INFLUENCE OF COVID-19 JINGLES ON RURAL DWELLERS' BEHAVIOUR IN OYO STATE, NIGERIA

Badiru, I. O., Ladigbolu, T. A. and Adebayo, A. D.
Department of Agricultural Extension and Rural Development, Faculty of Agriculture, University of Ibadan, Ibadan, Nigeria
Correspondence contact details: bodebadru@gmail.com; adejojutemitope@gmail.com

ABSTRACT
This study assessed rural dwellers' behaviour because of COVID-19 jingles on mode of transmissions and preventive measures in Oyo state. Multi-stage sampling procedure was used in selecting 256 rural dwellers. Data were collected on respondents' COVID-19 jingles' listenership and listening pattern. Knowledge of, attitude to, practice of and constraints to practicing COVID-19 preventive measures were assessed. Data were gathered using interview schedule and analysed using frequency counts, mean, percentages and Pearson Product Moment Correlation at α0.05. Majority (94.9%) listened to COVID-19 jingles while 46.9% listened to the jingles 14-21 times in a week. Overall, a positive behaviour (62.9%), high knowledge (79.7%), favorable attitudes (53.9%) and high practice (54.7%) of COVID-19 preventive measures were recorded among the respondents. One of the constraints limiting the practice of COVID-19 preventive measures was high cost of alcohol-based sanitizer (x=1.37). A significant relationship existed between listenership (r= 0.22), constraints limiting practice of COVID-19 preventive measures (r=-0.26) and behaviour towards COVID-19 preventive measures. Rural dwellers' behaviour was positive towards COVID-19 preventive measures as a result of listening to the COVID-19 jingles. Government and corporate bodies should facilitate the provision of hand sanitizers for rural dwellers to enhance compliance with the messages in the jingles.
Keywords: COVID-19 jingles, Behaviour, COVID-19 preventive measures.

INTRODUCTION

Over the years, behaviour of people changed after information or message is communicated about a particular training on a technology, health, (outbreak of pandemics), social or psychology innovation using a form of mass media, or a combination tagged Behaviour Change Communication (BCC). According to Ngigi and Busolo, (2018) BCC employs a systematic process that combines research with communication planning, implementation, monitoring, and evaluation using both mass media and interpersonal channels to achieve behavioural objectives. That is, it comprises range of processes and methods used to encourage positive health outcomes by making planned and strategic usage of communication to strengthen health seeking behaviours through health literacy of an individual or community on a large scale for community mobilisation, health education, and different public outreach programmes, (Kusum, 2019).

Therefore, immediately a pandemic outbreak occurs, development communicators are ready to provide accurate information to assist people in making best, safe and firm decisions about their health as well as recommendations on preventive guidelines to managing well-being. (Center for Disease Control and Prevention, 2019). Development communicators employ any of the mass media to transfer the information for faster access to such information especially the use of jingles on radio, television, and social media among others. Jingles are pivotal to assist in configuring the mind set of people towards an expected end. Leighton (2018) and Leader, (2020) confirm that jingles are essentially used to appeal or get the attention of potential consumers or listeners or target audience, arouse their interest and elicit consumption action from them, which are often repeated to make the listener hardly forget the information being passed across. Jingles are so effective that they bring about change of attitude towards unhealthy behaviours, to address any misinformation concerning a particular issue, (Leader, 2020). However, for jingles to be effective they must to be catchy, simple, emotional appealing, create slogan and deliver powerful message to the listeners. They must not more than between 10-30 seconds so as to create impact on listeners' mind, (Rogers, 2020 and Sutherland and Sylvester, 2000).

In 2019, COVID-19 a family of coronavirus was discovered in China while Nigeria recorded its first case on February 20th, 2020 and ever since then, the pandemic has become a major public health challenge globally with countries of the world adopting unprecedented infection prevention and control measures to curtail its rapid spread. The fact that COVID-19 is a viral disease that is caused by severe acute respiratory syndrome which spread speedily called for critical understanding of the epidemiological dynamics of this disease and compliance with preventive measures, (NCDC, 2020). Therefore, health risk communication on accurate knowledge about the health-affecting risk or hazard, the cause of communicable disease and preventive measures must be conveyed to diverse audiences to increase their knowledge improve their attitude and practice. Specifically, among these diverse audiences, the rural populace should be focused because they lack access to accurate and timely information. Rural dwellers can also be easily misguided about COVID-19 and spread wrong rumours that could lead to fear and panic among themselves, all these

among others could worsened the scenario of COVID-19. Hence, NCDC collaborated with media houses to give updated news, to reduce rumours and debunk fake news of COVID-19 on radio, television, mobile phone and social media on a daily basis. The messages were packaged in form of jingles, news, songs and documentaries.

COVID-19 jingles in different forms and ways were broadcasted from different radio and television stations. This was to create awareness on the pandemic disease, to provide key messages about the disease and to build conscious reminder of practicing COVID-19 preventive measures. All aimed to further curb the spread of this deadly disease. According to CLEEN Foundation, (2021) COVID-19 jingles are aired in various languages in Nigeria including Pidgin, English, Yoruba, Igbo and Hausa to give key messages and action for COVID-19 prevention. This is an all-encompassing approach to language barriers. The association of the jingles with the broadcast media especially radio takes the COVID-19 jingle messages very far into rural communities where this communication device is known to be available in large numbers, implying wider reception of the jingle message. Most message on COVID-19 are on how the disease can be transmitted and generally on preventive measures.

Despite, efforts made by NCDC in collaboration with media (radio and television stations) to broadcast COVID-19 jingles in various forms, there are still concerns about rural dwellers' behaviour towards the disease and its preventive guidelines. Because a large proportion of rural dwellers populace are not well educated, lack access to information and amenities like electricity. These, coupled with rural dwellers' misconception that only rich people can contact COVID-19. Although earlier studies on COVID-19 exist (Iorfa, Ottu, Oguntayo, Ayandele, Kolawole, Gandi, Dangiwa & Olapegba, 2020; Ya'aba, Mohammed, Adamu, Yakubu& Adigwe, 2020) none of these researches studied the extent to which COVID-19 jingle broadcasts affects the knowledge, attitude, and practice of listeners. Moreover, it is over a year now that the jingles are aired, it is expected that the jingles must have impacted on rural dwellers' knowledge, attitude and practice of COVID-19 preventive measures. To this end, the study assessed the influence of COVID-19 jingles on rural dwellers behaviour in Oyo State, Nigeria. The specific objectives include to:

1. examine COVID-19 jingles' listenership and listening pattern of the respondents.
2. ascertain rural dwellers' knowledge level of COVID-19 mode of transmission, symptoms and preventive measures heard from the jingles.
3. determine respondents' attitude towards COVID-19 mode of transmission, symptoms and preventive measures.
4. examine the frequency to which rural dwellers practice COVID-19 preventive measures heard from the jingles,
5. identify the constraints to practicing COVID-19 preventive measures heard from the jingles.

The study's hypotheses are as follows:

$H_0$1: There is no significant relationship between the rural dwellers' listenership of COVID-19 jingles and their behaviour towards mode of transmission of COVID-19 and its preventive measures.

$H_0$2: There is no significant relationship between the rural dwellers' constraints limiting the practice of COVID-19 preventive measures and their behaviour.

METHODOLOGY

The study was carried out in Oyo state, situated on latitude and longitude coordinates of 7°51'9.25"N, 3°55'52.5"E., Nigeria, (Latitude and longitude. Org, (2022). Multistage sampling procedure was used to select respondents for the study. The first stage involved stratification of the local government areas in the Oyo state into rural and urban. There are a total of 33 Local Government Areas (LGAs) in Oyo state out of which 28 are rural local government areas, (Cadmus, Adebusoye and Owoaje, 2022). Therefore, the 28 rural local government areas were purposively selected. At the second sampling stage, simple random sampling was used to select six rural local government areas from the twenty-eight existing in the state. The selected rural local government areas are Ibarapa east, Atiba, Ido, Saki-west, Iwajowa and Surulere. The third stage involved random selection of 30% wards (from Ibarapa east, Saki-west, Surulere, Atiba and Iwajowa rural LGAs) and 50% from Ido rural LGAs of Oyo state. Hence, three wards were randomly selected from Ibarapa east, Atiba, Ido, Saki-west, Iwajowa and Surulere local government areas. The total number of the wards selected was 18 wards.

The last stage involved the random selection of 15 households from each of the selected wards and this gave a total number of 270 respondents for the study. Any available member of the rural household who is 18 years and above was interviewed using questionnaire which was sometimes administered as interview schedule based on literacy level while a return rate of 95% (256) of total sample was used for the analysis.

COVID-19 jingles' listenership and listening pattern were measured by asking respondents to indicate if they had listened to one COVID-19 jingles or the other before, to state the number of times they listen to the COVID-19 jingles in a week and sources of the COVID-19 jingles they listened to among other questions. The response options were dichotomized into '0 = no and 1 = yes'

as well as 1 = radio 2 = television, respectively. Then, using a Z score, respondents' scores were standardised to generate a listenership index which was used to categorise the scores into large and low listenership and mean was the benchmark.

For rural dwellers' knowledge level about COVID-19 mode of transmission, symptoms and preventive measures, a set of 15 knowledge questions were provided for the respondent on mode of transmission of COVID-19, symptoms and preventive guidelines with response options of True = 1 and False = 0. A score of 1 was assigned to 'True' options and zero to 'False' options. Maximum and minimum obtainable score was 15 and 0 respectively. Thereafter, from their responses to the knowledge items, knowledge index (a composite score) was generated and divided into high and low level of knowledge using mean as a benchmark. A score below mean was categorised as low but mean score and above scores were adjudged to be high.

In the same vein, respondents' attitude towards COVID-19 mode of transmission and preventive measures was measured by asking them to respond to a set of positive and negative attitudinal statements about mode of transmission of COVID-19 and its preventive guides. A list of 30 attitudinal items were provided and they were asked to indicate their opinions on a 5 Likert scale. Strongly Agree with assigned score of 5, Agree 4, Undecided 3, Disagree 2, and Strongly Disagree 1 for positively worded statements and Strongly Agree = 1, Agree = 2, Undecided = 3, Disagree = 4, Strongly Disagree = 5 for negatively worded items. However, for easy reportage the scale was merged to 3 of 'Strongly Agree', 'Undecided', and 'Strongly Disagree' after analysis was done. Maximum obtainable point was 150 with a minimum of 30 score. Then, from their responses to the attitudinal questions, attitudinal index (a composite score) was generated and divided into favourable (mean score and above) and unfavourable (below the mean score) attitude using generated mean as benchmark.

Similarly, respondents' practice of COVID-19 preventive guidelines was measured by providing them with a list of 9 major preventive measure items. Three response options of 'Never', 'Seldom' and 'Always' were to choose from, while a score of 0 was assigned 'Never' option, 1 was to 'Seldom' and 2 was assigned to 'Always' option. Minimum and maximum obtainable scores were 0 and 18 respectively. Mean of individual item was calculated and used to rank the preventive measures of the respondent while the measure with the highest mean was ranked first, the one with the least mean was rank last. Practice index was calculated and used to categorise respondents into high and low level of practice by employing mean as the yardstick.

Respondents' behaviour towards COVID-19 mode of transmission, symptoms and preventive measures was determined by adding the already generated indices (generated composite scores) of Knowledge, Attitude and Practice (KAP) being the component of behavioural change. It is assumed that since the COVID-19 jingles have been broadcasted for more than a year now, the respondents must have had ample time needed to gather knowledge, form an attitude and improve on the practice of COVID-19 preventive guides, and therefore develop a behaviour towards mode of transmission of COVID-19 and its preventive measures. The new computed behavioural index was then divided into positive and negative behaviour using mean as benchmark. A score below mean was categorised as negative while mean score and above scores were adjudged to be positive behaviour.

Finally, constraints limiting the practice of COVID-19 mode of transmission and preventive guidelines was measured with appropriate response option such as severe constraint, mild constraint and not a constraint. These options were later converter to an individual mean, the hypotheses were analysed using Pearson Product Moment Correlation while other data were analysed using descriptive statistics namely percentages, mean and frequency distribution.

RESULTS AND DISCUSSIONS

COVID-19 jingles' listenership and listening pattern

Table 1 shows that 94.9% of the respondents had listened to one COVID-19 jingles or the other, 82.8% confirmed to have listened to the jingles on radio, 46.9% listened for at least 14 – 21 times in a week and 66.8% opined that the jingles listened to were entertaining and educating. This result is in tandem with the finding of Reuben and Samuel (2020) that radio listeners were exposed to COVID-19 messages on a daily basis. This implies that COVID-19 jingles are being frequently aired on radio and respondents irrespective of their locations heard the jingles multiple times especially in rural areas. Repetition of the broadcast will ensure that either consciously or unconsciously the message is registered in the heart of the listeners. Table 1 also shows that 58.0% of the respondents had a large listenership of COVID-19 jingles. This implies rural dwellers listened widely to the COVID-19 jingles from radio. The fact that they listened via radio is supporting the existing knowledge that radio is still the most used media. The results also implying that entertainment-education is one of the managements of COVID-19 outbreak.

Table 1: COVID-19 jingles' listenership and listening pattern

Variables	Percentage
Have you listened to one COVID-19 jingles or the other before?	
Yes	94.9
How many times do you listen to COVID-19 jingles in a week?	
<6 times in a week	14.4
6 – 13 times in a week	38.7
14 – 21 times in a week	46.9
From what source did you listen to the COVID-19 jingles?	
Radio	82.8
Television	6.7
Mobile phone	10.5
Reasons for listening to COVID Jingles	
Just for listening sake	0.0
For relaxation	0.8
For entertainment	5.5
For learning	26.9
For entertainment and education	66.8
Variable	**%**
Large listenership	52.0
Low listenership	48.0

Source: Field Survey (2021)

Respondents' Level of Knowledge about COVID-19 Mode of Transmission, Symptoms and Preventive Measures

Table 2 shows that the majority (79.7%) of the respondents had high level of knowledge about COVID-19. This implies that listeners are quite knowledgeable about COVID-19 mode of transmission, symptoms and preventive measures and this high knowledge could be attributed to the various regular COVID-19 jingles aired in the study area. This is in tandem with the findings of Christie, Utibeka, Ekere, Elebe, Imaobong, Dorothy, Wisdom and Victory, (2021); Abdelhafz, Mohammed, Ibrahim, Ziady, Alorab, Ayyad and Sultan (2020); Labban, Thallaj and Labban, (2020) which confirmed that citizens all over the world especially rural dwellers in Nigeria are very knowledgeable about COVID-19 mode of transmission, symptoms and preventive measures. The high level of knowledge would imply that rural dwellers should be able to protect themselves and their loved ones from the deadly disease.

Table 2: Knowledge test on COVID-19 mode of transmission, symptoms and preventive measures

Knowledge tests	Correct (%)
COVID-19 is a respiratory infection	73.1
The signs of COVID-19 infection are dry cough, headache and sore throat	98.4
The symptoms of COVID-19 infection are fatigue, headache and loss of taste and smell	94.9
A person get infected with COVID-19 through close contact with an infected person	97.6
2m distance should be maintained to prevent spread of COVID-19	100.0
Nose mask is use to cover nose and mouth to prevent spread of COVID-19	100.0
Washing of hands with soap and water frequently prevents the spread of COVID-19	100.0
Disinfecting of hands is done with the use of alcohol-based sanitizer	100.0
To prevent the spread of COVID-19 we should avoid birthday parties, Naming ceremonies and social gatherings	82.0
The isolation period for COVID-19 infected person is 2 weeks	79.7
COVID-19 can infect everybody	80.8
The COVID-19 virus spreads via respiratory droplet of an infected person	55.1
COVID-19 is not the same thing as Ebola virus and flu virus	86.7
What do you do if you have an infected person? Go to a health facility	98.4
COVID-19 started from China	94.9
Variable	**%**
High level of knowledge	79.7
Low level of knowledge	20.3

Source: Field Survey (2021)

Attitude towards COVID-19 Mode of Transmission, Symptoms and Preventive Measures

Table 3 reveals that the majority (94.9%) of the respondents strongly agreed that strictly obeying all COVID-19 preventive measures during the pandemic is key, that COVID-19 vaccine is free and must be taken by all citizens (94.9%). They strongly concurred that wearing of nose masks will reduce the chances of contacting COVID-19 (98.4%), as well as frequent washing of both hands with soap and running water (100.0%) and 86.7% strongly agreed that everybody can be infected by COVID-19 virus. Meanwhile, 53.9% of the respondents had favourable attitudes towards COVID-19 mode of transmission and preventive measures. This finding is in agreement with that of Christie, Utibeka, Ekere, Elebe, Imaobong, Dorothy Wisdom and Victory, (2021) which found that vast majority of participants had positive attitudes towards COVID-19.

Table 3: Attitude towards COVID-19 mode of transmission, symptoms and preventive measures

Attitudinal statements	**SA (%)**	**UD (%)**	**SD (%)**
Strictly obeying all COVID-19 preventive measures during this pandemic is key	94.9	2.7	2.4
COVID-19 preventive measures are too stressful for to practice	11.7	1.6	86.7
Covering of nose while sneezing and coughing will curb the spread of COVID-19	97.6	1.6	0.8
COVID-19 is not a threat to public health	86.7	1.6	11.7
Regular practice social distancing of 2m will prevent the spread of COVID-19	80.8	5.9	13.3
COVID-19 affects only the rich people	30.5	2.4	67.1
COVID-19 vaccine is free and must be taken by all citizens	94.9	2.7	2.4
COVID-19 vaccine does not prevent infection	86.7	1.6	11.7
During this period, reduction of attendance of social gatherings prevents the spread of COVID-19 virus	26.9	18.0	55.1
COVID-19 is just a rumour	2.3	18.0	79.7
Cleaning of surfaces at home and public places is one of ways to curb the spread of COVID-19	79.7	2.3	18.0
Cleaning of surfaces at home and public places cannot curb the spread of the virus.	26.9	18.0	55.1
It is very difficult to ensure social distancing at a public gathering	67.1	2.4	30.5
Reporting any suspected COVID-19 case to NCDC will prevent its spread	61.7	5.4	32.9
COVID-19 can be prevented by eating spicy food	30.5	2.4	67.1
It is very dangerous when people do not obey social distancing rule	73.1	1.6	25.3
Wearing nose mask to reduce the chances of contacting COVID-19	98.4	1.6	0.0
Wearing of nose mask is dangerous to inhalation/breathing	13.3	4.7	82.0
Sanitizing both hands with alcohol-based sanitizers will reduce the risk of contracting COVID-19	30.5	2.4	67.1
Alcohol-based sanitizer is too expensive for me to buy hence, might not be effective preventive measure	86.7	1.6	11.7
Frequent washing of both hands with soap and running water is a way to avoid getting infected by COVID-19	100.0	0.0	0.0
It is compulsory for government to provide washing facilities for hand washing preventive measure to be effective.	79.7	2.3	18.0
Everybody can be infected by COVID-19 virus	86.7	1.6	11.7
Sharing of nose masks with another will not help to curtail the COVID-19 virus	94.9	2.7	2.4
COVID-19 can be considered as a viral disease that can lead to death	94.9	2.7	2.4
Urban people are more prone to COVID-19 than rural people	26.9	18.0	55.1
Frequent orientation of family and friends about COVID-19 can prevent the virus	97.6	1.6	0.8
COVID-19 is not a curable disease	82.0	4.7	13.3
COVID-19 is a call for concern in my community	11.7	1.6	86.7
COVID-19 vaccine is available to all households	94.9	1.6	3.5
Variable	**%**		
Favourable	53.9		
Unfavourable	46.1		

Source: Field Survey (2021)

Practice of COVID-19 Preventive Measures

Table 4 reveals that the practice of washing hands with soap and running water was ranked first with mean score of 1.93 among the respondents. This practice was followed by the use nose mask in public place ($\bar{x}$ =1.82), the practice of sneezing or coughing in between elbow or use of tissue ($\bar{x}$ =1.82), avoidance of handshakes and hugging ($\bar{x}$ =1.48), as well avoidance of close contact with

anyone who has cold or flu-like symptoms ($\bar{x}$ =0.97).

In general, majority (54.7%) of the respondents highly practiced COVID-19 preventive measures compared to 45.3% with low practice index. This implies that respondents do engage in the practice of COVID-19 preventive measures maybe as a results of what they heard from the jingles. This could also be because they are quite knowledgeable about how deadlier the virus is and wish to protect themselves from the contagious disease.

This finding although is in agreement with the finding of Yen-Chiu, Rei-Lin and Shin-Ru (2020) however, it is in contrast to the discoveries of Ya'aba *et al* (2020) and Ipinnimo, Sanni, Aladesuru, Adebayo, Omowaye, Adeniyi, Ipinnimo, Olasehinde, and Adetunbi (2021) where Nigerians despite their knowledge of the disease, did not comply with the practice of preventive measures of COVID-19.

Table 4: Practice of COVID-19 preventive measures

Preventive measures	**Mean**	**SD**
Practice of hand wash with soap and running water regularly	1.93	2.02
The use of my nose with a mask in public places to cover my mouth	1.82	1.99
The practice of sneezing or coughing in between my elbow or the use of tissue	1.82	1.99
Avoidance of hands shaking and hugging others	1.48	1.65
Avoidance of close contact with anyone who has cold or flu-like symptoms	0.97	1.01
Avoidance or reduction of social gatherings attendance because of COVID-19	0.75	0.99
Practice of social distancing of 2m apart at public places	0.56	0.66
Seeking medical care early in case of fever or difficulty breathing	0.44	0.57
The use of alcohol-based sanitizer to disinfect my hands when surfaces are touched	0.43	0.56
Variable	**%**	
Highly practiced	54.7	
Lowly practiced	45.3	

Source: Field Survey (2021)

Overall Behaviour to COVID-19 Jingles on Mode of Transmission and Preventive Measures of COVID-19

Table 5 reveals that the majority (62.9%) of the respondents had positive behaviour towards COVID-19 mode of transmission and preventive measures. This implies that rural dwellers after listening to COVID-19 jingles became knowledgeable of COVID mode of transmission and practiced most of the highlighted preventive measures.

Table 5: Overall behaviour to COVID-19 jingles on mode of transmission and preventive measures of COVID-19

Variable	**Percentage**
Positive	62.9
Negative	37.1

Source: Field Survey (2021)

Constraints to Practicing COVID-19 Preventive Measures

Table 6 shows that on average, high cost of alcohol-based sanitizer ($\bar{x}$ = 1.37), difficulty in adapting to the preventive measures ($\bar{x}$ = 1.25), and insufficient COVID-19 palliatives ($\bar{x}$ = 1.18) were the major constraints to practicing COVID-19 preventive measures. This could be the majority of them are small income earners and do not have extra money to purchase nose masks and sanitizers to disinfect their hands against the virus infection.

Table 6: Constraints to practicing COVID-19 measures

Constraint items	**Mean**
High cost of sanitizer	1.37
Difficulty in adaptability	1.25
Insufficient COVID-19 palliatives	1.18
Obligation to go out	0.98
Unbelief about COVID-19	0.52
Uncomfortability with the use of nose mask	0.31

Relationship between listenership of COVID-19 jingles, constraints limiting the practice of COVID-19 preventive measures and behaviour towards mode of transmission of COVID-19 and preventive measures

Table 7 observes that there was significant relationship between rural dwellers' listenership of COVID-19 jingles and their behaviour about COVID-19 mode of transmission and preventive measures (r= 0.22). The implication is that respondents, by listening to COVID-19 jingles over a year ago changed their behaviour for better towards the mode of transmission and preventive measures of the virus.

Table 7 also shows that there was significant relationship between constraints limiting the practice of COVID-19 preventive measures and their behaviour about COVID-19 mode of transmission and preventive measures (r=-0.26). The negative sign indicates that as respondents' constraint is increasing their behaviour is tending towards negativity. This implies that the respondents' constraints could deter the way they behave towards COVID-19 mode of transmission and preventive measures in terms of their attitude and practice of preventive measures even after listening to COVID-19 jingles over and over again.

Table 7: Correlation between listenership of COVID-19 jingles, constraints limiting the practice of COVID-19 preventive measures and behaviour towards mode of transmission of COVID-19 and preventive measures

Variable	r- value
Listenership index* behaviour index	0.22
Constraint index* behaviour index	-0.26

CONCLUSION AND RECOMMENDATIONS

COVID-19 jingles were widely and sufficiently disseminated on mode of transmission, symptoms and preventive measures among the rural dwellers. They always wash their hands with soap under running water and used nose mask to cover to prevent the spread of the disease which led to them having positive behaviour (Knowledge, attitude and practice) towards COVID-19 mode of transmission, symptoms and preventive measures. However, the cost of buying alcoholic sanitizers was a serious challenge to the practice of COVID-19 preventive measures.

Broadcast of COVID-19 jingles should be continued on all radio stations because it yielded a positive behaviour especially since new cases are reported daily. Also, the concerned development communicators should maximally utilize educational jingles to foster behaviour change communication. This will aid to curbing the challenges experienced to the control the current and any future epidemics.

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