDs. Inooro's, Effects of Alcohol Trail 29 was recorded in a local village in Central Kenya and had conversations between some drunkards, a lady-pub owner, former alcohol consumers, the radio narrator and a host of background participants. Coro's *Mutaari* (Counsellor) 13, focused on a counsellor's interview with an elderly man who regretted wasting life opportunities due to alcoholism. The Kikuyu Nation Song Track 4 lyrics, pointed at how influential people had properties but they confused the poor man who did not own a bicycle. Kikuyu community was challenged for abusing their political independence. There was

reference to the biblical Sodom and Gomorrah's destruction and extinction of the Kikuyu community due to negative behaviour. *Watuko tharo* 2 message centred on a football match where alcoholics played as the community cheered. There was excitement as the footballers fell down while kicking the ball and the spectators broke into song and dance. The radio presenters also engaged the community in conversations that discussed the impact of alcoholism and looked into possible solutions to fight the health threat. Coro FM aired the radio messages in a weekly programme called *tharo tharo* (rescue them, rescue them), while Inooro FM repeated each message four times daily in their programme, *Muharanda wa njohi cia ibango* (field of illicit alcohol). Both stations aimed at influencing behaviour change.

Participants listened to each sampled radio message separately before discussions that were guided by questions drawn from HBM constructs: perceived severity, susceptibility, benefits, self-efficacy and reduction of barriers. For example, to evaluate perceived severity participants answered the question: 'After listening to this radio message, do you think that drinking alcohol is a very serious problem?' Participants then verbalized their interpretations which were recorded in a digital audio tape recorder. As would have been expected, participants also recalled some of their experiences or those observed from the community.

The recorded FGD discussions were transcribed and translated into English. Two research assistants conversant with Kikuyu language verified the accuracy of the transcripts before importation into Nvivo 12 Plus programme where the qualitative data was organized by the HBM constructs in order to determine the emerging themes.

Results

Targeted audiences' perception towards, Effects of Alcohol Trail 29.

In regard to perceived severity, participant observed that the radio message captured the challenges emanating from alcoholism which was captured in the phrase, *irema cia njohi ndiiani*, which translates as scars inflicted by the

addictive alcohol. All participants observed that the family unit was most affected by alcoholism: families were economically afflicted since alcoholics could not sustain employment. Young men no longer married. Neglected children were rape victims and did not go to school. Traditional boundaries of respect were broken as sons and fathers consumed alcohol together. There was general insecurity in the community and trained professionals had lost jobs. Below are sampled observations from an opinion leader and a female participant: FGD 4 Participant 1: "It is a big problem. People have many scars. Young men do not want to take wives even when they are of age. They have no energy to work for the family. They even cannot meet their marital obligations and so cannot reproduce. So, our community is reducing in population." FGD 3 Participant 6: "It is a big problem. You find children and parents drinking together. They have lost respect for each other. They insult each other at the drinking places."

Majority of the participants expressed their vulnerability to experiencing the dangers associated with alcohol consumption. All participants agreed that there was a danger of experiencing addiction either at the family level, community, or as individual consumers. Addiction had led to suicides within the community, poor health, rape and time wastage. Those addicted were vulnerable to alcoholism as reported by a female addict, *Iniuru riria rinyua mbaki no nginya rinyue* (the nose that sniffs tobacco must always sniff). Alcoholism had become an addictive habit as demonstrated below: FGD 4 Participant: "Addiction is a disease. He shakes a lot. He cannot hold anything before he drinks. He must drink to energize the body system, which is what they call 'unlock'. After drinking they become normal and can work." FGD 3 Addicted Woman: "Yes, it happens that one is drinking a lot of alcohol but eats very little food. You must be addicted. I have told you that I can't light the stove and prepare breakfast for my children. I must wake up pretty early. I look for an open pub so that I remove the 'lock'. Then I go home and prepare my kids for school. I even steal from people to get a drink. I lie to them that I will pay because I must drink." FGD 3

Participant 7: "I do not drink but I know of a certain man who can't take breakfast before he takes beer."

Majority of the participants felt that the message did not express the perceived benefits of not consuming alcohol. However, the opinion leaders felt that one could deduce the benefits from the severe consequences of alcoholism but the alcoholic could hardly comprehend that: FGD 4 Participant 4: "This is a very good message. A wise listener must get the benefits from within. But unfortunately, the receivers of the message are not normal people. They are always drunk."

Although the message did not promote benefits of not consuming alcohol, participants reported the benefits from their experiences and those observed from the community: one had reconciled with his broken family and increased his children from one to four. Others had bought property and were running their businesses.

Participants also observed that perceived self-efficacy and a reduction of barriers were not addressed in the radio message. The message did not give efficacious pointers on how to overcome the drinking problem nor did it demonstrate how the alcohol was being removed from the community: FGD 1 Participant 3: "The message has addressed the problem but not the solutions."

Targeted audiences' Perception of *Mutaari* (Counsellor) 13

For the perceived severity construct, like Inooro FM's message above, majority of the focus groups observed negative effects on the family, threats to the marriage institution, the education sector and there was a likelihood of extinction of the Kikuyu community as demonstrated below: FGD 4 Participant 5: "That message indicates that our tribe is going extinct. If one has just lived for alcohol, not marrying, or being married, what is the future of the tribe?" FGD 3 Participant 7: "*Ruru ruhukaga ni kwaga njau*, translated, a herd goes extinct when it has no calves. Implying there is no future."

The counselling message promoted perceived susceptibility with majority of the participants pointing to the vulnerability of their family members, the community and/or themselves as individuals. Participants reported

that some men in the community had died as bachelors, while others were elderly but had no families: FGD 4 Participant 3: "I know quite a number now that are over 50 years. It would be useless even to talk to them about marriage. What can such a man do with a wife? No woman would follow such a person. They are there and in many numbers."

Participants reported that women's reproductive systems had been weakened by alcoholism, which lead to miscarriages or retarded babies, while others did not take care of their children as demonstrated here: FGD 3 Participant 5: "They may give birth to retarded children or get miscarriages. Or the child is under-weight. All this is because the mother does not feed well when pregnant. Like another one who gave birth while drunk. When she was told to breastfeed, she asked whose baby it was"

Alcoholics in the community were said to have suffered injuries on the roads or were beaten up, while others had drowned. Reports on personal experienced showed that some participants had buried their families in alcohol-related deaths: FGD 1 Participant 1: "Yes, I think it is a big problem. I lost my father to an alcohol-related illness. He became ill and even while in hospital other drunkards would take alcohol to him saying it was water. After a few days he passed on and left us. I lost my father from whom I would be receiving counsel. He drank too much to his death."

Perceived benefits, self-efficacy and removal of barriers to action were not promoted in the counselling message. For example, participants observed that the message addressed perceived severity and susceptibility but ignored their felt needs. FGD 4 Participant (Drinker): "Personally, I think something is missing. They have not directed us to the government departments that can help us (self-efficacy). I might stop drinking and find nothing else to do." FGD 3 Participant 2: "No, it has not given any solutions (self-efficacy). And that is the major problem."

Targeted audiences' Perception of, The Kikuyu Nation Song Track 4

Perceived severity construct was observed by majority of the participants: there were

economic challenges as money earned was used for drinking. Death was reported as highlighted in the song, however, the alcohol consuming focus group observed that the song emphasized the extinction of the community due to several reasons and alcoholism was not the main subject matter. It was therefore wrong to squarely blame the consumption of alcohol on the extinction of the community. The majority observed that the song mainly blamed the extinction on the behaviour of men marrying male partners instead of marrying women, which meant children were not being born. FGD 2 Participant 1: "It does not address alcohol. The tribe is going extinct because of other things. People have indulged in foreign behaviours like man-to-man marriages." FGD 2 Participant 2: "Yes, only the last stanza of the song has addressed too much alcohol consumption." (All agreed).

The song promoted perceived susceptibility which was evidenced by self-reports on the fear of death due to alcoholism and reports on selling of property as witnessed in the community. However, one participant from the alcohol consumers' group felt that the song did not arouse personal or community susceptibility, 'No, the song does not tell us that' (FGD 2 Participant 1).

Majority of the participants observed that perceived benefits to action, self-efficacy and removal of barriers were not promoted in the song. In regard to perceived benefits, the women's group observed that if alcohol consumers stopped drinking, they would protect their property and families from destruction. For perceived self-efficacy construct, the alcohol consuming group noted that the song did not offer solutions to the alcohol problem but instead promoted fear that the Kikuyu nation was going extinct: FGD 2 Participant 4: "It is only instilling fear" (severity/susceptibility). "But it is not offering solutions" (self-efficacy).

Targeted audiences' Perception of Watuko tharo 2 message

Perceived severity was identified as a crisis since children were not taken to school and regions with heavy alcoholism were less developed as observed by participants in the alcohol consumers' FGD. FGD 2 Participant 1:

“The message brings it out. In the area where alcohol is consumed children are not taken to school and it does not develop. But where alcohol is not heavily consumed, children get education and development is sure.”

Participants expressed their perceived susceptibility after listening to the message. A majority in the men’s group observed that their community did not have educated people since many children were not going to school as their alcoholic parents could not afford school fees. The youth in the community had turned to alcoholism. Things were getting worse since the community experienced low birth rates due to alcoholism, which resulted in low enrollment in schools as expressed in the women’s focus group: FGD 3 Probe: “Are there such problems in Muguru?” FGD 3 Participant 4: “Nobody in this village becomes a doctor.” FGD 1 Participant 1: “There were educated people before but not today.”

There were mixed reactions to the perceived benefits. The men’s and opinion leaders’ group observed that the construct was not well explained in the *Watuko* message. However, the alcohol consumers’ and women’s group cited that individuals became healthy, there were community and family developments, which they related with their experiences: FGD 2 Participant 1: (Alcohol consumer): “The speaker is saying that if people stops drinking, there can be development, for example, having doctors.” FGD 2 Participant 7: (Alcohol consumer): “There was a man who used to drink, he stopped, became a Christian and he now owns a car.” FGD 3 Participant 1: (women’s group): “We have observed positive changes like children being raised up well, being educated and children going to school. Stable families.”

Perceived self-efficacy was promoted through parental and community efficacy subthemes. Parents were described as the wall that shields the children against alcoholism through counselling and collaborating with the local administrators. FGD 1 Participant 5: “Yes, the parent’s role is big. They should talk to their children a lot. The parent is the first counsellor. So, if he is not behaving well, he will remember the words of the parent.”

Majority of the participants observed that the community was to stand up as a protective wall against the alcohol, ‘It says we are the walls’ (FGD 2 Participant 1). They were to raise the alarm to the chief or the radio stations whenever they found the alcohol, ‘We are being told to shout whenever we discover places where alcohol is being sold’ (FGD 1 Participant 4). FGD 4 Participant 6: “We have been empowered. We are now able to gather as villagers and co-operate with the authority. Like the current administration in Kangema is diligently fighting alcoholism. If he continues that way our young men and women will be helped.” While some exhibited high confidence to enact the recommended behaviour, others reported low self-efficacy as demonstrated by the male and female participants respectively: FGD 1 Participant 5: “In my part, I can counsel. It pains me to see how my village is going down the drain. Alcohol has ruined me and I would hate to see anyone else going the same way.” FGD 2 Participant 1: “There is a problem. Parents should take part in counselling their children. I am a parent and I drink. My mother passed on. Who will show me the way? Will I really guide my children?”

Coro FM’s *Watuku* was the only message where participants identified the mention of removal or reduction of perceived barriers in the fight against alcoholism. Majority of the participants identified the call to pour the unlicensed alcohol, pubs to be open at the official hours, 5pm and parents called to release portions of their land to the youth so as to reduce idleness. FGD 1 Participant 2: “Yes, one should be busy. Do not wait to be employed. Parents should then release land to the youth. They tell us to buy our land, but we have no money”

Discussion

The theoretically based evaluation of the Kikuyu radio messages that promoted behaviour change among alcohol consumers in Central Kenya revealed the audience perception of the promotional content and also identified HBM constructs induced in the recorded radio messages. Overall, the research participants observed that perceived severity and susceptibility were overemphasized and the

participants were already aware of the dangers of alcoholism. Perceived benefits, self-efficacy and a reduction of barriers were neglected in majority of the radio content.

Cumulatively, the perceived severity construct was the most promoted in the four radio messages, with common themes being insecurity; broken marriages; the Kikuyu community going extinct; addiction; lack of marriage spouses; economic challenges; unemployment and even professionals losing their jobs. There were reports of premature deaths, killings and low birthrates due to reduced infertility, which was summed up in the proverb: *Ruriri ruhukaga ni kwaga njau* (A community goes extinct when it has no calves - children).

Historically, messages fighting alcoholism have emphasized the perceived severity component (Ayers & Myers, 2011; Niederdeppe et al., 2018). Severity helps to increase perceptions of the serious consequences associated with alcoholism as previous studies have shown: Jongenelis, Pratt, Slevin, Chikritzhs, Liang and Pettigrew (2018) found that male alcohol consumers believed the severity of alcoholism when exposed to health messages portraying alcohol as a risk factor for chronic diseases such as diabetes, mental illnesses and heart attacks. Equally, college students believed in the serious consequences of heavy drinking after exposure to media campaigns (Ayers & Myers, 2011; Gerend & Cullen, 2008; Hutter, Lawton, Pals, O'Connor, & McEachan, 2015). A person's perception of the severity of a health outcome is a motivation for change to avoid the negative consequences of alcohol consumption (Janz & Becker, 1984; Rosenstock, 1961). The messages studied were likely to impact behaviour change through the parallel mediation process upon exposure, however, the participants reported high severity and susceptibility to alcoholism, which required high self-efficacy and removal of perceived barriers if behaviour change was to be embraced.

The alcohol consumers' group disputed the promotion of perceived severity in Coro's song. They observed that alcohol was mentioned in the last stanza of the song and so alcoholism

was not the main subject. The song blamed the extinction of the Kikuyu community on exotic behaviours like same-sex marriages which resulted in zero childbirths. The alcohol theme was not emphasized or was overshadowed by other messages. Failure to incorporate alcohol-related messages as the main subject meant that the music entertained audiences rather than conveying the dangers of alcoholism. It was not clear whether Coro FM's songwriter had intentionally neglected the alcohol message. Omission of health messages is reported when the media does not emphasize the intended behaviour change content. A study by Moss and Albery (2018) on responsible drinking indicated a misinterpretation of the content when the health message was not prominently displayed in the campaign posters.

The alcohol consumers also appeared to be in denial of the perceived severity of alcoholism in Coro's song, which might have been blamed on the harsh consequences of infertility that were cited. The song, like the other content did not promote self-efficacy as a mediating construct. Previous studies have shown that audiences can be in denial when they lack the self-efficacy to perform a recommended behaviour or when they fear the negative consequences of a health condition (Carey & Sarma, 2016; Witte, 1998). The song did not therefore promote perceived severity to the alcohol consumers' through HBM's parallel mediation model or the mediated process, which made it less effective for behaviour change promotion.

Perceived susceptibility was promoted at the community, family and individual level and examples were given to demonstrate their vulnerability to alcoholism. The messages therefore promoted a global susceptibility pointing that the entire community was in danger of experiencing the negative effects of alcoholism. Equally self-susceptibility made the radio content competitive for promoting behaviour change. The study agreed with previous findings that showed that audio media can be used to influence perceptions of susceptibility to alcohol consumers. Van Schroyensteen, van de Loo, Mackus, & Verster (2017) and van Schroyensteen, van de Loo,

Mackus, Kraneveld, Brookhuis, Garssen & Verster (2018) found that heavy drinkers' perceived susceptibility to hangovers coupled with physical and mental challenges. Pregnant women perceived the need to abstain from alcoholism to protect their unborn babies (Leppo, Hecksher & Triyggvesson, 2014; Bell, McNUGHTON & Salmon 2009). Perceptions of susceptibility were also identified in a study on alcohol pictorial health warnings (Sillero-Rejon, Attwood, Blackwell, Ibáñez-Zapata, Munafò, & Maynard, 2018).

On the other hand, like the severity construct, an alcohol consumer doubted their self-susceptibility and that of the community after listening to Coro FM's song. The response can be influenced by denial of the effects of alcoholism and the fact that people react to media messages differently. Mass media plays an important role in educating the effects of alcoholism, but targeted audiences can respond to the messages differently (Mayrhofer & Naderer, 2017). Perception formation also differs among audiences. Light and moderate drinkers who are aware of the dangers of alcoholism might be less affected by the presentation of the negative consequences related to alcohol intake (Mayrhofer & Naderer, 2017) and this might have been the case in the study since the song was reported to have less content on the dangers of alcoholism.

Perceived benefits were neglected in the four messages but for Coro's *Watuko* message where the alcohol consumers' group and the women's group identified the perceived benefit construct. The women also observed perceived benefits in Coro's song. A report by all participants showed that they had experienced or observed the gains of not consuming alcohol from their families or the community, which meant that the absence of the benefit construct in the messages would not have been detrimental since the audience had prior knowledge. The women's group positive observation of the benefit construct may have been influenced by their nurturing experience which made them to identify with the perceived benefits of education, employment and protection of property which promoted the family's well-being. The alcohol consumers' reaction was in agreement with

previous studies that found that alcoholics preferred anti-alcohol messages that highlighted the positive gains of not drinking (Kingsbury, Gibbons & Gerrard, 2015). Some alcoholics felt more relieved and hopeful after listening to messages on perceived benefits (Bernstein, Wood, & Erickson, 2015), while others found such messages more personal and relevant compared to those emphasizing the dangers of alcoholism (Carlson & Duckworth, 2019).

Perceived self-efficacy was generally neglected in majority of the radio content but for Coro's *Watuko* message. Participants accepted the community's vulnerability to alcoholism and wondered why the radio messages did not provide efficacious solutions to the problem. Previous studies have shown that effective health messages provide solutions to curb the health threats (Bandura, 1995). The *Watuko* message promoted parental and community efficacy, however, the level of confidence to adopt the recommended behaviour differed among the participants. Participants who reported high self-efficacy felt they could counsel their children, participate in pouring the alcohol and work with relevant authorities in the war against alcoholism. Other participants reported low self-efficacy, stating that they could not work or report alcohol cases to corrupt chiefs and neither could they counsel their own children nor those of the neighbours. According to HBM's parallel mediation process, low confidence implied that the participants did not experience high self-efficacy to execute the recommended actions in the health messages and therefore chances to take up the recommended actions were less (Hayes, 2022; Witte & Allen, 2000).

Portrayal of a reduction of perceived barriers construct was neglected in majority of the radio messages but for Coro's *Watuko* message. Participants cited the same subthemes that supported the self-efficacy construct. Removal of barrier is important since most people know what to do but barriers to action inhibit their uptake of the recommended positive behaviour. Effective behaviour change messages should portray removal of barriers since they are a significant predictor of health behaviours (Carpenter, 2019; Jones 2015). Audiences

perform a recommended action once the perceived barriers are removed (Janz & Becker, 1984, Jones 2015; Rosenstock, 1961; Rosenstock, 1988).

Conclusion

It can be concluded that majority of the participants positively identified perceived severity and susceptibility in the four messages that promoted behaviour change in the Kikuyu FM stations. The two constructs were overemphasized compared to their moderating components of perceived benefits, self-efficacy and a reduction of barriers to action. The participants reported high severity and susceptibility to alcoholism from their experiences, which meant that audiences were likely to reject the high threat messages given the absence of moderating constructs. According to HBM's moderated mediation model, the high threat behaviour change messages required an inclusion of perceived benefits, self-efficacy and a demonstration of the removal of perceived barriers. Promotion of self-efficacy and removal of barrier was especially important for the alcohol consumers who reported no susceptibility to the community and themselves, which may have resulted from denial of the health consequences. Notably, participants already had experienced perceived benefits of not consuming alcohol, which implied that less inclusion of the construct from the radio messages was okay. Only one radio message was reported to include all the HBM constructs, although some participants reported low self-efficacy, which implied that the message was likely to influence the intended behaviour change.

References

- Ankomah, A., Adebayo, S. B., Arogundade, E. D., Anyanti, J., Nwokolo, E., Inyang, U., Ipadeola, O. B., & Meremiku, M. (2014). The effect of mass media campaign on the use of insecticide-treated bed nets among pregnant women in Nigeria. *Malaria Research and Treatment*, 2014, 1–7. <https://doi.org/10.1155/2014/694863>
- Anwar, A., Malik, M., Raees, V., & Anwar, A. (2020). Role of mass media and Public Health Communications in the COVID-19 pandemic. *Cureus*. <https://doi.org/10.7759/cureus.10453>
- Ayers, B., & Myers, L. B. (2011). Do media messages change people's risk perceptions for binge drinking? *Alcohol and Alcoholism*, 47(1), 52–56. <https://doi.org/10.1093/alcalc/agr052>
- BBC Media Action. (2014). *Dhibcaha Nolosha (drop of life): Can radio improve the effectiveness of polio vaccination campaigns?*
- Bamani, S., Toubali, E., Diarra, S., Goita, S., Berte, Z., Coulibaly, F., Sangare, H., Tuinsma, M., Zhang, Y., Dembele, B., Melvin, P., & MacArthur, C. (2012). Enhancing community knowledge and health behaviors to eliminate blinding trachoma in Mali using radio messaging as a strategy. *Health Education Research*, 28(2), 360–370. <https://doi.org/10.1093/her/cys105>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295x.84.2.191>
- Bandura, A. (1995). *Social Foundations of thought and action: A social cognitive theory*. Prentice Hall.
- Bell, K., McNaughton, D., & Salmon, A. (2009). Medicine, morality and mothering: Public health discourses on foetal alcohol exposure, smoking around children and childhood overnutrition. *Critical Public Health*, 19(2), 155–170. <https://doi.org/10.1080/09581590802385664>
- Bernstein, M. H., Wood, M. D., & Erickson, L. R. (2015). The effectiveness of message framing and temporal context on college student alcohol use and problems: A selective e-mail intervention. *Alcohol and Alcoholism*, 51(1), 106–116. <https://doi.org/10.1093/alcalc/aggv091>
- Carey, R. N., & Sarma, K. M. (2016). Threat appeals in health communication: Messages that elicit fear and enhance perceived efficacy positively impact on young male drivers. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3227-2>
- Carlson, G. C., & Duckworth, M. P. (2019). The development of video messages to reduce binge drinking: Focus group results. *Alcohol and Alcoholism*, 54(3), 295–301. <https://doi.org/10.1093/alcalc/aggz001>
- Carpenter, C. (2019). *A Meta-Analysis of the Effectiveness of Health Belief Model Variables in Predicting Behavior*. <https://doi.org/10.31235/osf.io/v58zr>

- Communication Authority of Kenya. (2019). *Audience measurement and industry trends report for Q2 2019-2020*. <https://www.ca.go.ke/wp-content/uploads/2020/03/pdf>
- Conner M. (2010). Cognitive determinants of health behavior. In A. Steptoe (eds) *Handbook of Behavioral Medicine*. Springer.
- Cresswell, J. W. (2023). *A concise introduction to mixed methods research*. SAGE Publications.
- Gerend, M. A., & Cullen, M. (2008). Effects of message framing and temporal context on college student drinking behavior. *Journal of Experimental Social Psychology*, 44(4), 1167–1173. <https://doi.org/10.1016/j.jesp.2008.02.007>
- Gever, V. C., & Ezeah, G. (2020). The media and health education: Did Nigerian media provide sufficient warning messages on coronavirus disease? *Health Education Research*, 35(5), 460–470. <https://doi.org/10.1093/her/cyaa020>
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. The Guilford Press.
- Hutter, R. R., Lawton, R., Pals, E., O'Connor, D. B., & McEachan, R. R. (2015). Tackling student binge drinking: Pairing incongruent messages and measures reduces alcohol consumption. *British Journal of Health Psychology*, 20(3), 498–513. <https://doi.org/10.1111/bjhp.12111>
- Ishikawa, H., Kato, M., & Kiuchi, T. (2016). Associations of Health Literacy and information sources with health-risk anxiety and protective behaviors. *Journal of Communication in Healthcare*, 9(1), 33–39. <https://doi.org/10.1080/17538068.2015.1133004>
- Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education Quarterly*, 11(1), 1–47. <https://doi.org/10.1177/109019818401100101>
- Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The health belief model as an explanatory framework in communication research: Exploring Parallel, serial, and moderated mediation. *Health Communication*, 30(6), 566–576. <https://doi.org/10.1080/10410236.2013.873363>
- Jongenelis, M. I., Pratt, I. S., Slevin, T., Chikritzhs, T., Liang, W., & Pettigrew, S. (2018). The effect of chronic disease warning statements on alcohol-related health beliefs and consumption intentions among at-risk drinkers. *Health Education Research*, 33(5), 351–360. <https://doi.org/10.1093/her/cyy025>
- Katz, E., & Lazarsfeld, P. F. (2017). *Personal influence | the part played by people in the flow of Mass Communications*. Routledge.
- Kenya National Bureau of Statistics. (2013). *Exploring Kenya's inequality: Pulling apart or pooling together?* (Murang's County). www.knbs.or.ke.
- Kenya National Bureau of Statistics. (2019). *2019 Kenya population and housing census*. Volume 1: Population by County and Sub-county. KNBS.
- Kim, H. K., & Niederdeppe, J. (2015). Effects of self-affirmation, narratives, and informational messages in reducing unrealistic optimism about alcohol-related problems among college students. *Human Communication Research*, 42(2), 246–268. <https://doi.org/10.1111/hcre.12073>
- Kingsbury, J. H., Gibbons, F. X., & Gerrard, M. (2015). The effects of social and health consequence framing on heavy drinking intentions among college students. *British Journal of Health Psychology*, 20(1), 212–220. <https://doi.org/10.1111/bjhp.12100>
- Krueger, R. A., & Casey, M. A. (2015). *Focus Groups A Practical Guide for Applied Research*. Sage.
- Leppo, A., Hecksher, D., & Tryggvesson, K. (2014). 'Why take chances?' advice on alcohol intake to pregnant and non-pregnant women in four Nordic countries. *Health, Risk & Society*, 16(6), 512–529. <https://doi.org/10.1080/13698575.2014.957659>
- Limaye RJ, Malik F, Frew PM et al. Patient decision making related to maternal and childhood vaccines: exploring the role of trust in providers through a relational theory of power approach. *Health Education Behaviour* 2020; 47: 449–56.
- Mayrhofer, M., & Naderer, B. (2017). Mass media as alcohol educator for everyone? Effects of portrayed alcohol consequences and the influence of viewers' characteristics. *Media Psychology*, 22(2), 217–243. <https://doi.org/10.1080/15213269.2017.1378112>
- McWhirter, J. E., & Hoffman-Goetz, L. (2016). Application of the health belief model to U.S. magazine text and image coverage of skin cancer and recreational tanning (2000–2012). *Journal of Health Communication*, 21(4),

- 424–438.
<https://doi.org/10.1080/10810730.2015.1095819>
- Muturi, N. (2014). Engaging communities in the understanding of excessive alcohol consumption in rural central Kenya. *Journal of International Communication*, 20(1), 98–117.
<https://doi.org/10.1080/13216597.2013.869240>
- Muturi, N. (2020). Perceived risk of the harmful use of alcohol among young adults in the context of HIV&AIDS in Kenya. *Journal of Communication in Healthcare*, 13(2), 119–128.
<https://doi.org/10.1080/17538068.2020.1773657>
- NACADA. (2010). *Alcohol use in Central Province of Kenya: A baseline survey on magnitude, causes and effects from the perspective of community members and individual users*. <https://nacada.go.ke/sites/default/files/2010/alcohol-abuse-in-central-province-research-policy-brief.pdf>
- NACADA. (2011). *Audience perception and communication needs analysis on alcohol and drug abuse in Kenya: Final report*. <https://nacada.go.ke/sites/default/files>
- NCPD. (2023). Alcohol major cause of conflicts for Murang'a families. In 2022 study on status of the family in Kenya: Murang'a County. <https://ncpd.go.ke/2023/05/08/alcohol-major-cause-of-conflicts-for-muranga-families/>
- Niederdeppe, J., Avery, R. J., & Miller, E. E. (2018). Theoretical Foundations of Appeals used in alcohol-abuse and drunk-driving public service announcements in the United States, 1995-2010. *American Journal of Health Promotion*, 32(4), 887–896.
<https://doi.org/10.1177/0890117117706422>
- Ortu, G., Khan, J., Samuel Yibi, M., & Abdu Nimaya, I. (2017). Mass Drug Administration in Central Equatoria, South Sudan: Results and suggestions for future distributions. *International Health*, 9(4), 263–266.
<https://doi.org/10.1093/inthealth/ihx025>
- Paek, H & Hove, T. (2016). Risk perceptions and risk characteristics. In *oxford research encyclopaedia of communication*. Oxford University Press.
- Rosenstock, I. M. (1961). Decision-making by individuals. *Health Education Monographs*, 11, 19-35.
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education Quarterly*, 15(2), 175–183.
<https://doi.org/10.1177/109019818801500203>
- Ruiter, R. A., Kessels, L. T., Peters, G. Y., & Kok, G. (2014). Sixty Years of Fear Appeal Research: Current State of the evidence. *International Journal of Psychology*, 49(2), 63–70.
<https://doi.org/10.1002/ijop.12042>
- Schmälzle, R., Renner, B., & Schupp, H. T. (2017). Health Risk Perception and risk communication. *Policy Insights from the Behavioral and Brain Sciences*, 4(2), 163–169.
<https://doi.org/10.1177/2372732217720223>
- Sillero-Rejon, C., Attwood, A. S., Blackwell, A. K., Ibáñez-Zapata, J.-A., Munafò, M. R., & Maynard, O. M. (2018). Alcohol Pictorial Health Warning Labels: The impact of self-affirmation and health warning severity. *BMC Public Health*, 18(1).
<https://doi.org/10.1186/s12889-018-6243-6>
- Smith, M. L., Menn, M., & McKyer, E. L. (2011). Effectiveness of the radio as a health information source. *Journal of Radio & Audio Media*, 18(2), 196–211.
<https://doi.org/10.1080/19376529.2011.615776>
- Thompson, E. E., & Yeboah, A. A. (2013). Health information from elite to popular media: Are Ghanaian media creating more space for Health Information/education? *Critical Arts*, 27(3), 370–385.
<https://doi.org/10.1080/02560046.2013.800669>
- van Schroyensteen L. M., van de Loo, A. J., Mackus, M., Kraneveld, A. D., Brookhuis, K. A., Garssen, J., & Verster, J. C. (2018). Susceptibility to alcohol hangovers: Not just a matter of being resilient. *Alcohol and Alcoholism*, 53(3), 241–244.
<https://doi.org/10.1093/alcalc/agx107>
- van Schroyensteen L. M., van de Loo, A., Mackus, M., & Verster, J. (2017). Development of a definition for the alcohol hangover: Consumer descriptions and expert consensus. *Current Drug Abuse Reviews*, 9(2), 148–154.
<https://doi.org/10.2174/1874473710666170216125822>
- Wimmer, R. D., & Dominick, J. R. (2014). *Mass media research: An introduction*. Cengage-Wadsworth.
- Witte, K. (1992). Putting the fear back into Fear Appeals: The Extended Parallel Process Model. *Communication Monographs*, 59(4),

329–349.

<https://doi.org/10.1080/03637759209376276>

Witte, K. (1998). A theoretically based evaluation of HIV / AIDS prevention campaigns along the trans-africa highway in Kenya. *Journal of Health Communication*, 3(4), 345–363.
<https://doi.org/10.1080/108107398127157>

Witte, K. (2005). Journey of Life: A radio soap opera on Family Planning in Ethiopia. *Health Communication in Practice*, 347–356.
<https://doi.org/10.4324/9781410612779-28>

Witte, K., & Allen, M. (2000). A meta-analysis of fear appeals: Implications for Effective Public Health Campaigns. *Health Education & Behavior*, 27(5), 591–615.
<https://doi.org/10.1177/109019810002700506>