Public health promotion of COVID-19 vaccination to rural consumers: synthesising the role of social media and religious belief systems

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Abstract

Purpose – The main purpose of the study was to synthesise the role of COVID-19 social media messages and indigenous religious beliefs on public health promotion initiatives among rural consumers in Zimbabwe.

Design/methodology/approach – A qualitative approach was adopted. Population consisting of 15 interviews and six focus groups was purposively sampled from Manicaland, Mashonaland Central and Masvingo provinces in Zimbabwe. A thematic approach was used to present and analyse the data.

Findings – Rural consumers believed WhatsApp messages posted by people whom they know or influential personnel like health workers. Credibility of WhatsApp messages was enhanced through its ability to send videos and audios. Teachings and indoctrination by indigenous churches and misinformation were found to be an impediment in believing COVID-19 WhatsApp messages and vaccination by rural consumers. Faith healers in indigenous churches used various practices and artefacts like holy water, stone pebbles, clay pots, flags and wooden rods to pray and treat patients suffering from COVID-19 and other ailments.

Practical implications – Social media messages, religious teachings and indoctrination may be a hindrance to rural consumers in adopting government public health promotion initiatives; hence, public health professionals need prior emic understanding and co-option of local leadership in vaccination campaigns.

Originality/value – This study outstretches the theoretical landscape in consumer behaviour and also practical contribution to health practitioners and marketers on breaking indigenous religious barriers and

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social media misconceptions on vaccination uptake through promotional strategies earmarked for rural consumers.

Keywords Public health promotion, COVID-19 vaccination, Rural consumers, Social media, WhatsApp, Artefacts indigenous religious knowledge systems

Paper type Research paper

1. Introduction

Zimbabwe has a low COVID-19 vaccination uptake of 24.1% (World Health Organization, 2022), which is far below the world average vaccination uptake of 58%. A closer analysis of Zimbabwe population reveals that 67.755% of the population is made up of rural dwellers (Bank, 2020). Any efforts to improve COVID-19 vaccination uptake which excludes the rural population will not yield significant improvement in vaccination in the country.

However, the rural consumer has been least understood in terms of their behaviour (Jaravaza and Saruchera, 2021) especially the cultural factors as underlying catalysts or inhibitors to COVID-19 vaccination. Social media as a fast-growing technology, whose pervasiveness is also evident even in subsistence market places, is a fundamental topic in rural health communication. Whereas Taylor (2013) included "new approaches in social media" as hot topics way back in 2013, the diffusion of such innovations has not been rapid to render the topic archaic in recent times. Actually, this study focused on WhatsApp as the social media which has at least been adopted in rural markets of Sub-Saharan Africa. Studies have noted a growing acceptance and reliance on social media by Zimbabwean consumers, with 52.3% getting news from social media (Sengere, 2018). Zimbabwe has an approximately 5.2 million WhatsApp users, whereas no other social media has users exceeding a million users. WhatsApp is the predominant social media platform used by most Zimbabweans (Mugari, 2020).

The acceptance or rejection of COVID-19 vaccination information conveyed through WhatsApp could be influenced by recipients' religious beliefs. Religious knowledge is based on fundamental questions on the essence of living and so it is crucial on how people react to pandemics and acceptance of modern vaccination against such diseases. The importation of Western religious knowledge has created a fertile battle ground for syncretism with African indigenous religious knowledge systems (Moyo, 2013). Notwithstanding the growing conflicts between these religious systems, rural consumers largely embrace indigenous religious knowledge systems (Moyo, 2013). This study also aimed to document specific indigenous religious knowledge systems relating to COVID-19 pandemic and vaccination.

The sources of information, namely, WhatsApp messages and Indigenous religious knowledge systems depict a cobweb. There has been a plethora of social media misconceptions on COVID-19 vaccination (Tabong and Segtub, 2021) and these might have been accessed as well by rural consumers. In this study, we aimed at establishing qualitatively, how these WhatsApp messages were viewed by rural consumers. WhatsApp messages were then juxtaposed together with indigenous religious knowledge systems on COVID-19 vaccination. The following research questions are to be addressed in this study:

RQ1. To what extent were WhatsApp messages on COVID-19 vaccination compatible with rural consumers?

RQ2. What are indigenous religious beliefs with regard to COVID-19 and its vaccination?

The rest of the article is structured as follows; the next section is on theoretical review and main constructs of the study, followed by the methodology used. Findings of the study and discussions are presented, culminating in managerial implications, limitations and areas for further study.

2. Literature review

The literature review discusses the aspects of heuristic-systematic model (HSM) which are relevant to the study. The elements of social media and indigenous religious churches pertinent to the research questions are analysed in the following section.

2.1 Heuristic-systematic model

The overarching theory of the study was the HSM. The HSM is a dual processing model which was propounded by Chen and Chaiken (1999). The model distinguished between two separate routes followed by recipients when analysing persuasive advertising. Systematic processing:

> [. . .] involves attempts to thoroughly understand any available information through careful attention, deep thinking and intensive reasoning whereas heuristic processing involves focusing on salient and easily comprehended cues that activate well-learned judgemental shortcuts (Chaiken and Ledgerwood, 2012, p. 246).

Therefore, systematic processing gives a person more confidence, takes more effort and time to be done. To the contrary, heuristic processing is prompt, efficient and takes less effort, but it is devoid of confidence in the decision made (Chen and Chaiken, 1999; Todorov *et al.*, 2002). Where recipients are illiterate and unable to comprehend the WhatsApp messages or advertisements and also if the message receiver has low motivation on the message, the receiver would take heuristic processing route. Therefore, minimum motivation and low cognitive resources make it imperative to embark on heuristic processing. Message receivers who have high motivation and high cognitive resources will engage in systematic processing of information. Chen and Chaiken (1999) identified consensus and expert heuristics. Consensus heuristics occurs when attitude change after seeing and/or hearing the WhatsApp message to make a decision largely based on following the majority in a bandwagon trend(Nadeau *et al.*, 1993). In an African rural setting, the rationale can be traced from communalism and Ubuntu collective norms (Shutte, 2001). Expert heuristics relies on the recommendations given by experts such as a registered state nurse working at rural clinics, a visiting medical doctor and rural health officers and so on, such that there is no need to analyse the COVID-19 vaccination WhatsApp message/advertisement in a detailed manner. There is also message length heuristic, where a long WhatsApp message is viewed to be loaded with valid arguments, so recipients will not really listen to the message.

The extent to which heuristic and systematic processes interact dynamically (co-occurrence hypotheses) were studied closely to give rise to several hypotheses (Bohner and Schwarz, 1993; Chen and Chaiken, 1999). The hypotheses were: additivity hypothesis, attenuation hypothesis, bias hypothesis and contrast hypothesis. Additivity hypothesis occurs when both heuristic and systematic processes separately affect attitudes (Chen and Chaiken, 1999). The two processes would not be in conflict, for instance, when a COVID-19 expert or professional such as a nurse/doctor presents a weak or less factual argument on vaccination. There is also the attenuation hypothesis which arises when a message receiver gets more information to propel systematic processing; any other effects relating to heuristic processing are eclipsed (Chen and Chaiken, 1999). For instance, a detailed understanding by rural consumers of the benefits of COVID-19 vaccination implies that seeing majority of

people not taking the jab will not influence them to change their attitude. The HSM also alluded to the bias hypothesis which occurs when a prior exposure to a heuristic cue information influence subsequent systematic processing with an inclination or bias to making a judgement in congruence with the initial heuristic cue information (Chen and Chaiken, 1999). For instance, if a rural consumer is exposed to a high credibility health professional advocating for vaccination (heuristic cue information), any ambiguous vaccination information requiring systematic processing will be judged in line with the earlier heuristic cue source whilst a low credibility professional heuristic cue may not elicit the same. Contrast hypothesis occurs when the first option between heuristic and systematic processing fails, such that there is need to contrast the two processing routes (Bohner *et al.*, 2002). Hence, if the initial attitude was pro-vaccination, which was the basis of taking up a vaccination jab but the consumer had negative side effects, then negative expectancies would be revisited. Maheswaran and Chaiken (1991) also included the sufficiency principle, where a person requires sufficient confidence to make a judgment and change attitude. The sufficiency threshold is the desired confidence which is compared with actual confidence. Systematic processing is required when there is a large difference between sufficiency threshold and actual confidence. Where the gap between sufficiency threshold and actual confidence is narrow, then heuristic processing fits very well.

According to the HSM, there are several motives which determine the type of processing. Ego defence is a motive where the message receiver has a tendency to ignore messages that do not tally with their desired views or egocentric interests (Knight Lapinski and Boster, 2001). There is also impression motive, where people accept or reject certain messages so as to fit in a desired group of significant others (Chaiken *et al.*, 1996; Nienhuis *et al.*, 2001).

2.2 Cognitive dissonance theory

Closely related to the current study was the cognitive dissonance theory which was developed by Leon Festinger in 1957 (Harmon-Jones and Mills, 2019). Briefly, the theory referred to people's reactions to conflicting attitudes, beliefs and behaviour (Garas *et al.*, 2023). The theory articulates that people desire to have harmony between their attitudes and beliefs, on one side and ultimate behaviour on the other side (Barta *et al.*, 2023). Disharmony between these would cause dissonance. The ideal state are two cognitions which tally with each other, they are consonant (Harmon-Jones and Mills, 2019). To the contrary, two opposing cognitions are dissonant (Harmon-Jones and Harmon-Jones, 2002). The uncomfortable dissonance could be reduced by changing current beliefs, changing behaviour or changing the perception of the person to the behaviour (Garas *et al.*, 2023). The belief-disconfirmation paradigm of the cognitive dissonance theory noted that people experience increased dissonance when information they have been exposed to is in conflict with their beliefs (Gawronski *et al.*, 2014). In this study, indigenous religious knowledge systems and COVID 19 vaccination messages were psychologically juxtaposed by rural consumers. The forced compliance, recently referred to as induced-compliance paradigm (Harmon-Jones and Mills, 2019) viewed dissonance arising from behaviour which has been prompted by coercive machinations (Harmon-Jones and Harmon-Jones, 2002). Such behaviour would be inconsistent with prior beliefs or attitudes (Harmon-Jones and Harmon-Jones, 2002).

2.3 Social media

There are several social media tools in use, but their prevalence differ depending on target consumers. Ahad and Lim (2014) noted the pervasiveness of WhatsApp as the most popular communication sending real time messages and videos. However, there is dearth in research

on WhatsApp related studies especially in marginalised communities(Mars and Scott, 2016). There is a marked difference in social media usage between urbanites and rural consumers (Venkatesh and Sykes, 2013). WhatsApp is a "communication app facilitating the exchange of instant messages, pictures, videos and voice calls via an internet connection, which has been installed on smartphones"(Montag *et al.*, 2015, p. 2). WhatsApp application is ubiquitous in subsistence marketplaces of Sub-Saharan Africa, South Asia and South America (Koomson, 2019). The application has been used in low-income markets due to availability of low cost smartphones which are compatible with the application and low-cost WhatsApp data bundles. Koomson (2019) highlighted the advantages of the application to subsistence marketplaces consumers as: a simple and reliable method to send text messages, easy to form WhatsApp groups which enhance networking, easy to make traditional voice calls, video calls, videos, pictures and documents. Moreso, WhatsApp can send audios, which removes the need to type (Dar *et al.*, 2017), a boon to semi-literate rural consumers.

2.4 Indigenous religious knowledge systems

Religion can be defined as a cultural system of shared beliefs, rituals and general way of life (Harrison, 2006). Beliefs includes, inter alia, people's views and acceptance of the existence of a supernatural being. Hence, African traditional beliefs are an integral component of indigenous beliefs. For this study, religion excludes the purely African traditional beliefs but includes the exotic Christian and Islamic religions as well as a blend of these exotic religions and African traditional beliefs contextualised by Africans as indigenous churches.

The indigenisation of Christianity removed extreme Western practices in churches and blended them with local traditional beliefs. Tutu (1978) argued that the blend would make Christianity to be accepted as, "our own", not a Western religion. Africans in Sub-Sahara, usually have dual membership, by being a church member of a modern Christian church at the same time participating in traditional religious rituals, consulting traditional healers as well as keeping some traditional paraphernalia secretly (Chavunduka, 2001). Some African indigenous churches are active as custodians of African traditional religion. The churches adopted some Christian ideology and practices and blend them with African traditional beliefs (Humbe, 2020). Hence, church prophets have replaced spirit mediums and traditional healers especially in apostolic and Zionist churches (Chitando *et al.*, 2014; Magezi and Banda, 2017). The rural consumer, who has such blended religious beliefs, receives WhatsApp messages which are for and against COVID-19 vaccination. The study sought to untangle the resultant outcomes of such synthesis.

3. Methods and materials

3.1 Research paradigm

Interpretivism was the paradigmatic positioning of the study as it accommodates multiple perspectives (Addae and Quan-Baffoour, 2015; Pham, 2018) of rural consumers. Data was generated from three provinces (Mashonaland Central [MAC], Manicaland [MAN] and Masvingo [MASV]) using open-ended interviews and focus group discussions (FGD).

3.2 Ethical issues

Permission from the Ministry of Rural Development, Promotion and Preservation of National Culture and Heritage (MoRDPPNCH) was sought to get access to rural consumers through Village Heads. In addition, permission was sought from the Village Heads and the participants. The researchers were also granted permission to carry out the research from Bindura University of Science Education (BUSE) ethics committee, where the leading author is affiliated. Informed consent forms for interviews and FGD were read and signed by all

research participants before any interview or FGD were held. The informed consent forms were written in both English and local language, The participants were given an option to read and sign the letter of consent in their preferred language. The informed consent form explained the nature and purpose of the research. For anonymity of research participants, alpha-numeric codes were used for example MACF1, means Mashonaland Central FGD participant 1. The codes helped to identify the province where the contribution was made, the instrument used to collect the data as well as the participant who made the contribution.

3.3 Selection of participants

Convenience sampling was adopted to select the three provinces basing on accessibility and a need to reduce costs as suggested by Houser (2015) and Risiro (2020). Purposive sampling was used to select research participants. The Village Heads assisted in identifying congregants from indigenous churches and villagers who had cell phones to access social media. Congregants from indigenous churches were selected as they would provide rich information on their religious beliefs regarding COVID-19 vaccination. It was also vital to gather data from participants who have access to social media. Cohen *et al.* (2018) advocates the use of purposive sampling as this allows the selection of knowledgeable participants about an issue under study. Patton (2015, p. 298) considered the process of identifying "information rich key informants or critical cases as snowballing". Fifteen individual interviews and six FGD were conducted to generate data using open ended questions. Open ended questions allowed the researchers to probe in-depth responses about the uptake of COVID-19 vaccination by rural consumers. Data reached saturation as the 15 interviewees were information rich participants. Patton (2015, p.14) observed that, "open ended questions and probes yield in-depth responses about people's experiences, feelings and knowledge". The six FGD had membership each averaging four–six participants. Interviews and FGD lasted between 30 and 35 min. Remler and Van Ryzin (2015) found that at least two–three different focus groups are good enough to produce credible findings.

3.4 Data presentation

Field notes and audio recordings were used to capture participants' responses. Data generated was transcribed, coded and grouped into main and sub-themes as guided by Creswell (2014). Two independent experts conducted thematic analysis resulting in the two broad themes adopted in data presentation and analysis for the study.

3.5 Data storage and protection

Data collected was stored and preserved in both digital and non-digital formats. Transcriptions were saved in folders and stored in different computers and external hard drives in the University library (BUSE).

4. Results

The results are presented using a thematic approach. Theme 1 addresses *RQ1* and theme 2 answers *RQ2*.

4.1 Theme 1: COVID-19 vaccination WhatsApp messages compatibility with rural consumers

This section presents the findings on how WhatsApp messages impacted upon COVID-19 vaccination and uptake by rural consumers.

4.1.1 Credibility of WhatsApp messages source on COVID-19 vaccination. Acceptance of WhatsApp messages on COVID-19 vaccination can be a result of rural consumers believing in WhatsApp messages as illustrated by the following excerpts:

> **MASVI2:** I believed in WhatsApp messages than I would do with radio messages on COVID-19 vaccination adverts because I received the WhatsApp messages from people whom I know and trust.

> **MANF1**: I trusted WhatsApp messages on COVID-19 because the senders would even include audios and videos of some people who are ill, being transported to the clinic or who are dead. These images were so frightening and I thought it was a good idea to be vaccinated.

Credibility of information source was very important to rural consumers. Excerpts from MASV12, suggests that rural consumers believed in WhatsApp messages on COVID-19 vaccination because the messages originated from people whom they knew and trust such as friends and relatives. The form in which the messages reach the rural consumers is also critical in determining acceptance of COVID-19 messages. The rural consumers found WhatsApp messages on COVID −19 patients and deaths coming in form of images and audios as credible and trustworthy.

4.1.2 Impact of personal experiences on COVID-19 vaccination. Rural consumers took time to accept and believe in COVID-19 messages and its vaccination as expressed by one of the FG participants:

> **MACF7**: At first, I did not believe in WhatsApp messages concerning the issue of COVID-19 and its vaccination. I thought people were just dying from common illnesses, however, through witnessing close relatives and friends who were dying and buried within the community by health workers, I started to believe and got vaccinated at the clinic. (MACF7).

Acceptance of WhatsApp messages on a new drug and/or its vaccination by rural consumers is a gradual process that takes time. MACF7 only believed in COVID-19 and getting vaccinated after experiencing relatives and friends who were dying and were buried in the community. The action by MACF7 suggests that personal experiences about a pandemic/drug/vaccination can influence rural consumers to get vaccinated. Further, MACF7 embraced COVID-19 vaccination after observing health workers taking part in the burial of COVID-19 victims. This suggest that the involvement of expert personnel could persuade rural consumers to accept WhatsApp messages and get vaccinated.

4.1.3 Accessibility of WhatsApp messages by rural consumers. Some rural consumers (MASV14 and MAC16) preferred the use of WhatsApp messages to broadcast information on pandemics like COVID-19 because of a variety of advantages as elaborated below:

> **MASVI4:** WhatsApp messages are instant and accessible even in those areas where radio transmission is poor. As such it was easy for us to receive information on COVID-19. Our local councilor had created a group in the ward to keep us informed about COVID-19. Through the group we were informed of places where we were supposed to go and get vaccinated.

> **MACI6**. WhatsApp messages were crucial in getting information about COVID-19 because WhatsApp bundles are cheaper to buy. We could even share the messages as a family and with other community members as we meet at water points to fetch water.

> **MACF7**: I did not receive WhatsApp messages directly because the small phone (chimbudzi) I have cannot receive or sent WhatsApp messages. I cannot afford to buy one.

To rural consumers, access to COVID-19 information and vaccination was dependent on cost of media and speed of information. MASVI14 and MACI6 acknowledge that they were

able to receive information on COVID-19 and its vaccination because WhatsApp messages were instant, accessible and less costly. WhatsApp is user friendly such that the local councillor was able to create a WhatsApp group to broadcast information on COVID-19 and its vaccination. Furthermore, rural consumers with cell phones were able to share COVID-19 information at gathering points like water collection points. However, lack of access to cell phones that can download WhatsApp may be an impediment to rural consumers on accessing information on COVID-19 and its vaccination.

4.1.4 Content validity of WhatsApp messages on COVID-19 vaccination. Misinformation about COVID-19 and its vaccination may be an impediment to rural consumers' uptake of COVID-19 vaccination as illustrated by the following excerpts:

> **MASVF5:** I resisted being vaccinated because of the information I received from WhatsApp messages. Some were posting information that if you get vaccinated one would die within 2 years and some messages were that if you get vaccinated you become infertile and fail to bear children.

> **MACF8**: Some WhatsApp messages were saying that the vaccines were being experimented on Africans and these have serious side effects such as bearing children with disability.

> **MANI9**: WhatsApp messages posted on our group pointed out that COVID-19 was produced in the laboratory by some developed nations in order to wipe off Africans and take over their resources. So, at first, I could not get vaccinated until the Government threatened that those not vaccinated would not be allowed at work places, board public transport or shopping in public supermarkets. I did not have any option except getting vaccinated.

Rural consumers may resist COVID-19 vaccination if they are misinformed about the vaccine. Participant, MASVF5 resisted being vaccinated after being misinformed that getting vaccinated can cause death and infertility to an individual. There were also perceived side effects of COVID-19 vaccination, such as bearing children with disability, which was a great impediment to rural uptake of COVID-19 vaccine (MACF8). Further, MANI19 thought that COVID-19 vaccination was a grand plan by some developed countries to kill Africans to exploit African resources.

Government declarations/pronouncements against those who resist COVID-19 vaccination can compel rural consumers to accept vaccination. Some rural consumers such as MANI9, were only vaccinated after the government had declared that those people who were not vaccinated were not going to access public transport, public shops neither were they going to be accepted at work places.

4.2 Theme 2: Influence of indigenous churches religious beliefs on COVID-19 vaccination

The views, teachings and beliefs of some indigenous church leaders and congregants in indigenous churches in Zimbabwe concerning COVID-19 vaccination are discussed in this section. The first part focuses on the teachings, beliefs and actions that discourage congregants to get vaccinated against COVID-19. This is followed by presentation of teachings and beliefs that promote COVID-19 vaccination within rural communities.

4.2.1 Anti-COVID-19 vaccination religious teachings and indoctrination

4.2.1.1 Prohibition of modern medical treatment. One congregant (MACI10) had this to say regarding COVID-19 vaccination:

> I grew up in a church that does not allow its congregants to go to the clinic to seek treatment or getting vaccinated. It was therefore difficult for me to get COVID-19 vaccination.

MASVI13 added:

> If you fall ill and you go to seek treatment at a clinic or hospital, the church elders are going to hold a disciplinary hearing in which you can be suspended for a lengthy period from attending church service. If you continue not to follow the church's teaching you can be excommunicated by church elders.

The excerpts (MACI10 and MASVI13) shows that some indigenous church teachings and indoctrination are a hindrance to rural consumers uptake of COVID-19 information and vaccination. Some Churches do not allow their congregants to get vaccinated or treated at a hospital. Any disobedience by a congregant to the church teachings would result in disciplinary hearing or excommunication (MASVI13).

4.2.1.2 Belief in satanism: an impediment to COVID-19 vaccination. Some rural consumers associated COVID-19 vaccination with satanism as revealed by MASVI13:

> Our Church beliefs associated COVID-19 vaccination with satanism. It was like one was complying with the dictates of satan to be vaccinated. I was only vaccinated after management from our work place requested COVID-19 vaccination cards as a pre-condition to serve customers at work.

A belief that COVID-19 vaccination was associated with satanism in some indigenous churches was an impediment to COVID-19 vaccination by rural consumers. The vaccination was associated with the "the mark of the beast" (a symbol that a person is a follower of Satan) which was against church teachings. Pressure from work place in which management required every worker to be vaccinated compelled some indigenous church's congregants to get vaccinated (MASVI13).

4.2.1.3 Belief in pandemics as punishment from god. MASVF15 regarded COVID-19 as a punishment from God as illustrated:

> There is no COVID, illnesses are a punishment from God. People are disobeying the teachings of Jesus Christ, there is incest, drug abuse, rapes and so on. God is not pleased with such wrong doings. Hence COVID-19 is a punishment from God who wants people to repent and follow Jesus' teachings.

Beliefs that pandemics such as COVID-19 are a punishment from God have been a hindrance to rural consumers' acceptance COVID-19 information and vaccination uptake. MASVF15 strongly believed that COVID-19 pandemic emanated from God chastising people for engaging in societal ills like drug abuse and rape which angered God. MASVF15 was of the view that repentance was the solution to the treatment of COVID-19 rather than getting vaccinated or getting treatment from the hospitals.

4.2.1.4 Influence of indigenous religious church practices on COVID-19 vaccination. The congregants of indigenous churches believe in the use prayer sessions, holy water and various religious artifacts and symbols to treat COVID-19 is explained in the following section.

4.2.1.4.1 Prayer sessions and holy water. The following excerpts demonstrate how some congregants of indigenous churches in Zimbabwe believed on COVID-19 treatment:

> MASVF11: When we get ill, we go to the Prophet at the shrine who would pray for us and give us holy water to drink or bath in order to exorcise the illness demon.

> MASVF8 added: At the end of each prayer session on Saturdays, those with various ailments like COVID-19 would be asked to come forward and be prayed for by the Prophet or Priest. The sick would get healed; hence there is no need to get vaccinated against COVID-19.

> MAN14 explained: If I fall ill from COVID-19 and will just use holy water (mvura yemuteuro) to drink, steaming and bathing and in the end, I will be healed, so I didn't see any reason of getting vaccinated.

The excerpts show that within some indigenous churches, there is a strong belief that prophets can treat COVID-19 as such, rural consumers find no reason to seek treatment from hospitals or getting vaccinated against COVID-19. The holy water (*mvura yemuteuro*) is used as a medium for the healing process by the prophet. The excerpts also suggest that among some of the indigenous churches the prophet or priest is the one who has powers to pray for the congregants. The excerpts further reveal that there is an attachment of power on the water administered to the COVID-19 patient. The water is used for drinking, bathing and steaming to treat the pandemic.

4.2.1.4.2 Effect of indigenous church artifacts and symbols on COVID-19 vaccination. Some indigenous churches in Zimbabwe use various artifacts and symbols in their healing for ailments and pandemics such as COVID-19. Participants explained in the following excerpts:

> MASVF15: During the scourge of COVID-19 our prophet healers, would give us some stone pebbles kept in clay pots (mbiya) as well as a cross made from reeds. We were instructed to put the cross on the entrance to homestead and on the main door to block evil spirits which cause COVID-19 from entering our home. The prophet then offers prayers so that we get protected from all sorts of illnesses.

> MASVF16: Illnesses such as COVID-19 are caused by evil spirits casted on individuals by witches, as leaders of the church and healers we cast off these evil spirits that can cause illnesses like COVID-19 using our holy wooden rods.

> MACI10: In addition, we can use these different flags (red, green, white) to pray for our congregants who suffer from different ailments and those who may be praying for success in their lives for example a red flag is used by prophets to cast evil spirits that causes illness to an individual.

> MACF8: In addition, every Friday we go to secluded places like mountain tops to pray against various misfortunes like COVID-19. In this way we are protected from ailments such as COVID-19.

Most indigenous churches use different artifacts to treat various ailments and pandemics like COVID-19. According to MASVF15, stone pebbles kept in the clay pot are commonly used to fight against pandemics like COVID-19. The prophet/priest would give each congregant some stone pebbles to guard him/her against various ailments and pandemics like COVID-19. Rural consumers in indigenous churches may therefore resist COVID-19 vaccination due to their strong belief in their religious teaching and use of artifacts to protect themselves against pandemics.

Rural consumers from indigenous churches believe that every illness such as COVID is caused by witches who cast evil spirits upon an individual. This makes them not to believe in COVID-19 vaccination and WhatsApp messages encouraging vaccination. Contrary to the idea that people should get vaccinated, they believe in casting away evil spirits that causes illnesses to individuals. The church leaders or prophets casts away the evil spirits that they believe causes COVID-19 using anointed wood rods (MASVF16).

The study revealed that within some indigenous churches, flags of different colours at the shrine (*kirawa*) play particular role towards treatment of various ailments and pandemics like COVID-19. MACI10 revealed that the red flag at the shrine is used to cast away evil spirits by the shrine prophet. Further, congregants of indigenous churches, pray at mountain tops and hills overnight especially on Fridays in an effort to fight against epidemics like COVID-19 thus avoiding vaccination.

4.2.2 Pro-COVID-19 vaccination religious teachings and indoctrination. Congregants were asked their beliefs and teachings regarding COVID-19 information and vaccination.

One indigenous religious leader has this to say:

> God created the heavens and the earth meaning that everything on earth used to develop vaccines was created by God. We therefore encourage our congregants to go to clinics and get vaccinated against COVID-19 or to receive treatment whenever they fall ill to the pandemic. There is nothing evil about getting vaccinated or seeking treatment at the hospital (MASVI2).

Another Church elder (MANI11) collaborated:

> In our Church we believe in the use of holy water, stone pebbles, prayer and fasting in treating COVID-19 and to protect ourselves from the pandemic but we still encourage our members to get vaccinated against COVID-19 and to get treatment from hospitals when one falls ill from COVID-19.

A congregant from one indigenous church explained how health personnel and political leadership influenced church leadership to accept COVID-19 vaccination:

> Originally the church did not even allow congregants to attend schooling, getting formal employment or getting treatment from hospitals. However, local and national political leadership and government officials as well as heath personnel held several workshops to educate and encourage our church leadership to get treatment from hospitals and getting vaccinated. As we speak our church members are now allowed by church leadership to get vaccinated from COVID-19 and other ailments as well as seeking treatment from hospitals (MACF6).

Religious leaders such as MASVI2 believed that there was nothing evil about getting vaccinated against COVID-19 as medicines that manufacture COVID-19 vaccines are produced from the earth's products which were created by God. Indigenous religious churches that share the belief by MASVI2 promote COVID-19 vaccination amongst their congregants as well as encouraging their members to seek treatment from hospitals for various ailments.

The study revealed that, although some indigenous churches adopt various practices to treat/protect themselves from COVID-19 and other ailments they still encourage their members to get vaccinated and seek treatment from hospitals.

It was further established that there has been a paradigm shift in regard to indigenous religious teaching and doctrine on vaccination of ailments like COVID-19 and treatment of such illnesses at hospitals. MACF6 acknowledges that originally their indigenous church leadership could not allow members of the church to get vaccinated, neither attending school nor seeking formal employment. However, the intervention (through education awareness and workshops) by political leadership and government officials like health personnel persuaded church leadership to allow their members to be vaccinated against COVID-19 and other ailments. The finding suggests that government intervention in religious churches may promote good health practices such as vaccination of congregants as well as influencing the church's ideology for the betterment of the community.

5. Discussion of results

5.1 Theme 1: COVID-19 vaccination WhatsApp messages compatibility with rural consumers

Credibility of information source is very important in rural consumers uptake of COVID-19 messages and vaccination. Rural consumers believed in WhatsApp messages on COVID-19 vaccination that originated from people whom they know and trust. Rural consumers found WhatsApp messages in form of images and audios as credible and trustworthy.

These audios, images and relying on people they are acquainted to, confirmed the prevalence of heuristic processing of information by rural consumers as the mastered cues to make decisions (Chaiken and Ledgerwood, 2012). Source of information credibility is very critical in health communication (Zakaria *et al.*, 2020) as this would influence the behaviour of rural consumers.

Rural consumers accept COVID-19 information and its vaccination gradually. The extended time required by rural consumers to adopt vaccination depicts the time consuming systematic processing in the HSM. Personal experiences of people who have suffered or died of COVID-19 can persuade rural consumers to believe in COVID-19 and getting vaccinated. The finding conforms to the health belief model's perceived susceptibility and severity, which was determined by monitoring relatives who were afflicted with COVID-19 (Suess *et al.*, 2022). Further, it has been established that involvement of influential people in educating people about a pandemic like COVID-19 and its vaccination can persuade rural consumers to accept WhatsApp messages and get vaccinated. Similar results were found by Kim and Xie (2017) on a study of cancer patients who observed that health information from medical officers and family members had a great impact on patients.

The study unpacked that rural consumer uptake of COVID-19 information and vaccination is dependent on accessibility, nature of messages and cost of media of information (Ahad and Lim, 2014). The participants (MASVI14 and MACI6) acknowledged that WhatsApp messages were a preferred mode of communication on COVID-19 as it was instant, accessible and less costly, supporting earlier findings from previous studies (Ahad and Lim, 2014; Koomson, 2019). WhatsApp enabled local leadership to broadcast and share information on COVID-19 and its vaccination. Lack of access to cell phones that can download WhatsApp may be an impediment to rural consumers on accessing information on COVID-19 and its vaccination.

Misinformation about COVID-19 and its vaccination may be an impediment to rural consumers' uptake of COVID-19 vaccination. Such misinformation was a source of heightened cognitive dissonance as the two cognitions (Harmon-Jones and Mills, 2019) arising from the pro-vaccination information and assurances would have been contradicted by the misinformation circulating on WhatsApp messages. Participant, MASVF5 resisted being vaccinated after being misinformed that getting vaccinated can cause death and infertility to an individual. These findings confirmed Dzinamarira *et al.* (2021) who noted that a distrust and misinformation about Chinese vaccines reduced the uptake of the vaccines by communities. However, government declarations/pronouncements against those who resist COVID-19 vaccination can compel rural consumers to accept vaccination. These compulsions by the government were a perfect fit to the induced-compliance paradigm of the cognitive dissonance theory (Harmon-Jones and Harmon-Jones, 2002). The government used latent coercive strategies where most national programs made COVID 19 vaccination a prerequisite to rural consumers. Dissonance emanating from these strategies might have been through selective attention to pro-vaccination WhatsApp messages.

5.2 Theme 2: Indigenous religious beliefs on COVID-19 vaccination

The study revealed that some indigenous church teachings and indoctrination are a hindrance to rural consumers' uptake of COVID-19 information and vaccination. These messages were discouraging church members from being vaccinated, hence, contradicting with pro-vaccination WhatsApp messages. The conflicting messages, that is, anti-vaccination teachings from some indigenous churches and pro-vaccination WhatsApp messages gave rise to heightened cognitive dissonance (Harmon-Jones and Mills, 2019) of rural consumers. Some indigenous churches do not allow their congregants to get

vaccinated or treated at a hospital. Any disobedience by a congregant to the church teachings results in disciplinary hearing or excommunication (MASVI13).

The belief that COVID-19 vaccination was associated with satanism in some indigenous churches was an impediment to COVID-19 vaccination by rural consumers, further increasing rural consumers' cognitive dissonance. However, pressure from work place in which management required every worker to be vaccinated compelled some indigenous church congregants to get vaccinated (MASVI13). There was forced compliance as the decision to be vaccinated was imposed on rural consumers. By just doing what other employees were doing at their work place, the consensus heuristics was partly applied (Todorov *et al.*, 2002) and such consensus was a dissonance reduction mechanism. Participants believed that pandemics such as COVID-19 were a punishment from God. Such a belief was a hindrance to rural consumers' uptake on COVID-19 information and vaccination, given the persistent connection of COVID-19 to divine punishment in rural settings.

The belief-disconfirmation paradigm of the cognitive dissonance theory was depicted by the conflict between pro-vaccination messages on WhatsApp and indigenous religious knowledge systems (Rydell and De Houwer, 2014). There is a strong belief among the indigenous churches that prophets treat COVID-19 as such, rural consumers did not find a reason to seek treatment from hospitals or getting vaccinated against COVID-19. The holy water (*mvura yemuteuro*) is used as a medium for the healing process by the prophet. The indigenous churches congregants attach power on the water administered to the COVID-19 patient. The water is used for drinking, bathing and steaming to treat the pandemic. This practice of bathing with holy water, drinking and steaming is common in African traditional religion whereby traditional healers ask their patients to drink, bath and steam herbs in curing various ailments. Musoni (2017) observed that faith healers collected holy water to treat patients from sacred pools.

Indigenous churches in Zimbabwe uses various artifacts and symbols to treat their patients' various ailments and pandemics such as COVID-19. The prophet/priest would give each congregant some stone pebbles and reed-made crosses, kept in a clay pot to guard him/her against various ailments and pandemics. These prescriptive objects serve as cues to rural consumers to take the heuristic processing shortcut (Chaiken and Ledgerwood, 2012) and hence, they may not pay attention to pro-vaccination messages. The practice is associated with African tradition whereby family elders put snuff in clay pots and request the ancestors to protect them against pandemics like COVID-19. Dodo (2014) acknowledges that faith healers from an indigenous church; Johane Masowe Chishanu uses stone pebbles kept in the clay pots to cure various ailments and to treat those with spiritual problems.

Rural consumers from indigenous churches believe that every illness such as COVID is caused by witches who cast evil spirits upon an individual. Mbiti (2015) attributed afflictions, death and natural calamities as punishment from God as a result of their sins. They also attribute diseases such as COVID-19 epidemic to witchcraft. In the African context, ancestral spirits are believed to influence what happens to the living such as drought and diseases (Baker, *et al.*, 2011). This makes congregants from indigenous churches not to believe in COVID-19 vaccination. They believe in church leaders or prophets casting away the evil spirits that may cause COVID-19 using anointed wood rods obtained from water reeds. Rods made out of water weeds are believed to possess water spirits capable of healing ailments like COVID-19. Among the Johane Masowe ye Nyenyedzi, faith healers use different types of rods depending on the purpose. The most common is use of rod carved from wild gardenia (*mutarara*) which is believed to have powers of scaring away witches and evil spirits (Musoni *et al.*, 2020). The finding also conforms with Gumo (2017)

study in Kenya who found that water was used in rituals of marriages, health and purification as it was believed that rivers are dwelling places for spirits. In a study of one indigenous church in Zimbabwe, Musoni (2017) observed that religious leaders collected the holy water from sacred pools like Chinhoyi caves which is believed to have curative powers.

The study further revealed that within some indigenous churches, flags of different colours at the shrine (*kirawa*) play particular role towards treatment of various ailments and pandemics like COVID-19. MACI10 revealed that the red flag at the shrine is used to cast away evil spirits by the shrine prophet. The use of red clothes is commonly put on by traditional healers when treating their patients. Colours have certain meaning in different communities. Gumo (2017) observed that most Kenyans offer black and white animals for sacrificial purposes. In a study of Johane Masowe Chishanu ye Nyenyedzi, Musoni *et al.* (2020) found that the flags are meant to connect with the spiritual world to treat different ailments for example, red flag is used to scare away evil spirits among the patients while white is used to bring fortunes for those in search of jobs.

Further, congregants of indigenous churches, pray at mountain tops and hills overnight especially on Fridays in an effort to fight against epidemics like COVID-19 thus avoiding vaccination. Leon Festinger investigated the effect of belief-disconfirmation on a proselytising group which believed a foretold prophesy; that the whole world was to be engulfed by a flood in 1956 (Harmon-Jones and Mills, 2019). When the flood failed to occur as had been expected, congregants maintained their faith, unperturbed by the none-occurrence of the flood. The behaviour of congregants when the flood failed to occur depicts the behaviour of rural consumers who are committed to their church indoctrination. Just like what Leon Festinger and his associates noted (Harmon-Jones and Mills, 2019), a person in a group maintains their beliefs even if it is clear that their belief has unequivocally been proven to be misplaced. God is believed to manifest himself in the mountains (Mbiti, 2015). In Kenya, the Gikuyu make prayers facing Mount Kenya because they believe God manifest himself in the mountains (Gumo, 2017). The practice of seeking spiritual guidance in high places is common with African traditional religion. Mountain tops are usually used as burial places for Chiefs as such they are associated with ancestral spirits who can bring peace and good health to the community. Traditional ceremonies like rain making *(mukwerere*) are often performed in mountain forest. These traditional ceremonies are done to request the ancestors to provide communities with rain and protection from pandemics. In a study carried out in the Eastern Highlands of Zimbabwe, Risiro (2020) found that traditional ceremonies were performed in sacred forests and mountains to request ancestors for good rains, good health and protection from environmental hazards.

The study unpacked that some indigenous religious leaders promoted vaccination of COVID-19 and other ailments amongst their members as they believed that medicines used to vaccinate people were created by God. Further, indigenous churches integrated their religious beliefs and technological developments in treating COVID-19. The churches among other strategies use holy water, stone pebbles, prayer and fasting as well as getting vaccinated to fight against ailments like COVID-19. The study confirms Humbe (2020) who found that indigenous Christian churches blend some Christian practices with African traditional beliefs in treating patients. Church prophets have replaced spirit mediums and traditional healers especially in apostolic and Zionist churches (Chitando *et al.*, 2014; Magezi and Banda, 2017).

It was observed that political leadership, through workshops and educational campaigns persuaded some indigenous religious churches to allow their congregants to seek treatment at hospitals and get vaccinated against pandemics like COVID-19. Indigenous religious churches are more likely to change their teachings and doctrine if there is influence from

influential people like politicians and health workers. According to the source credibility theory, there are high chances of the audience being convinced or lured to accept a message if the sender is credible (McCroskey and Young, 1981; Rubin *et al.*, 2020).

6. Recommendations

Based on the research findings the research recommends the following:

- Rural consumers' uptake of COVID-19 vaccination and information depends on the credibility of source of information. Influential personnel like health workers are credible in the eyes of the community and could be used by the government to convey information on COVID-19 vaccination to rural communities. Use of highly credible health professionals facilitates a pro-vaccination decision; given ambiguity created by anti-vaccination WhatsApp messages, this is in line with the bias hypothesis (Chen and Chaiken, 1999).
- Vaccination workshops involving rural consumers must be done using vernacular language and all print media must be translated as well. In accordance with the attenuation hypothesis, detailed information and knowledge facilitates systematic processing to make decisions (Chaiken and Ledgerwood, 2012). The sequel to such vaccination workshops may be door-to-door vaccination campaigns to break resistance associated with dealing with people who share the same anti-vaccination faith. Leon Festinger noted on belief-disconfirmation paradigm that isolated individuals can easily accept scientific facts when their belief has been unequivocally proven to be a fallacy (Harmon-Jones and Mills, 2019).
- The government and health service providers should consider the factors that influences rural consumers uptake of COVID-19 vaccination when implementing initiatives to promote public health.
- Media for communication to rural consumers on COVID-19 vaccination should be affordable, accessible and user friendly. WhatsApp messages are cheap and easily accessible and therefore should be used to communicate information on pandemics like COVID-19. Some rural consumers did not have cell phones to use for WhatsApp. The government and local leadership could make use of village communication centres to convey information on COVID-19 and other pandemics to rural consumers.
- Church teachings and indoctrination were found to be a great hindrance to rural consumers' uptake of COVID-19 information and vaccination. The government and local authorities could work together with indigenous religious leaders to convince their congregants to be vaccinated. This can be done through workshops with the assistance of health workers. The use of health workers can also be effective in dispelling misinformation which was found in the study to be an impediment in rural consumers getting vaccinated against COVID-19.

7. Limitations and areas for further studies

- The study was limited to indigenous churches in selected provinces of Zimbabwe. Similar studies could be carried out in conventional/original churches like Roman Catholic and Anglican.
- Future studies could also assess the effect of using vernacular language as compared to English given that some COVID-19 messages circulating in rural areas

were in English. Differences in effectiveness of videos, use of celebrities and politicians to convey messages can also be studied.

- The thrust of our research was to synthesise the role of social media and indigenous religious beliefs on COVID-19 vaccination with the view of conscientizing the government and health providers on how best they can implement effective public health initiative programs like COVID-19 vaccination. The study did not take the statistics of those who were vaccinated/not vaccinated due to listening social media messages. Future studies could focus on the number of people who got vaccinated/not vaccinated by listening or reading messages from social media as well as considering the influence of other communications on the uptake of COVID-19 vaccination by rural consumers.

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