Conspiracy Theories, Community Radio, and Uptake of COVID-19 Preventive Behaviors in Kenya. A Case of SIFA FM

Muasya Gladys[1], Wachira Wanjugu[2], Mwangi Susan [3]
St. Paul's University

Abstract

The onset of COVID-19 in December 2019 in Wuhan China ushered in a new normal in the way the society handled its issues. However, measures were put to contain it. This pandemic unlike others was surrounded by lots of conspiracy theories regarding its origin, purpose, and measures put in place to contain it. The purpose of this study was to show how conspiracy theories and radio communication influenced the uptake of COVID-19 preventive measures in two SIFA FM station audiences, Voi and Marsabit. A sample of 200 participants filled out a survey with closed and open-ended questions in July to October 2021. The results showed that marital status and the location of the participant influenced the perception of susceptibility and uptake of COVID-19 preventive measures. The audience had great faith in the radio and listened to it often. Generally, there was a high perception of the intake of COVID-19 preventive measures, and low perception of participants' susceptibility to the COVID-19 pandemic, and a moderate perception of conspiracy beliefs. Half of the participants were willing to take up vaccines but a good number were still doubtful of vaccines. Thus, the radio should tailor intervention messages based on the risk perception of different groups in its audience. In addition, different conspiracy theories circulated in different locations, and the two cultures had different perception levels of their risk to the pandemic.

Key Words: Conspiracy theories, radio communication, COVID-19 pandemic, health communication

Introduction

In December 2019, there was an outbreak of the SARS-CoV-2) virus which sparked an acute respiratory response (COVID-19); among a significant number of people leading to the World Health Organization (WHO) declaring it a pandemic. This attracted massive health communication campaigns and counter-messages in the form of conspiracy theories regarding the origin, nature, motive, and control of the virus (Bavel et al, 2020; Douglas et al., 2021) and these effects were witnessed in many countries.

For instance, in the US COVID-19 conspiracies were even propagated by state officials and a third of the population believed the virus was manufactured in the laboratory for strategic reasons (Uscinski, & Enders, 2020). In South Africa and Nigeria, some conspiracy theories such as the use of 5G, the fifth technology standard for broadband cellular networks were linked with either the spread or the perpetuation of COVID-19 (Ahmed et al 2020; Gagliardone et al 2021); and Bill Gates was perceived to take advantage of COVID-19 to initiate a global surveillance regime in the world (Havey 2020; Uscinski, & Enders, 2020).

In addition, COVID-19 led to vaccine hesitancy in South Africa (Bangalee & Bangalee, 2021). The same conspiracy theories had currency in Kenya too. COVID-19 was perceived as an artificial bio-weapon for population control, an economic weapon for financial gain, a political weapon to prevent the opposition from holding rallies, anti-Christ weapon to close churches among the many conspiracy theories that circulated (Chamegere, 2021).

Douglas et al (2019) defined conspiracy theory as the theory that "attempts to explain the ultimate cause of significant social and political events and circumstances with claims of secret plots by two or more powerful actors," (p.4). Conspiracy theories have been identified as one of the causes that may lead to the failure of health communication interventions. These conspiracy theories negate the message being propagated as either false, offer alternative explanations to the existing phenomenon, or dismiss the phenomenon altogether. Thus, some health communication campaigns are usually targeted to weaken these conspiracy theories (Berwiazonek, 2020; Hornik et al, 2020). Despite many studies undertaken to study conspiracy theories and the COVID-19 pandemic, the literature is still sparse. More is yet to be researched to find out whether, in the context of conspiracy theories, radio health communication increases the uptake of COVID-19 interventions necessitating this paper.

The radio is one of the tools used in health communication campaigns, especially in rural areas. During this pandemic, several radio stations joined in the fight against the pandemic through COVID-19 messaging and were regarded as an authentic source of information (Pandit & Kandpal, 2020). SIFA FM a community radio, also joined the COVID-19 health campaign in the marginalized areas of Marsabit, Voi, Lamu, and Turkana among other sites. These areas are remote and not well reached by the mainstream media (SIFA FM, n.d), and the paper sought to evaluate the extent to which SIFA FM positioned its messaging in these areas in response to the COVID-19 pandemic.

The purpose of this paper was to show how conspiracy theories and radio communication influence the uptake of COVID-19 behaviors among marginalized communities in two SIFA FM broadcasting locations in Marsabit County and Voi in Taita-Taveta County in Kenya. This study sought to fill in the literature on the use of radio to curb the spread of COVID-19 and its related conspiracy theories, especially in an East African context. The findings of the study will inform health policy and enhance community radio programs in handling pandemics. This study is organized as follows: first literature review, methodology; results, discussion, and lastly the conclusion.

Literature Review

This section has two components theoretical review followed by an empirical review. This paper is informed by conspiracy theories.

Theoretical Framework

Conspiracy Theories

Conspiracy theories are found in all areas of human life- health, politics, international relations, etc., and have been linked to revolutions, genocides, terrorism, and witch-hunting among others. A conspiracy is regarded as a secret only known by two or more powerful persons, and it's regarded to usurp political or economic power, violate rights, infringe established agreements, etc. These conspiracies are regarded to have failed when they flop or get exposed. These theories are normally alleged to be powerful and malevolent to people. These allegations against these people could be true or untrue (Van Bavel et al, 2020; Van Prooijen & Douglas, 2018). Closely used terms for conspiracy theories are conspiracy belief and conspiracy thinking or mindset.

A conspiracy belief is a belief in a specific conspiracy theory or a set of conspiracy theories. A conspiracy mindset refers to people who ascribe to a particular conspiracy theory who are more likely to ascribe to others even unrelated conspiracy theories. This conspiracy thinking gives room to people who prefer conspiracy explanations that usually bias the mainstream explanations. Conspiracy theories tend to satisfy social-psychological motives such as seeking explanations for phenomena in times of uncertainty and contradictions; the desire for control and security; and maintain a positive self-image of self or a group (Douglas et al., 2019, Wood et al., 2012).

In several studies, conspiracy theories and misinformation are aggregated together, or conspiracy theories are considered to lead to misinformation. Equally important, misinformation can include fake news and false beliefs (Chemegere, 2022; Enders, 2022). In this paper, the authors consider all misinformation as part of conspiracy theories.

Conspiracy Theories and Uptake of COVID-19 Preventive Behaviors

Conspiracy theories may influence health interventions though these studies are inconclusive. For example, Hornik et al., (2020) did a cross-lagged panel linear regression study using 1074 US adults to assess whether belief in misinformation was associated with protective behaviors after adjusting for beliefs of the consequences of those behaviors. In essence, they sought to find whether there was an association between COVID-19 misinformation, wearing face masks, and keeping social distance; also, whether behavior-specific beliefs accounted for this association in line with the behavior change theory.

The findings showed that belief in misinformation was negatively associated with face mask-wearing and keeping social distance behavior. There was a positive relationship between belief about behavior outcomes for face mask-wearing and social distance which lagged over time. These authors concluded that belief in COVID-19-related misinformation was less relevant to protective behaviors compared to the belief in the consequences of this behavior which was an important predictor. To them, health campaigns need to focus on the benefits of COVID-19 protective behaviors rather than debunking COVID-19 conspiracy theories.

Along the same lines, Bierwiaczonek, et al., (2020) did a longitudinal study of 403 participants at five points during the first six weeks of the COVID- 19 pandemic in the US. The authors used multivariate growth curve modeling and a cross-lagged model to analyze the relationships between social distancing and conspiracy beliefs theory. They further sought to find whether there was a

negative effect of the COVID-19 conspiracy theory which had widespread unrelated preventive behaviors on social distancing. They found out that as conspiracy beliefs decreased, social distancing increased with time. The people who held more conspiracy beliefs at the beginning of the pandemic had the lowest increase in social distance. People with more conspiracy beliefs tended to show a lower social distancing in the next wave. This necessitates finding out how misinformation in the form of conspiracy beliefs could influence the community's uptake of COVID-19 interventions.

Empirical Review

Impact of COVID-19-Related Communication on Community Radio's Audience and Uptake of Preventive Behaviors.

Okoth (2020) did a study on the role of community and vernacular radio and how it influenced social and behavioral change against the COVID-19 pandemic in Kenya, Uganda and Tanzania. More so, how it demystified myths and misinformation on COVID-19, provided correct information about COVID-19, made recommendations on behavior change and innovated ways to enable the community to cope with the containment measures that the respective governments issued.

The study revealed that the stations developed programs that helped to influence a change in behavior as a way to mitigate the spread of COVID-19. Moreover, 82% of the participants mentioned that they received information on COVID-19 through the radio. The radio stations had a dilemma on news sources since there was plenty of fake news.

Therefore, the radio had to find a way to package the news to influence the community's attitude towards COVID-19. A good part of the daily broadcasts/news bulletins was dedicated to the coverage of COVID-19. The stations chose to feature survivors or relatives of survivors to clear misconceptions about the Pandemic. In this paper, the researchers sought to know whether how the radio programs were packaged could lessen the misperceptions (conspiracy theories) of COVID-19 that were circulating.

Level of Community Radio's Engagement and Understanding of A COVID-19-Free - Environment at Household and Community Levels.

Several studies have been conducted about community radio engagement and programming during the COVID-19 period globally. Pandit and Kandpal (2020) did a study in India on the role of the radio as a tool for creating awareness during COVID-19. It was established that 65% of Indians listened to the radio. The study focused on the role of radio as a means of creating awareness during the COVID-19 period. In other words, how the radio empowered people to remain safe in a time when everyone was locked in their houses for an extended period.

Key findings indicated that there was an increase in listenership during the COVID-19 period. The majority of the interviewed people viewed the radio as authentic as even government spokespeople were interviewed in some forums. It considerably helped people to differentiate between real and fake news. There were testimonials of real COVID-19 survivors sharing their experiences and a call-in feature in the programs where listeners asked questions. In this paper, the researchers sought to find out whether people viewed the radio as a source of authentic communication.

Another study by Allington, et al., (2020) on 'health-protective behavior, social media usage, and conspiracy beliefs during the COVID-19 public health emergency in the UK explored, the myriads of explanations of the source of COVID-19 expressed through YouTube and Facebook as the main culprits of disseminating conspiracy beliefs and misinformation. Findings revealed that there was a negative relationship between COVID-19 conspiracy beliefs and COVID-19 health-protective behaviors. In addition, there was a positive relationship between COVID-19 conspiracy beliefs and the use of social media as a source of information about COVID-19.

In studies 2 and 3, there was a negative relationship between COVID-19 health-protective behaviors and the use of social media as a source of information. In study 3, there was a positive relationship between health-protective behaviors and the use of broadcast media as a source of information. Younger people tended to hold conspiracy beliefs, while older people tended to hold onto all health-protective behaviors. Unlike men, women were more likely to follow predictive behaviors than men.

Furthermore, there was a negative relationship between the use of legacy media and the source of COVID-19 knowledge and belief in one or more conspiracy theories. There was a strong positive relationship between the use of the social media platform as a source of knowledge about COVID-

19 and the holding of one or more conspiracy beliefs. YouTube had a stronger association with conspiracy than Facebook (Allington, et al., 2020). Thus, in this paper, the researcher sought to find out the nature of the relationship between the radio and the knowledge of COVID-19 if it would follow the same observed pattern.

Perception of COVID-19 Risk and Preventive Behaviors

There is an assumption that an individual's perception of risk will influence their preventive behaviors and reduce their risk exposure. According to Ferrer and Klein, (2015), despite the risk behavior being a determinant of health-related behavior, the association of this behavior is not well understood due to mixed findings, as some are positive, negative, or no association between these two variables. In terms of risk exposure, men are regarded to be more risk-takers than women. Interestingly, women are considered to engage in more health-protective behaviors and some of the reasons could be associated with genetics and partly with lifestyle. Men engage in more risky behavior than women e.g., drinking and smoking. On the other hand, women tend to be more receptive to preventive behaviors e.g., staying at home, frequent hand washing, and wearing masks (Bwire, 2020).

One preventive behavior is vaccination. In Portugal, Soares et al (2021) study on influencing vaccine hesitancy found there could be contextual, individual and group differences, COVID-19 and COVID-19 vaccine-related factors. For instance, young people were found to be more hesitant to receive vaccines due to their perception of low vulnerability to the risk. Another group was females who were delayed in taking vaccines.

It follows that some of the reasons for vaccine hesitancy were participants who received inconsistent and contradictory government COVID-19 information, the concern for the safety and efficacy of the vaccines, and negative perception of government measures among others. Some recommendations were for the government to build its communication and trust (Soares et al.,2021). In the present study, the researchers wanted to find out if the COVID-19 information offered through the radio succeeded in convincing its audience that it was authentic and could be trusted.

Apart from surveying general populations, Borges and Byrne (2022) did a cross-sectional survey with third-year students in Ireland to investigate their risk perception and preventive behaviors and establish the reasons why there was vaccine hesitancy and factors influencing vaccination intentions. The findings indicated a positive correlation between risk perception and preventive

behaviors. There was no correlation between an individual's risk perception and knowledge of COVID-19.

Women, (positive association), student accommodation whether shared or not (negative association) knowledge of COVID-19 (positive), and risk perception (positive) contributed to self-reported preventive behaviors. There was no significant association between vaccine attitude and health or vaccine attitude and sex.

It follows that the concerns for hesitancy to the vaccine had to do with allergic reactions, indifference toward vaccination, rapid production of the vaccine, inadequate testing, prioritizing the vulnerable, blood clots and uncertainty on how to register for the vaccine. The main sources of information were mainly TV channels, social media, official sites, family and friends. The students had high knowledge of COVID-19 information, high engagement with preventive behaviors and moderate risk perception.

The current paper sought to identify some of the factors that influence the adoption of preventive behaviors and even vaccine uptake. In a nutshell, the general objective was to establish the relationship between COVID-19 conspiracy theories, radio community interventions and uptake of COVID-19 preventive behaviors.

The specific objectives were: -

1. Establish the relationship between COVID-19 conspiracy theories and uptake of COVID-19 preventive behaviors.
2. Determine the extent to which the community radio's COVID-19 messaging reduced the misperceptions of the COVID-19 pandemic.

The Research Hypotheses were:-

1. There is a relationship between susceptibility to COVID-19 and uptake of preventive behaviors.
2. There is a relationship between conspiracy beliefs and uptake of COVID-19 preventive behaviors.

Figure 1: Conceptual Framework
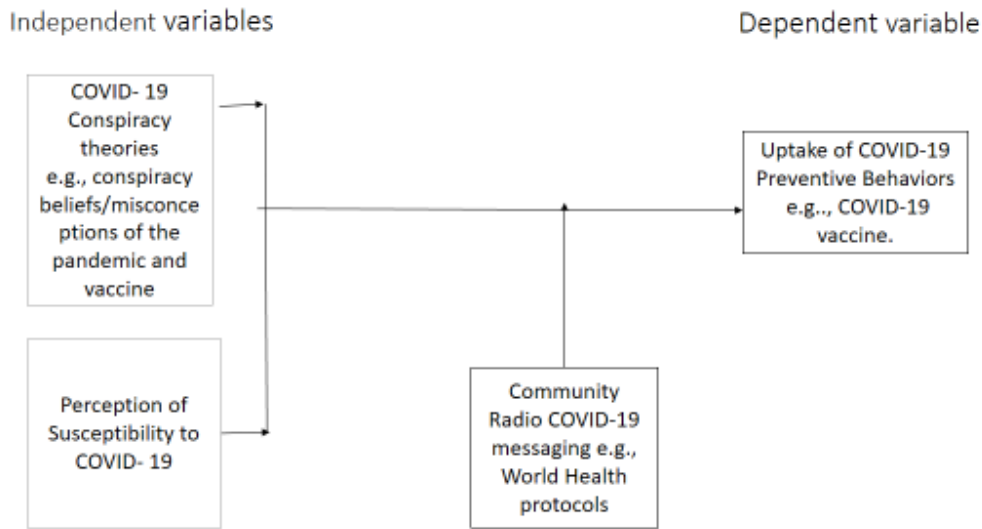
Method

Study Setting

This study was undertaken in two broadcasting locations of SIFA-FM located in Marsabit in Marsabit County and in Voi - Taita Taveta County. These two locations are situated away from Nairobi and the radio is one of the media that health information is transmitted to the natives. These locations were chosen because they were more accessible to the researchers compared to Turkana, while Lamu was used for pretesting the survey tools. SIFA-FM is a non-profit Christian organization established by Transworld Radio-Kenya in 2008.

Moreover, this station seeks to empower marginalized communities holistically with targeted programs for youth and women. It seeks to transform attitudes, beliefs and behaviors for social change (SIFA FM, n.d). At the onset of COVID-19, SIFA- FM took a center stage in the fight against COVID-19 through its programs and outreach activities (SIFA FM station manager, personal information).

Procedure and Sample

This study used a descriptive study design, which allows the researcher to find answers to a range of questions regarding to what, where, and how of a phenomenon within a natural setting. One can explore patterns and trends and in-depth knowledge such as demographic make-up. Also, it allows

the use of qualitative and quantitative data, making predictions and hypothesis testing (Siedlecki, 2020).

The target population consisted of listeners of SIFA FM in two locations in Marsabit and Voi (SIFA FM, n.d). The sample size was made of 200 participants and convenience sampling was used to select 100 participants from each location. The participants that were chosen were those near the broadcasting stations, where the radio signal was strong and areas research assistants could easily access using roads. The hinterlands of these areas are prone to ethnic conflict, unsafe or inaccessible.

According to Skowronek (2009), convenience sampling may be used in circumstances of resource constraints, challenges in identifying the members of the study population and identifying the existence of a problem. Since this study was done during COVID- 19 period, some people were unwilling to get close to the research assistants for fear of infection. One disadvantage of convenience sampling is bias and limited external validity, but these errors can be reduced if the sample size is increased, the researchers are objective and also reduce the selection bias while issuing questionnaires. It is recommended to vary the participants and the time of collecting data as much as possible. The researchers of this paper observed these precautions.

Data Collection and Analysis

Data were collected in three months using a survey from July to October 2021. A survey allows both qualitative and quantitative data to be collected and, in this paper, the researchers used both closed and open-ended questions. (This paper is part of a bigger study secondary and interview results are reported in another paper). The survey was pretested in Lamu SIFA radio station. The research assistants were undergraduate students from the area who were trained and supervised during data collection.

Ethical Requirements

The National Commission for Science, Technology, and Innovation (NACOSTI) approved this study. Consent was also sought from the Radio SIFA management and participants in the study. Moreover, participants were assured of confidentiality and the results were aggregated and kept anonymous.

Measures

The researchers developed most of the questionnaire items and adapted a few from prior research. All the Likert scales were measured on a scale of 1 = strongly disagree and 7 = strongly agree with 4 being neutral. Bierwiaczonek et al., (2020) study provided some of the measures for social distancing and conspiracy beliefs.

Sources of Conspiracy Beliefs

It had five items, three of which were adapted from Bierwiaczonek et al., (2020) conspiracy beliefs scales and the authors developed the other two items. These conspiracy beliefs measured the extent to which people believed in some conspiracy theories regarding COVID-19. An exemplar question was, "To what extent do you think the COVID-19 virus is human-made".

COVID-19 Prevention Measures

It had six items, three items in the scale were adapted from Bierwiaczonek et al (2020) social distancing scale, and the other three, the authors added from World Health Organization COVID-19 guidelines (World Health Organization, n.d). This scale measures the extent to which participants adhered to COVID-19 prevention measures. An exemplar question was, "I avoid in-person contact with others."

Susceptibility to COVID-19 Virus.

This scale measured the likelihood of a person being infected by the COVID-19 virus. It had three items that the authors developed. An exemplar question was, "I have a low chance of contracting the COVID-19 virus." In addition, participants' socio-economic and demographic information were collected.

Data Analysis and Presentation

The closed-ended questions were analyzed using descriptive statistics and linear multiple regression with the aid of SPSS Version 20. The open-ended questions were analyzed using content analysis. Moreover, many media-related studies used content analysis (Pandit & Kandapal, 2020). Content analysis can either be quantitative or qualitative or a combination of both methods where texts are analyzed (Hsieh & Shannon, 2005). Content analysis is a "technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti, 1969, p.14). The findings from qualitative data were used to corroborate that of quantitative data.

Results

Participants Socio-Demographic Information

First, quantitative results are presented followed by qualitative results. Of the 200 participants surveyed 64% were males and 36% were females. The married participants were 39%, single 55%, widowed 3%, and divorced and separated were 3% respectively. On average each family has four people who listen to SIFA FM (Mean = 4.43; SD = 2.38). Their education levels were: primary 19%, secondary 43%, and post-secondary education (college and university) 48% respectively. Their employment levels were 35% employed; 35% unemployed, 22% casuals, and 8% were students.

Also, a total of 93% of the participants listened to Sifa FM and only 7% did not. On average, participants listen three times a week to SIFA FM (mean = 3.37; SD = 1.57). The conspiracy beliefs were nearly neutral (M =3.50, SD = 1.61), the participant's perception of their likelihood of getting infected was quite low (M = 1.59, SD = 1.30) and people took a high level of preventive measures against COVID-19 infection (M = 6.63, SD = 0.83).

Correlation Analysis Results

The results show that there is a negative correlation between conspiracy beliefs and the number of family members ($r = -.38$, $p< .01$) and a positive correlation between conspiracy beliefs and the number of times people listened to SIFA FM $r =.38$, $p<. 01$). There is a negative correlation between preventive measures and the susceptibility (likelihood) of getting infected with COVID-19 ($r =.-.55$, $p<.01$) (see Table 1).

Table 1: Mean SD Reliability and Correlation among Study Variables

Item	N	M	SD	α	1	2	3	4	5
1. No. of family members	169	4.26	2.38	-	1				
2. No. of times listened to SIFAFM	155	3.57	1.65	-	-.10	1			
3. Conspiracy Beliefs	195	3.50	1.61	.54	-.38**	.38**	1		
4. Susceptibility	197	1.59	1.30	.76	.12	.02	.07	1	
5. Prevention Measures	195	6.63	0.86	.69	-.03	. 11	-.18	-.55**	1

** Correlation significant at 0.01 level

  *Correlation significant at 0.05 level

Regression Analysis

To carry out a regression analysis**, s**ome socioeconomic variables were dummy-coded. Gender was recoded into 2 levels: male = 0, female = 1; Marital status was code into two levels: married = 0 and single = 1; Occupation was coded into two levels: employed = 0, unemployed =1; Location was coded into two levels: Marsabit = 0 and Voi =1; Education were coded to two levels: secondary education and below = 0, post–secondary = 1); Age were coded into three levels:18-24 years = 0, 25-31 years = 1, 32 and above = 3; 'listen to SIFA FM daily' was code into two levels: Yes = 1 No = 0.

These dummy variables correlated with i) COVID-19 prevention measures and the results were as follows: Marital status r = - 202, p <.01, married (M = 6.63 SD =.56) Single (M = 6.22 SD=1.19); Education r = -191, p <.01, Secondary education and below (M = 6.52 SD =.83). Post-secondary education (M =6.12 SD =1.24); and Location r = -.198, p <.01, Marsabit (M = 6.59 SD = .88), Voi (M= 6.20 SD =1.08).   This implies there were differences in preventive measures among the marital status groups. The married participants held higher levels of preventive measures, unlike the singles. For education status, the participants who had secondary education and below held higher levels of preventive behavior unlike those with post-secondary education. For location, participants in Marsabit held higher levels of preventive measures compared to those in Voi. There were no differences in gender.

A hierarchical regression model was carried out to find out whether there was a significant relationship between the susceptibility to COVID-19, conspiracy beliefs and the uptake of COVID-19 preventive measures. In the first model, control variables were entered (marital status, education, and location); and in the second model, susceptibility to COVID-19 and conspiracy beliefs were entered. The continuous independent variables were centered to reduce multicollinearity. The VIF was between (1.02 and 1.60) and Tolerance was below 1.00.

The first model was significant, R^2 = .10, adjusted R^2=.08, $F(3, 175) = 6.17$, $p = .001$. The second model added significant influence in the model $\Delta R^2 = .06$, $\Delta F = (2, 173 = 6.41$, $p = .002$. Overall, the model was significant, $R^2 = .16$ adjusted $\Delta R^2 = .13$, $F(5, 173) = 6.49$, $p <.001$.

The coefficients are shown in Table 2.

Table 2: Regression Coefficient Results

Predictor	B	Std. Error	β	t	Sig
Model 1 Marital status	-.36	.15	-.17	-2.38	.02
Education	-.27	.16	-.13	-1.70	.09
Location	-.33	.15	-.16	-2.17	.03
Model 1 Marital status	-.36	.15	.17	-2.15	.02
Education	-.24	.15	-.11	-1.54	.13
Location	-.07	.18	-.03	-.39	.70
Source of conspiracy	-.10	.05	-.15	-2.11	.04
Likelihood of contracting	-.11	.04	-.22	-2.58	.01

The coefficients in model 1 show marital status and location of the radio station had a significant influence in the model, while education did not. The second model showed that conspiracy beliefs and susceptibility to COVID-19 added significant influence in the model. There is a negative relationship between conspiracy beliefs and uptake of COVID-19 preventive measures and also there is a negative relationship between susceptibility to COVID-19 and uptake of COVID-19 preventive measures. Hypothesis 1 which tested whether there was a relationship between susceptibility to COVID-19 and uptake of preventive behaviors was supported, the relationship was negative. When the level of susceptibility was high, preventive behaviors were low and vice versa.

 There was a relationship between conspiracy beliefs and the uptake of COVID-19 preventive behaviors. There was a negative relationship between conspiracy beliefs and COVID-19 preventive behaviors. When the conspiracy beliefs were high, preventive behaviors were low and vice versa.

Content Analysis

A content analysis on open-ended questions was carried out to establish the misinformation/conspiracy theories regarding the origin, spread, and effect of COVID-19; and whether SIFA FM was perceived as a source of authentic information. Results in this section are organized as follows: first the purpose, origin, and effects of COVID-19; second, how COVID-19 spreads; third, SIFA FM as a source of COVID-19 information; fourth, SIFA FM as a truthful source of information; fifth, groups susceptible to COVID-19; sixth, readiness to visit the hospital in the case of flu-like infection; and lastly, the decision to get vaccinated.

Purpose, Origin, and Effects of COVID-19

Participants were asked whether they knew the origin, purpose, and effects of COVID-19. The majority of the participants stated it was from China (see Table 3).

Table 3: Origin of COVID 19 Virus
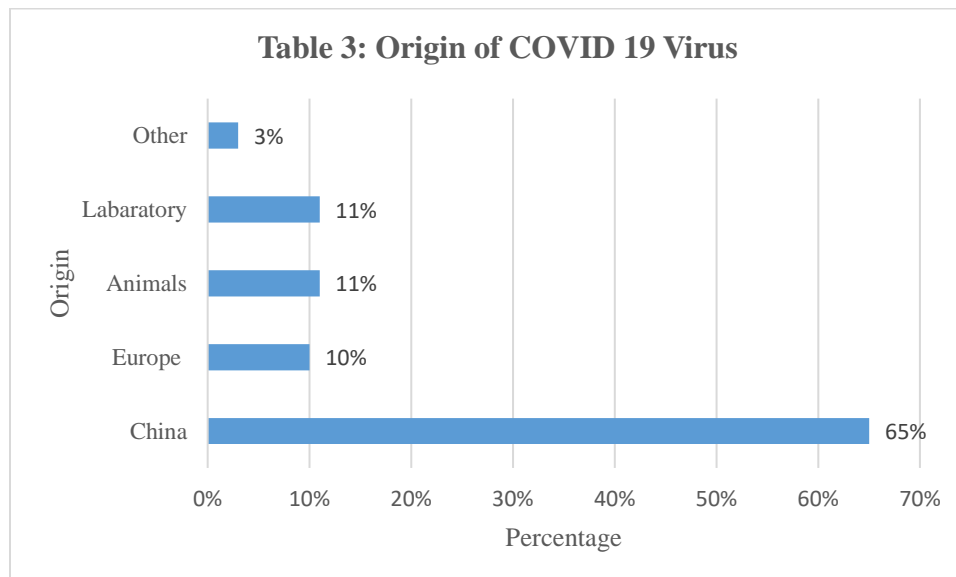
The pandemic had different purposes. Out of 177 mentions:1) 40% of the participants indicated that superpowers used it as an economic and business weapon, 2) 40% for population control and 3) 20% did not know.

How COVID-19 Spreads

Participants were asked how the COVID-19 pandemic spreads. The participants were quite knowledgeable about how it spreads and there were 341 mentions of which; 1) 61% knew it spreads due to failure to adhere to COVID-19 prevention protocols; 2) 28% stated it was from sneezing, coughing, or airborne; and 3) 11% were of the idea that it's due to exposure to a sick person. This showed the participants knew that COVID-19 protocols are not enough as the

sickness could be airborne due to people sneezing and coughing and being close to sick people who could be in their homes (see Figure 2).
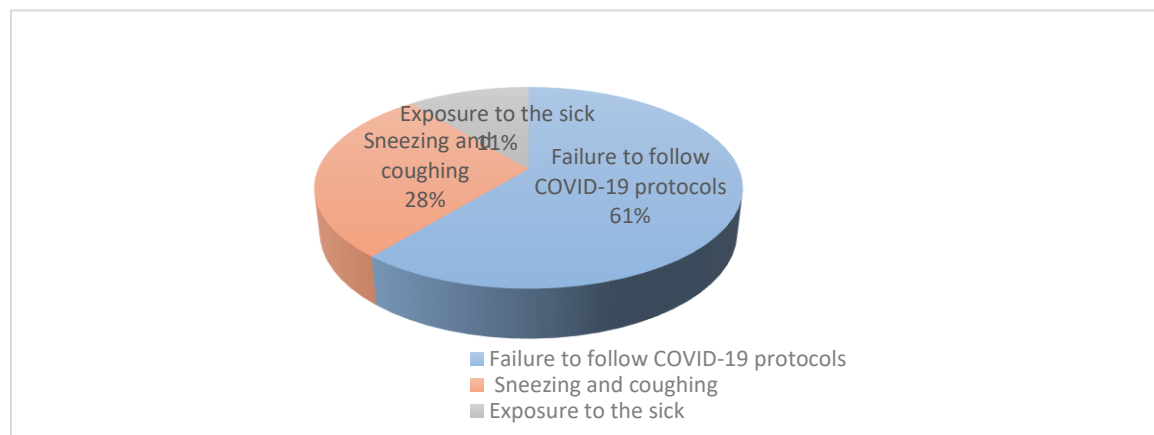

Figure 2: How COVID-19 Spreads

SIFA FM as a Source of COVID-19 Information

Participants' main sources of COVID-19 information, were radio (45%), Television 42% and others (online, government, posters, etc.) 13%. SIFA FM emphasized the keeping of COVID-19 protocols such as wearing masks, using sanitizers, keeping WHO/Ministry of Health guidelines, and explaining the nature of the pandemic clearly to the community.   The Radio station used the local languages to explain various methods of prevention and the common tools used were the use of songs, radio drama, advertisements, COVID-19 updates, talk shows, roadshows, poetry, scriptures and seminars in that order of use.

SIFA FM as a Truthful Source of Information

The participants were asked about the extent to which they perceived SIFA-FM as a truthful source of COVID-19 Information. The results are presented in the table below:

Table 4: SIFA FM as a Truthful Source of Information

Categories	% of Mentions
It is a highly rated-source of knowledge	39

The messages are consistent with other COVID-19 official sources of information	34
It is owned by a Christian organization	15
It uses native/ local languages	8
It is a source of other non-COVID-19 information	4
	100

The participants gave five major reasons why they perceived SIFA FM as a truthful source of COVID-19 information. Below are examples of the quotes from the participants:

"Yes. SIFA FM is a truthful source of information because the media does not spread lies".

"SIFA FM is a Christian radio station. I believe in it and it is a reliable truthful radio station. The best media for the local news and has been certified by the Media Council of Kenya that's why it operates."; "It has been a truthful source of information on health, environment, and politics".

Groups Susceptible to COVID-19

Out of 214 mentions, 60% of participants thought that the elderly are at risk of contracting COVID-19, though the age for an elderly person was debatable. To some someone as young as 35 years was considered elderly. Another 16 % was attributed to an underlying condition and 15% regarded no demographic group as less susceptible irrespective of their health, age or gender. Some men (3%) and youth (3%) were vulnerable because of their high mobility, unlike other groups. Finally, 3% attributed to things like work, travel, or living in urban places with high populations.

Readiness to Visit the Hospital in the Case of Flu-Like Infection

Participants were asked whether they would visit the hospital in case they had flu-like symptoms. There were three categories and out of 196 participants who responded to the question: 74% responded they would visit the hospital at the onset of flu-like symptoms; 8% would wait to see if they would get better before visiting the hospital; and 18% were not willing to visit the hospital at all. Examples of suggestions of those ready to visit the hospital were: to "keep the family safe; assurance of health status"; "check the immunity against infection" and "flu is a symptom of COVID-19".

In addition, for those with a 'wait and see attitude' said, "Unless the flu is out of control. If it doesn't persist, I will not go to the hospital. Medical practitioners target those with flu to add up their list of those believed to have the infection." And the 'naysayers' had this to say, "Not in the vulnerable category", "All patients with flu-like systems are positive for COVID-19 unless proven otherwise" and " I do not want to be quarantined and taken away from my family".

The Decision to Get Vaccinated

The participants were asked whether they would take a vaccine and out of 199 participants who responded to this question, 52% said 'YES' and 48% said 'NO'. The participants were asked to explain their choices and out of 99 mentions, 49% were ready to receive vaccination- as it will protect their families and boost their immunity; 44% were doubtful about taking COVID-19 vaccines due to the alleged side effects or effectiveness, danger of blood clots, death, infertility and rumors of its inefficiency; and 3) 7% had not made up their mind yet – since their age was ineligible, were pregnant, or had low chance of infection.

Thus, there could be different strategies on how to increase the vaccine uptake i.e., addressing the fears of the doubtful group or the effectiveness of the vaccine. Those yet to make up their mind could be advised on the importance of being vaccinated, increase the age band and address the fear of a jab. These issues could be considered during COVID-19 vaccine campaigns or similar pandemics (see Table 5).

Table 5: Participants' Susceptibility to Contract COVID-19

Category	% of Mentions
Low chances of getting COVID-19 virus	50
High chances of getting the COVID-19 virus	50
	100

Some of the reasons the participants gave for the low chances group were "If I observe the health guidelines, I have a low chance of getting infected"; and "I cannot get COVID-19 because I pray and believe in the supreme God." From the 'High chances group', one of them had this to say, "I have a higher chance of contracting the disease if I violate the Ministry of Health COVID-19

guidelines."   Below is the discussion section which is arranged according to the research questions and hypotheses.

Discussion

COVID-19 Conspiracy Theories and Radio Community Response to COVID-19 Pandemic

The first research question sought to establish the relationship between COVID-19 conspiracy theories and the uptake of COVID-19 preventive behaviors (messaging and vaccines). This paper shows that the rating of conspiracy theories was moderate and participants had a low perception of their susceptibility to getting infected, they were very conversant with how the COVID-19 virus spreads and could be controlled.

This study differs from that of Borges and Bryne (2022) which indicated no correlation between an individual's perception of risk and knowledge of COVID-19. There was a negative correlation between family size and conspiracy beliefs. When the conspiracy belief levels were high the family size was small and when the family was big the conspiracy belief levels were low.

The second hypothesis stated that there was a relationship between conspiracy beliefs and the uptake of COVID-19 preventive behaviors. This relationship was negative. The study by Ferrer and Klein (2015) alluded to this relationship could be negative, positive or non-existent.

Radio Content and Misconceptions of COVID-19 Pandemic

The second research question sought to determine whether the radio content enabled clear misconceptions of the COVID-19 pandemic. A good proportion of participants interviewed, listened to SIFA FM at least three times a week and they relied on radio more than TV and least on social media for COVID-19 updates. In some studies, YouTube and Facebook were associated with high levels of Conspiracy theories (Borges & Bryne, 2022). This indicates that radio communication was a major source of news to this community.

However, more knowledge of COVID-19 information did not influence their perceptions of conspiracy theories. In Borges and Bryne (2022) they did not find an association between risk perception and knowledge of COVID-19. This community had conspiracy theories regarding the origin and purpose of COVID-19 that powerful nations used for economic, political and population control which agrees with Uscinski and Enders (2020), whose study indicated conspiracy theories were manufactured in the laboratory for strategic reasons. Participants knew how the disease spread mainly due to a lack of adherence to COVID-19 protocols or contact with a sick person. A good proportion showed that SIFA FM emphasized preventive measures using songs, radio drama,

advertisements talk shows, poetry and scriptures broadcasted in their native languages similar to strategies used in Okoth's (2020) study.

There was no mention of demystifying the conspiracy theories that were prevalent there which agrees with Hornik et al., (2020) which emphasized focus on preventive behaviors rather than demystifying conspiracy theories. The people viewed the radio as a source of authentic information due to consistency with the Ministry of Health protocols and other news outlets. Others held high regard for SIFA FM station due to its religious affiliation and it could relate to them in their native language. A similar study done in India showed people regarded the radio station as an authentic source of information and relied on COVID-19 information (Pandit & Kandpal, 2020).

Beliefs in COVID-19 Prevention Behaviors and Influence of Uptake of COVID-19 Interventions

The third question sought to find out if the belief in the benefit of COVID-19 preventive behaviors could influence the uptake of COVID-19 interventions. The people took a high level of preventive measures (behaviors) against COVID-19 infection. There was a negative correlation between uptake of COVID-19 preventive measures and the susceptibility to contracting COVID-19. This means that those people who took high levels of protective behavior had a lower perception of contracting COVID-19. The results showed there was a statistical difference regarding uptake of COVID-19 measures regarding: i) marriage (single and married); ii) education (secondary and below and post-secondary education) iii) location (Voi and Marsabit) but not gender. In Bwire (2020) women were highly receptive to protective behaviors, unlike men. This implied participants' socioeconomic and demographic factors were influenced differently, the uptake of preventive COVID-19 behaviors and the population was not homogeneous.

The first hypothesis was also supported, it stated that there was a relationship between susceptibility and uptake of preventive behavior and this relationship was negative (kind of contradictory) which agrees with Bierwiaczonek et al., (2020) study as conspiracy theories decreased, preventive measures increased. However, the qualitative results gave a different scenario. When asked to explain the extent to which they were susceptible to the disease, the qualitative results showed more of a 50-50 chance, 50% had a low rating, if they kept the protocols and others if they trusted in God. Others generally felt they had a low chance. The other 50% saw the chance was high if they failed to keep the protocols, they were older, attended public gatherings, or came in contact with contaminated surfaces.

The respondents were asked whether they would attend the hospital if they had flu-like symptoms and 26% would wait for some time or were unwilling to visit the hospital. The same hesitancy played out in the uptake of vaccines. This hesitancy was also witnessed in (Bangalee & Bangalee, 2021; Borges & Byrne, 2022) study for almost similar reasons and the fact that it was for the most vulnerable groups. When people perceive themselves less likely to be susceptible to COVID-19 infection, it may undermine the preventive measures advocated.

Limitation of the Study

The study used self-reported measures and questions that may suffer from socio-desirability tendencies. More longitudinal studies are required to measure whether the acquired behavior is sustained over time**.**

Contribution to Theory

Conspiracies are never the same across cultures even for the same pandemic, each culture may have its explanations. These conspiracy theories impact different groups of people differently.

Contribution to Practice

The population is not homogeneous regarding their perception of risk/susceptibility to COVID-19 and uptake of preventive measures. Some are ready to take preventive measures and even go to the hospital and get vaccinated; some would require more time to decide; and others are unwilling. Each group can be identified by its communication messaging.

Contribution to Further Research

Further research could seek to find out if personality traits influence the uptake of preventive behaviors. Another area is socioeconomic and cultural factors and how they influenced COVID-19 preventive behaviors.

Conclusion

The conspiracy theory has been attributed to different health behavior outcomes. In this paper, the study explored how sources of conspiracy beliefs and perception of susceptibility to COVID-19 among other reasons influence uptake of COVID-19 behaviors. The results showed a high uptake of preventive behaviors, a low perception to susceptible of COVID-19, a high percentage of participants seeking medical attention and a moderate uptake of vaccines. Different groups of people have different levels of susceptibility and preventive uptake behaviors.

References

Ahmed W., Vidal-Alaball J., Downing J., Seguí F. L. (2020). COVID-19 and the 5G conspiracy theory: Social network analysis of Twitter data. *Journal of Medical Internet Research*, 22(5), e19458.

Allington, D., Duffy, B., Wessely, S., Dhavan, N., & Rubin, J. (2020). Health-protective behaviour, social media usage, and conspiracy belief during the COVID-19 public health emergency. *Psychological Medicine*, 1-7.

Bangalee, A., & Bangalee, V. (2021). Fake news and fallacies: Exploring vaccine hesitancy in South Africa. *South African Family Practice*, *63*(4).

Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioral science to support COVID-19 pandemic response. *Nature Human Behaviour*, *4*(5), 460-471.

Bierwiaczonek, K., Kunst, J. R., & Pich, O. (2020). Belief in COVID-19 conspiracy theories reduces social distancing over time. *Applied Psychology: Health and Well‑Being*, *12*(4), 1270-1285.

Borges, J., & Byrne, M. (2022). Investigating COVID-19 risk perception and preventive behaviours in third-level students in Ireland. *Acta Psychological*, *224*, 103535.

Bruns A., Harrington S., Hurcombe E. (2020). "Corona? 5G? Or both?" The dynamics of COVID-19/5G conspiracy theories on Facebook. *Media International Australia*, 177(1), 12–29.

Bwire, G. M. (2020). Coronavirus: why men are more vulnerable to Covid-19 than women? *SN Comprehensive Clinical Medicine*, *2*(7), 874-876.

Chamegere, E. (2021). Misinformation and conspiracy theories on Covid-19 pandemic: the Kenyan perspective. *International Journal of Research and Analytical Reviews (IJRAR)*.

Douglas, K. M., Uscinski, J. E., Sutton, R. M., Cichocka, A., Nefes, T., Ang, C. S., & Deravi, F. (2019). Understanding conspiracy theories. *Political Psychology*, *40*, 3-35.

Douglas, K. M. (2021). COVID-19 conspiracy theories. *Group Processes & Intergroup Relations*, *24*(2), 270-275.

Enders, A. M., Uscinski, J., Klofstad, C., & Stoler, J. (2022). On the relationship between conspiracy theory beliefs, misinformation, and vaccine hesitancy. *Plos one*, *17*(10), e0276082.

Gagliardone, I., Diepeveen, S., Findlay, K., Olaniran, S., Pohjonen, M., & Tallam, E. (2021). Demystifying the COVID-19 infodemic: Conspiracies, context, and the agency of users. *Social Media+ Society*, *7*(3), 20563051211044233.

Havey N. F. (2020). Partisan public health: How does political ideology influence support for COVID-19 related misinformation? *Journal of Computational Social Science*, 3(2), 319–342.

Holsti, O. R. (1969). Content analysis for the social sciences and humanities. *Reading. MA: Addison-Wesley (content analysis)*.

Hornik, R., Kikut, A., Jesch, E., Woko, C., Siegel, L., & Kim, K. (2020). Association of COVID-19 Misinformation with Face Mask Wearing and Social Distancing in a Nationally Representative US Sample. *Health Communication*, *36*(1), 6-14.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277-1288.

Okoth, D. O. (June, 2020). *Radio and pandemics: Covid-19 I East Africa: How community and vernacular radio is influencing social and behaviour change.* KAS Media Africa. https//www.kas.de/documents/285576/285625/Radio+and+pandemic+-+COVID-19in+East+Africa.pdf

Pandit, M., & Kandpal, L. (2020). Radio as a tool for creating awareness during COVID-19. *Dogo Rangsang Research Journal, 10(6).* Retrieved from http://www.drsrjournal.com/no_4_june_20/18.pdf

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, *34*(1), 8-12.

SIFA FM. (n.d.) About SIFA FM. http://www.sifafm.co.ke/
World health Organization. (n.d). Advice for the public: Coronavirus disease (COVID-19). Accessed on May 31, 2022. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

Skowronek, D., & Duerr, L. (2009). The convenience of nonprobability: Survey strategies for small academic libraries. *College & Research Libraries News*, *70*(7), 412-415.

Soares, P., Rocha, J. V., Moniz, M., Gama, A., Laires, P. A., Pedro, A. R., ... & Nunes, C. (2021). Factors associated with COVID-19 vaccine hesitancy. *Vaccines*, *9*(3), 300.

Uscinski, J.E., & Enders, A.M. (2020, 30 April). The Coronavirus conspiracy boom. The Atlantic. Retrieved from https://www.theatlantic.com/health/archive/2020/04/what-can-coronavirus-te ll-us-about-conspiracy-theories/610894/

Van, Baven. J. J., Baicker, K., Boggio, P. S., Valerio, C., Aleksandra, C., Mina, C., ... & Robb, W. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, *4*(5), 460-471.

Van Prooijen, J. W., & Douglas, K. M. (2018). Belief in conspiracy theories: Basic principles of an emerging research domain. *European Journal of Social Psychology*, *48*(7), 897-908.

Wood, M. J., Douglas, K. M., & Sutton, R. M. (2012). Dead and alive: Beliefs in contradictory conspiracy theories. *Social Psychological and Personality Science*, 3(6), 767–773. https://doi.org/10.1177/1948550611434786

World Health Organization. (n.d.). Advice for the public: Coronavirus disease (COVID-19). Accessed on May 31, 2022. https://www.who.int/emergencies/diseases/novel-   coronavirus-2019/advice-for-public