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Influence of mass media health interventions on prevention and control of Cholera in selected States of South-East, Nigeria

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Abstract
The study investigated the influence of mass media health interventions on the prevention and control of cholera in selected states of South-east, Nigeria. Survey research method was adopted for the study with the questionnaire as the instrument for data collection. A sample size of 384 was arrived at using Cochran (1977) sample size formula. Findings revealed that there is a high level of awareness on communication interventions on cholera prevention and control among the respondents. Also, majority (n=104, 27.3%) got to know about these interventions chiefly through interpersonal communication channels like family and friends. This was followed by (n=70, 19.2%) of the respondents who got to know through the radio. Consequently, the researchers concluded among other things, that respondents are very much aware of the cholera danger signs health communication interventions, just as they showed awareness of other health campaigns brought to their locality. Thus, it was recommended that campaigns on cholera danger signs should be process-oriented and not event-based; that such campaigns in the rural and urban areas should embrace more of interpersonal channels with strategies that are driven down to the community levels, alongside the mass media such as Television, Radio, Newspapers among others.

Key word: 1. Mass Media **2**. Cholera **3**. Health Intervention **4**. Prevention, Control

Introduction

The world is full of life endangering diseases such as laser fever, malaria and cholera among others. Cholera is a disease caused by bacteria Vibrio cholera, and it is still a major indicator of social development around the world (Adagbada, Adesida, Nwaokorie & Coker,

2012;Akyala, Bright, Olufemi Adebola & Nguku, 2014; Dan-Nwafor, et.al, 2019). It has assumed epidemic proportion in Africa, parts of Asia, the Middle East, South and Central America,with an estimated 2.9 million cases per year in countries with endemic disease and 1.3 billion people at risk of infection; it has remained a global public health challenge (Sinyange *et al.*, 2018). The disease is primarily linked to insufficient access to safe, clean water supplies, crowded living conditions and poor hygiene and sanitation (Kindhauser, 2003; Zuckerman *et al.,* 2007; Sasaki, Suzuki, Igarashi, Tambatamba &, Mulenga*,* 2008; Penrose, Castro, Werema & Ryan*,* 2010; World Health Organisation/UNICEF, 2010; Adeneye *et al.,*2016; Anetor & Abraham, 2020). It has a greater effect in areas where basic environmental infrastructure has been disrupted or destroyed. (World Health Organisation, 2004; 2010). Cholera is a water and food-borne disease spread primarily through the fecal-oral route.

The infection is endemic in Nigeria, and outbreaks are common. More than 260 individuals died of cholera in four Northern states in the fourth quarter of 2009, with 96 of them in Bauchi state's Maidugari, Biu, Gwoza, Dikwa, and Jere council areas. (Igomu, 2011 cited in Adagbada et.al , 2012; :Akyala, et.al, 2014).Most of Nigeria's northern states rely on hand-dug wells and contaminated ponds for drinking water. Other cholera patients are usually the source of contamination when their untreated diarrhoea discharge is allowed to enter water supplies. (Abiodun, Temilade, Oladimeji &Tawakalit, 2016).The 2010 cholera and gastroenteritis outbreaks in Nigeria, as well as the consequent deaths, showed the vulnerability of poor communities, particularly children, to infection. As a result, rain washed away the water in open wells and ponds, where people get their drinking water and other necessities. This scourge has devastated Jigawa, Bauchi, Gombe, Yobe, Borno, Adamawa, Taraba, FCT, Cross River, Kaduna, Osun, and Rivers States. Despite the fact that the outbreak was recorded in these areas, epidemiological evidence suggested that the entire country was at risk, with the assumption that the outbreak was caused by hyper-virulent strains of the organism (Gyoh, 2011; Adagbada, et.al, 2012; Akyala, et.al, 2014). Cholera affects kids and grown-ups and can kill in between hours if untreated (Adagbada, et.al, 2012).

Long-term cholera prevention will need improved water and sanitation facilities, but these changes are not occurring quickly in most cholera-affected areas (Sack, Sack, Nair & Siddique, 2004; Griffith, Kelly-Hope & Miller, 2006; Adeneye *et al.,* 2016). To this end, African countries accounted for 3,316,201 (46%) of the suspected cholera cases reported to the WHO from 1970 to 2012 (Dan-Nwafor *et al.,* 2019). In 2012, sub-Sahara Africa recorded 71% of all reported cases and 86% of cholera deaths (Mengel, 2014; Mengel, Delrieu, Heyerdahl & Gessner, 2014; Dan-Nwafor, et.al,2019). A Case Fatality Rate of 1, 746 suspected case was recorded including more than 50 deaths fromBauchi, Delta, Borno, Kaduna, Kano and Zamfara among others including Enugu, Anambra and Ebonyi (Nigeria Centre for Disease Control, 2021). Poor hygiene practices, particularly improper disposal of domestic and human waste, as well as widespread consumption of untreated water, are responsibility for the outbreak.

To combat this menace, governments in developing countries in partnership with local and international organisations are making frantic efforts towards stemming the tide through health communication interventions.Scholars, practitioners, and policymakers in the field of health communication recognize the importance of health communication to public health (Sahiavo 2007; Rimal & Lapinski 2009; Sokey, Adjei & Ankrah, 2018). Hence, it's no surprise that finding and using health information has become a major concern for both individuals and health-care providers(Kickbusch,2001; Sokey, Adjei & Ankrah, 2018).Based on the foregoing, several interventions have been deployed in the recent past to ameliorate the spread of cholera in Nigeria. Some of these communication intervention efforts are; the establishment of Public Health Emergency Operations Centre (PHEOC) to coordinate the response to the outbreak of the disease (Nigeria Centre for Disease Control, (NCDC, 2020), the organization of active surveillance in affected areas, including case searches in hotspots and at-risk communities, the establishment of Cholera Treatment Centres (CTCs) and Oral Rehydration Points (ORPs) in hotspot areas, and the Water, Sanitation, and Hygiene (WASH) sector interventions(WHO, 2017; Lamond & Kinyanjui, 2012), WASH services (hygiene promotion messages, hygiene kit distribution, and other water and sanitation activities) deployment to affected areas, the launch of Oral Cholera Vaccine (OCV) campaign in 2017, the intensification of risk communication in the affected states (WHO, 2018). On local radio stations, cholera prevention messages are aired in local languages.

Similarly, in some of the affected states, hygiene promotion activities are carried out through community groups, radio, posters, flyers and other methods in camps and schools, as well as health education and community sensitization.Nigeria has previously experienced several cholera outbreaks with high CFRs, the most notable of which was the epidemic of 1991, which resulted in 59,478 cases and 7654 deaths, with a CFR of 12.9 percent reported for that outbreak, which remains the country's highest to date (Elimian *et al.,* 2019). Nigeria has made significant progress toward these objectives by deploying Oral Cholera Vaccines (OCVs) in cholera goals. Million doses of OCVs have been deployed across several hotspot areas, primarily in Nigeria's northern states such as (Yobe, Bauchi, Borno and Adamawa) since the first deployment in September 2017, albeit in a reactive context.Nigeria is also finalizing its National Strategic Plan of Action for Cholera Control, in accordance with the GTFCC recommendations. (Elimian *et al.,* 2019).

Despite the aforementioned efforts to prevent and control cholera, 2018 cholera outbreak reaffirms a serious public health threat of the disease and, more notably, the need for the country to implement comprehensive counter measures. No doubt, the use of the mass media has been recognized for decades as an important tool for improving health issues (Nurmi, 2013; Sharma & Gupta, 2017; Sokey et.al, 2018).This underscores the centrality of the media in any health intervention. However, despite these mass media health communication interventions on the prevention and control of cholera in Nigeria, there is still uncertainty as to how far they have helped in the prevention and control of the disease especially in South-east Nigeria. Thus, the need to evaluate the influence of the mass media health interventions on prevention and control of cholera in selected states of South-east, Nigeria.

The main objective of this study is to find out the influence of mass media health interventions on the prevention and control of cholera in selected state of South-east Nigeria. Specifically, the study ascertained the level of audience awareness, find out the audience knowledge level, determine the audience attitude towards mass media and ascertain the extent to which the mass media messages influences audience behaviours towards the prevention and control of cholera in South-east Nigeria.

Reviewed of related literature

A study by Mpazi and Mnyika (2005) on knowledge, attitudes and practices regarding cholera outbreaks, it was discovered that hygienic practices for cholera prevention lagged behind knowledge and attitudes. Therefore, cholera control in this population is likely to necessitate a variety of specific interventions.

Similarly, Nayyef, Al-Obaidi, Jabbar, et.al (2017), highlights that the general awareness of cholera disease among educated Iraqi citizens was high, but low in terms of transmission routes, and moderate in terms of control, protection, and treatment. Consequently, a study by Olopha and Egbewale, 2017, showed that while awareness of ORS in diarrhoea prevention was high, knowledge relating to its preparation and use was found to be low.

To ascertain audience knowledge level on media interventions on cholera disease, Ogbeyi, Bito, Anefu and Igwe(2017), found thathealth education and community participation in various environmental challenges in the area by government agencies and non-governmental development organizations can improve cholera knowledge, attitude, and preventive measures.Thus, a study by Omole et.al (2019) revealed that the high prevalence and frequency of diarrhoea disease were not reflected in the respondents' good knowledge of the disease.

It has been observed that perception has a significant role to play in shaping behaviour or practice. To this effect, perception of danger signs of cholera influences the decision to seek care at health facility. In a study by Lilje, Kessely & Mosler (2015), perception of social norms was found to be unfavourable for water treatment behaviour for prevention of cholera. Furthermore, self-assessed ability estimates (self-efficacy) revealed some intervention potential. A mass radio campaign is proposed, combining information and normative behavior change techniques with community meetings aimed at identifying individual abilities and commitment to water treatment(Lilje et.al,2015).A study by Wahed et.al (2013), revealed that despite their lack of knowledge, the respondents had a very positive attitude toward cholera and the vaccine. Only a small percentage of people, however, had a pessimistic viewpoint.

Consequently, Orimbo et.al (2020), on a study found that there was a high level of knowledge about cholera, but there were gaps in preventive practices. The study recommends that health education be provided to the elderly and those who are illiterate, as well as a general strengthening of community health education. Ibrahim et.al (2016), found that the majority of respondents (63.4%) used an unprotected well as a source of water, while only 26.1 percent used a protected well. Only 12% of those polled claimed to

be well-informed. However, the majority of respondents (63.4%) were enthusiastic about home water purification.

Likwise,Khadka, Shah, Sanal, Mathias& Upadhayay et al. (2017), revealed that, respondents have a positive attitude towards practice of cholera medical care services. This implies that the respondents understood the benefits of cholera medical care services for the safety of their lives.

Methodology

The study adopted survey research method. The population of this study comprise all Nigerians resident in the selected states in South-east namely: Anambra, Ebonyi and Enugu states respectively. The study adopted the multi-stage sampling procedure involving simple random sampling and convenient sampling techniques at different stages. A sample size of 384 respondents was arrived using Cochran (1977) sample size formula with the use of structured questionnaire to elicit information.

Data Presentation and Analysis

Data analyses were done using tables, charts, numbers and percentages. The data were analysed in relation to how they answered each research question.

Result

Awareness and Level of Knowledge

Table 1: Distribution of respondents based on awareness and level of Knowledge on health communication intervention messages about the prevention and control of Cholera

Are you aware of health communication intervention message about the prevention and control of Cholera?	**Frequency**	**Percentage (%)**
Yes	193	50.7
No	188	49.3
Total	381	100.0
How often do you get such messages?		
Very often	77	20.2
Occasionally	109	28.6
Seldom	103	27.0
Rarely	65	17.1
Not at all	27	7.1
Total	381	100.0

Medium they get to know about health messages on the prevention and control of Cholera?		
Radio	70	19.2
TV	60	15.7
Newspaper	50	13.1
Magazines	73	18.4
Health workers	24	6.3
Family & Friends	104	27.3
Total	381	100.0

Result indicated that (50.7%) of the respondents are awareand (49.3%) are not been aware of health messages about the prevention and control of Cholera. The result shows that slightly above half of the respondents are aware of health communication intervention messages about the prevention and control of Cholera.

The respondents were actually asked how often do they get such messages and (20.2%) of the respondents indicated that they got such messages very often, (28.6%) of the respondents indicated occasionally, (27.0%) indicated seldom, (17.1%) indicated rarely and (7.1%) indicated not at all. From the table above, it can be seen that majority (28.8%) of the respondents indicated that get such messages occasionally.

More so, (19.2%) of the respondents got to know about health messages on the prevention and control of Cholera from radio, (15.7%) indicated TV, (13.1%) indicated newspaper and (18.4%) indicated magazines, (6.3%) indicated through health workers while (27.3%) indicated family and friends. From the table above, it clear that majority (19.2%) of the respondents got to know about health intervention communication messages on the prevention and control of Cholera through radio.

What do you know about health communication interventions (HCI) messages?

Table 2: Distribution of respondents on what they know about health communication interventions (HCI) messages

		Frequency (n=381)		**Percentage (%)**
HCI is a type of communication that gives health tips for a healthy lifestyle	Yes	220		57.7
	No	161		42.3
HCI is health communication during broadcast programmes	Yes	253	128	66.4
	No			33.6
HCI is any health talk given to people suffering from cholera	Yes	226	155	59.3
	No			40.7
HCI is any health programme package for the purpose of preventing or managing diseases	Yes	242		63.5
	No	139		36.5
HCI is any seminar on maintaining healthy lifestyle especially for women	Yes	247	134	64.8
	No			35.2
HCI is the use communication strategies to inform	Yes	247		64.8

and influence people's health decisions	No	134		35.2
HCI programmes are those programmes that change peoples' health behaviour	Yes	290	91	76.1
	No			23.9
HCIs are those text messages on safety health	Yes	285	96	74.8
	No			25.2
HCI is the use of digital technology to enhance patient's self-care	Yes	296		77.7
	No	85		22.3
HCI is any health message that inform health behaviours and decisions as well as prevent complications	Yes	260		68.2
	No	121		31.8

From the Table 3 above, it shows that (57.7%) of the respondents accepted that it is a type of communication that gives health tips for a healthy lifestyle and (42.3%) did not accept. From the findings, majority of the respondents indicated that HCI is a type of communication that gives health tips for a healthy lifestyle.

Consequently, (66.4%) of the respondents accepted that HCI is a form of health communication during broadcast programmesand (33.6%) did not accept. From the findings, it clear that majority of the respondents indicated it is health communication during broadcast programmes.

Majority of the respondents (59.3%) accepted that HCI is any health talk given to people suffering from cholera and (40.7%) did not accept. From the findings, majority of the respondents indicated it is any health talk given to people suffering from cholera.

Thus, (63.5%) of the respondents accepted that HCI is any health programme packaged for the purpose of preventing or managing diseases and (36.5%) did not accept. Findings show that majority of the respondents indicated it is any health programme packaged for the purpose of preventing or managing diseases.

Similarly, (64.8%) of the respondents' accepted that HCI is any seminar on maintaining healthy lifestyle especially for women and 36.2% did not accept. From the findings, majority of the respondents indicated it is any seminar on maintaining healthy lifestyle especially for women.

As regards to use of HCI as use communication strategies to inform and influence people's health decisions(80.8%) of the respondents acceptedand (19.2%) did not accept. From the findings, majority of the respondents indicated HCI is the use of communication strategies to inform and influence people's health decisions.

In relation to HCI programmes (76.1%) of the respondents accepted that those programmes changes peoples' health behaviour while (23.9%) did not accept. Findings show that majority of the respondents indicated HCI programmes are those programmes that change peoples' health behaviour.

However, (74.8%) of the respondents accepted that HCIs are those text messages on safety health, while (25.2%) indicated that they are not. From the findings, majority of the respondents indicated that HCIs are those text messages on health safety.

More so, (77.7%) of the respondents accepted HCI is the use of digital technology to enhance patient's self-care; while (22.3%) did not accept. Findings shows that majority of the respondents indicated that HCI is the use of digital technology to enhance patient's self-care.

Further more, (68.2%) of the respondents accepted HCI is any health message that inform health behaviours and decisions as well as prevent complications while (31.8%) indicated that it is not. From the findings, majority of the respondents indicated HCI is any health message that inform health behaviours and decisions as well as prevent complications.

Audience Attitude towards messages on prevention of cholera

Table 3: Distribution of respondents based on Audience Attitude towards Health Communication Intervention messages on prevention of cholera

	Level of agreement	Frequency (n=381)	Percentage (%)
Distribution of respondents basedon their belief on the practicability of health messages on the prevention and control of cholera	Strongly agreed	24	6.3
	Agreed	97	25.5
	Disagreed	121	31.8
	Strongly disagreed	89	23.4
	Undecided	50	13.1
Distribution of respondents on whetherHealth messageson theprevention and control of choleraare meant for poor People	Strongly agreed	23	6.0
	Agreed	96	25.2
	Disagreed	124	32.5
	Strongly disagreed	88	23.1
	Undecided	50	13.1
Distribution of respondents on whetherhealth messages onthe prevention andcontrol of Choleraare too technical for easy comprehension	Strongly agreed	211	55.4
	Agreed	6	25.2
	Disagreed	60	15.7
	Strongly disagreed	7	1.8
	Undecided	7	1.8
Distribution of respondents on whetherhealth messages on the	Strongly agreed	131	34.4
	Agreed	94	24.7

prevention and control of cholera	Disagreed	82	21.5
containsome practical steps	Strongly disagreed	61	16.0
they find difficult to practice	Undecided	13	3.4
Distribution of respondents on	Strongly agreed	139	36.5
whethersome people show	Agreed	87	22.8
negative attitude and ignore	Disagreed	87	22.8
the danger signs of cholera	Strongly disagreed	68	17.8
	Undecided	-	-
Distribution of respondents on	Strongly agreed	119	31.2
whether some people will not stop	Agreed	137	36.0
indiscriminate drinking of water	Disagreed	34	8.9
or being exposed to dirty environmenteven when they	Strongly disagreed	49	12.9
know they are at risk of getting the disease	Undecided	42	11.0
Distribution of respondents on	Strongly agreed	147	38.6
whetherhealth messages on the	Agreed	165	43.3
prevention and control of cholera	Disagreed	58	15.2
should be communicated in local	Strongly disagreed	4	1.0
languages especially for illiterate women	Undecided	7	1.8
Distribution of respondents on	Strongly agreed	103	27.0
whetherhealth messagesonthe	Agreed	158	41.5
prevention andcontrol of Cholera	Disagreed	77	20.2
should be taught inschools for	Strongly disagreed	37	9.7
young people to know about its safety precautions	Undecided	6	1.6
Distribution of respondents on	Strongly agreed	211	55.4
whetherhealth messages	Agreed	96	25.2
onthe prevention andcontrol of	Disagreed	60	15.7
Choleraare too technical	Strongly disagreed	7	1.8
for easy comprehension	Undecided	7	1.8

Table 3 above shows that (6.3%) of the respondents strongly agreed that they believed these health messages on the prevention and control of cholera because their health tips are not practicable, (25.5%) agreed, (31.8%) disagreed while (23.4%) strongly disagreed and 13.1% were undecided. The result indicates that majority of the respondents (31.8%) disagreed that these health messages on the prevention and control of cholera because their health tips are not practicable.

As regards to health messages on the prevention and control of cholera are meant for poor people (6.0%) of the respondents strongly agreed. (25.2%) agreed, (32.5%) disagreed while (23.1%) strongly disagreed and 13.1% were undecided. The result indicates that majority of the respondents (32.5%) disagreed that health messages on the prevention and control of cholera are meant for poor people.

Similarly, (55.4%) of the respondents strongly agreed that health messages on the prevention and control of Cholera are too technical for easy comprehension, (25.2%) agreed,(15.7%) disagreed while (1.8%) strongly disagreed, equally (1.8%) were undecided. The result indicates that majority of the respondents (55.4%) strongly agreed that health messages on the prevention and control of Cholera are too technical for easy comprehension.

Thus,(34.4%) of the respondents strongly agreed that health messages on the prevention and control of cholera contain some practical steps they find it difficult to practice, (24.7%) agreed, (21.5%) disagreed while (16.0%) strongly disagreed and 3.4% were undecided. The result indicates that majority of the respondents (34.4%) strongly agreed that health messages on the prevention and control of cholera contain some practical steps they find difficult to practice.

Consequently, (36.5%) of the respondents strongly agreed that some people show negative attitude and ignore the danger signs of cholera and (22.8%) agreed, (22.8%) disagreed while (17.8%) strongly disagreed and none undecided. The result indicates that majority of the respondents (36.5%) strongly agreed that some people show negative attitude and ignore the danger signs of cholera.

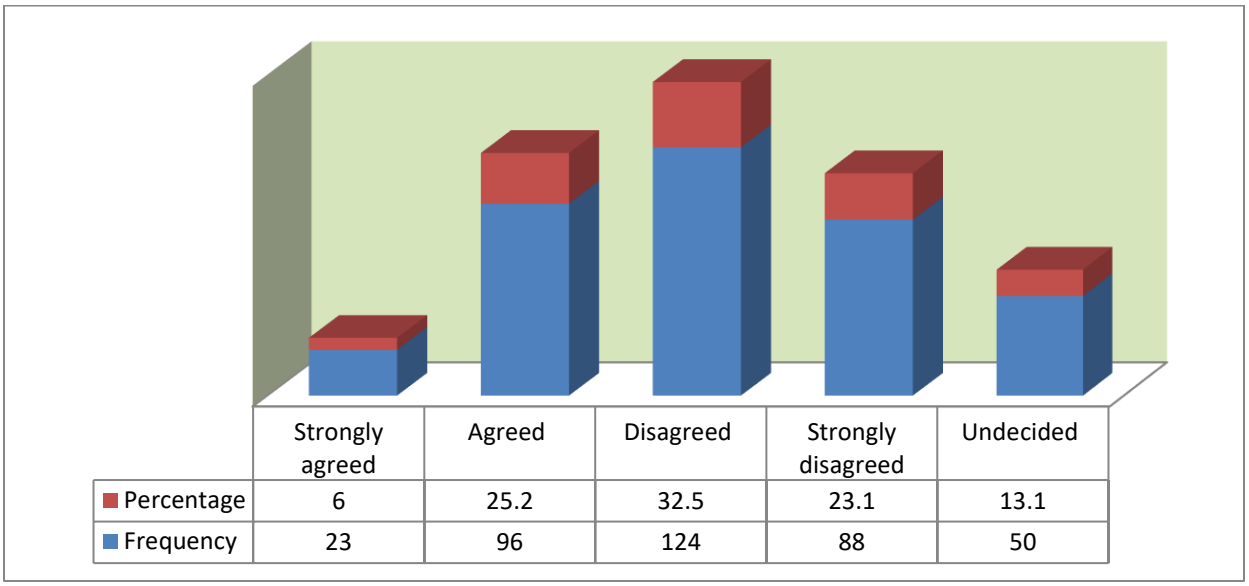
However, (31.2%) of the respondents strongly agreed that some people will not stop indiscriminate drinking of water or being exposed to dirty environment even when they know they are at risk of getting the disease, (36.0%) agreed, (8.9%) disagreed while (12.9%) strongly disagreed and (11.0%) were undecided. The result indicates that majority of the respondents (36.0%) agreed that some people will not stop indiscriminate drinking of water or being exposed to dirty environment even when they know they are at risk of getting the disease.

More so, (38.6%) of the respondents strongly agreed that health messages on prevention and control of cholera should be communicated in local languages especially for illiterate women and (43.3%) agreed, (15.2%) disagreed while (1.0%) strongly disagreed and (1.8%) were undecided. The result indicates that majority of the respondents (43.3%)

agreed that health messages on prevention and control of cholera should be communicated in local languages especially for illiterate women.

In relation to whether messages on prevention and control of cholera should be taught in schools for young people to know about its safety precautions, (27.0%) of the respondents strongly agreed and (41.5%) agreed, (20.2%) disagreed while (9.7%) strongly disagreed and (1.6%) were undecided. The result indicates that majority of the respondents (41.5%) agreed that messages on prevention and control of cholera should be taught in schools for young people to know about its safety precautions.

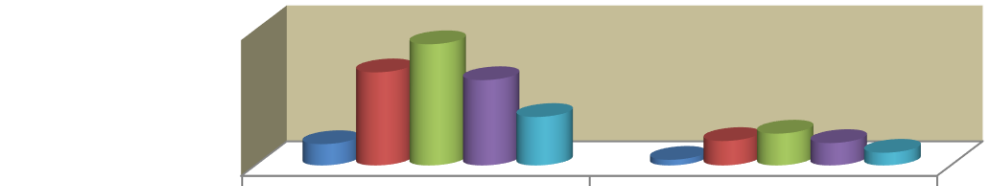
Figure 1: Distribution of respondents on whether health messages on the prevention and control of cholera contain some difficult guidelines on health behaviour they cannot cope with (n=381)



	Strongly agreed	Agreed	Disagreed	Strongly disagreed	Undecided
Percentage	6	25.2	32.5	23.1	13.1
Frequency	23	96	124	88	50

Figure 1 above shows that (6.0%) of the respondents strongly agreed that they health messages on the prevention and control of cholera contain some difficult guidelines on health behaviour they cannot cope with and (25.2%) agreed, (32.5%) disagreed while (23.1%) strongly disagreed and (13.1%) were undecided. The result indicates that majority of the respondents (32.5%) disagreed that these health messages on the prevention and control of cholera contain some difficult guidelines on health behaviour they cannot cope with.

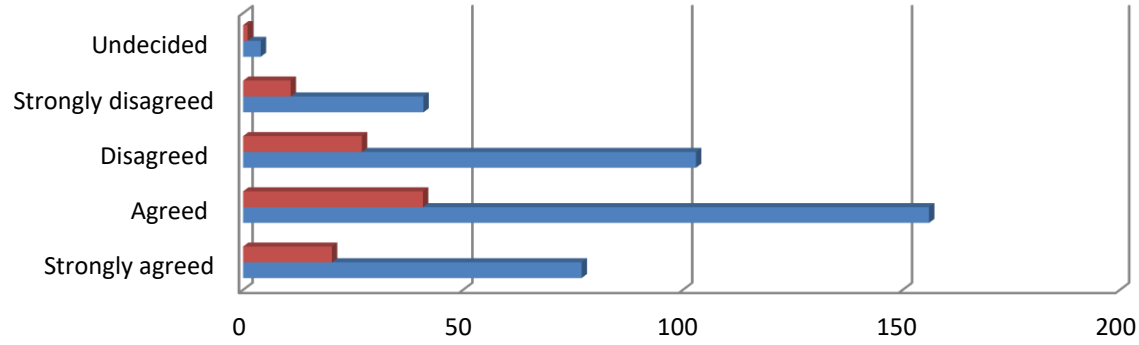
Figure 2: Distribution of respondents on whetherhealth messages on the prevention and control of cholera have opened their eyes to certain unhealthy lifestyles they must avoid (n=381)



	Frequency	Percentage (%)
Strongly agreed	22	5.8
Agreed	96	25.2
Disagreed	125	32.8
Strongly disagreed	88	23.1
Undecided	50	13.1

Figure 2 above shows that (5.8%) of the respondents strongly agreed that health messages on the prevention and control of cholera have opened their eyes to certain unhealthy lifestyles they must avoid and (25.2%) agreed, (32.8%) disagreed that Health messages on the prevention and control of cholera have opened their eyes to certain unhealthy lifestyles they must avoid while (23.1%) strongly disagreed and (13.1%) were undecided. The result indicates that majority of the respondents disagreed that health messages on the prevention and control of cholera have opened their eyes to certain unhealthy lifestyles they must avoid.

Figure 3:Distribution of respondents on whether health messages on the prevention and control of cholera cannot change certain unhealthy habits people form over time (n=381)



	Strongly agreed	Agreed	Disagreed	Strongly disagreed	Undecided
Percentage (%)	20.2	40.9	27	10.8	1
Frequency	77	156	103	41	4

Figure 3 above shows that (20.2%) of the respondents strongly agreed that health messages on the prevention and control of cholera cannot change certain unhealthy habits people form over time and (40.9%) agreed, (27.0%) disagreed while (1.8%) strongly disagreed and (1.0%) were undecided. The result indicates that majority of the respondents (40.9%) agreed that health messages on the prevention and control of cholera cannot change certain unhealthy habits people form over time.

Discussion of Findings

Findings of the study reveals that majority of the respondents are aware of health communication intervention messages on the prevention and control of cholera in South-east, Nigeria. However, this majority identified family and friends as the major source or vehicle through which they gained consciousness of the intervention messages on cholera. This finding is consistent with that of Nayyef *et al.,* (2017) and Olopha and Egbewale (2017), the awareness level of cholera campaign messages were high among the respondents. This implied that the campaigns were laudable enough and communication channels were identified to be within the reach of the rural and urban areas for easy accessibility of information.

The majority of the respondents indicated that their knowledge about the communication intervention messages was very high. This finding is supported by that from the studies conducted by Ogbeyi *et al.,* (2017) and Orimbo et.al (2020),where the researchers disclosed that the respondents were knowledgeable about media campaign messages on cholera prevention and control. This implies that the mass media actively played a key role in the conveyance of the intervention messages on cholera.Cholera disease interventions, no doubt, might be common, education and enlightenment campaigns in form of interventions should be deployed strategically and not to be relaxed at any time towards combating the disease.

Similarly, (n=139, 36.5%) of the respondents still show negative attitude and ignore the danger signs of the disease as presented by the intervention messages. Also, (65.4%) of the respondents still drink any kind of water despite the risk of contracting cholera. This finding is in contrast with that of Ibrahim et.al(2016) where majority of the respondents exhibit poor knowledge, positive attitude and perception towards danger signs of cholera, which ultimately affected their interpretation of its severity and their decision to respond appropriately to health care messages against the disease.

While this finding emphasises more on the severity of the disease and the vulnerability of the individual should he fails to adopt the recommendations on how to avoid the disease, it corroborates with the studies of Khadka et.al*.,* (2017) where significant change in attitude among respondents was recorded based on the campaign messages against cholera. Findings also reveal that the health communication interventions on cholera prevention and control in South-east, Nigeria actually influenced respondents' behaviour. This is manifest from the response given by the study participants such as difficulty in understanding the language of communication, illiteracy, among others did not affect their behaviour negatively towards the communication intervention messages. This is because,

many of them still attended to the medical-care health services provided for them. This agrees with Orem's theory on how medical care services provision can change people's health behaviour over time.

Conclusion

Respondents are very much aware of the cholera danger signs campaign, just as they are aware of other health campaigns brought to their locality. Interpersonal channel was the main media of communication used in the campaign. This agrees with other studies that revealed the vital position interpersonal communication strategies have in bringing health behavioural change in rural areas. Majority had a better understanding of the campaign and that understanding motivated them to confirm to the message. Other studies on the cholera danger signs campaign equally show that people understand health messages and that understanding promotes acceptance and adoption of those health messages. A lot of people conformed to the dictates of the campaign because of the knowledge they acquire during the campaigns in bringing positive change in health behaviours and attitudes.

References

1. *Abiodun, A. S., Temilade, E O., Oladimeji, F. N. & Tawakalit, F. T., (2016) Assessment of Water Contamination in Nigeria-Review. .Journal of Basic and Applied Research International19(1): 62-76.*
2. *Adagbada, A.O., Adesida, S.A., Nwaokorie, F.O., Niemogha, M.T.,& Coker,A.O.,(2012)Cholera epidemiology in Nigeria: an overview. Pan African Med J .12:59.*
3. *Adeneye, A. K., Musa, A. Z., Oyedeji, K. S., Oladele, D.1, Ochoga, M., Akinsinde, K. A., Niemogha, M. T., Nwaokorie, F. O., Bamidele, T. A. , Brai, B. I., Omonigbehin, E. A.,Bamidele, M., Fesobi, T. W., Smith, S. I. and Ujah, I. A. O.(2016) Risk factors associated with cholera outbreak in Bauchi and Gombe States in North East Nigeria, Journal of Public Health and Epidemiology (8)11. 286-296*
4. *Akyala , I. A., Bright, E. S., Olufemi, A., Adebola, O., Nguku, P.,(2014). Investigation of Cholera Outbreak in an Urban North Central Nigerian Community-The Akwanga Experience Public Health Research 4(1): 7-12*
5. *Anetor, G.O., Abraham, F, (2020). Knowledge of cholera and its prevention amongst urban residents of a district in Abuja: The pivotal role of health education.Res. J. of Health Sci. 8(2), 102-112*

6. *Dan-Nwafor, C.C., Ogbonna, U., Onyiah, P., Giddado, S., Adebobola, B., Nguku, P., & Nsubuga, P.(2019). A cholera outbreak in a rural North-central Nigerian community: An unmatched case-control study. BMC Public Health. 19:112.*
7. *Elimian, K.O., Musah, S., Oyebanji, O., Yennan, S., Jinadu, A., Williams, N., Ogunleye, A., Ikweazu, C. (2019). Descriptive epidemiology of cholera outbreak in Nigeria, January – November, 2018: Implications for the global roadmap strategy. BMC Public Health. 19:1264*
8. *Griffith, D.C., Kelly-Hope,L.A., & Miller, M.A., (2006). Review of reported cholera outbreaks worldwide, 1995-2005. American Journal of Tropical Medicine Hygiene. 75 (5): 937-977*
9. *Gyoh, S.K. (2011) Cholera epidemics in Nigeria an indictment of the shameful neglect of government. Journal of Africa Health. 33(1):5.*
10. *Ibrahim J.M, Sufiyan M.B, Olorukooba A.A, Gobir A.A, Adam H, Amadu L.(2016). Knowledge, attitudes, and practices of household water purification among caregivers of under-five children in biye community, Kaduna State. Arch Med Surg;1:35-41*
11. *Khadka K, Shah S.K, Sanal T.S, Mathias J, Upadhayay A,Ghimire R et al.(2017) Knowledge and Awareness about CervicalCancer Screening and HPV vaccine among Females aged15-49 years in Rukum District of Nepal. American Journal ofCancer Prevention.;5(1):10-16.*
12. *Kickbusch, I., (2001), Health literacy: Addressing the health and education divide. Health Promotion International 16(3):289-97*
13. *Kindhauser, M.K,(2003). Communicable diseases 2002: global defence against infectious disease threat. Geneva: World Health Organisation: (WHO/CDS/2003.15). 74-79*
14. *Lilje, J., Kessely, H., & Mosler, H-J. (2015). Factors Determining Water Treatment Behavior for the Prevention of Cholera in Chad Am J Trop Med Hyg. 93(1): 57–65*
15. *Mpazi, V. M and. Mnyika, K .S (2005), Knowledge, Attitudes And Practices Regarding Cholera outbreaks In Ilala Municipality Of Dar Es Salaam Region, TanzniaEast African Journal of Public Health (2) 2 6-11*

16. *Mengel, M.A, Delrieu I, Heyerdahl L, Gessner B.D. (2014) Cholera outbreaks in Africa. Curr top microbiol Immunol.; 379 :117–44.*
17. *Mengel M.A. (2014). Cholera in Africa: new momentum in fighting an old problem. Trans R Soc Trop Med Hyg. 108(7):391–2.*
18. *Nigeria Centre for Disease Control(2020), Building a Strong Workforce for Public Health Emergency Management in Nigeria Weekly Epidemiological Report retrieved on 2nd May 2020 from ncdc.gov.ng*
19. *NCDC (2021). National Monthly Update for Cholera in Nigeria: NCDC Situation Report Retrieved on 30th March 2021 from reliefweb.int*
20. *Nurmi, J. (2013) Sexual and Reproductive mHealth Better Access to Health Care through Mobile phones . Geneva Foundation for Medical Education and Research Retrieved on 4thDecember 2020 from www.gfmer.ch › mhealth › pdf › Sexual-R*
21. *Nayyef, H J., Al-Obaidi, M. J. L, Jabbar, F., Hannon, A.Y. Waleed, S, Taqi I A. & Jasem, I. A, (2017).Public awareness of cholera in Baghdad: A demographic study of educated Iraqi citizens. Current Research in Microbiology and Biotechnology (5) 5 1206-1211*
22. *Ogbeyi O, Bito T, Anefu G, Igwe G.(2017) Determinants of knowledge, attitude and preventive practices relating to cholera in Wadata-a sub-urban slum of Makurdi, Benue state, north Central Nigeria. Int Res J Public Environ Heal; 4:277–282.*
23. *Olopha, O. O.& Egbewale, B. (2017).Awareness and Knowledge of Diarrhoeal Home Management among Mothers of Under-five in Ibadan, Nigeria. Universal Journal of Public Health 5(1): 40-45*
24. *Omole, V.C, Wamyil-Mshelia, T.C, Aliyu-Zubair,R, Audu, O., Gobir, A.A, Nwankwo, B (2019), Knowledge and prevalence of diarrheal disease in a suburban community in north western Nigeria Sahel Med J ;22:114-20.*
25. *Orimbo E.O., Oyugi, E, Dulacha, D, Obonyo, M., Hussein, A.,Githuku, J., Owiny, M.,& Gura, Z., (2020) Knowledge, attitude and practices on cholera in an arid county, Kenya, 2018: A mixed-methods approach PLOS ONE 15(2)*
26. *Penrose, K, Castro, M.Cd, Werema, J, Ryan, E.T (2010) Informal Urban Settlements and Cholera Risk in Dar es Salaam, Tanzania. PLoS Negl Trop Dis 4(3).*

27. *Rimal, R.N. and Lapinski, M.K. (2009). Why health communication is important to public health. Bulletin of the World Health Organisation (Online), 87,247. Retrieved 4th December 2020 from www.who.int*
28. *Sack, D.A, Sack, R.B, Nair, G.B, Siddique, A.K (2004). Cholera. The Lancet 363:223-233*
29. *Saif-Ur-Rahman, K. M, Parvin, T, Bhuyian, S. I, Zohura, F. ,Begum, F., Rashid, M. Biswas, S. K, Sack, D., Sack, R. B. Monira, S. , Alam, M George, C. M & Shaly, N. J, (2016), Promotion of Cholera Awareness among Households of Cholera Patients: A Randomized Controlled Trial of the CHoBI7 Intervention. American Journal of Tropical Medicine and Hygiene 95(6): 1292- 1298.*
30. *Sharma, S.K., &Guputa, Y.K.,(2017). Mass Media for Health Education A Study in the State of Rajasthan. Multidisciplinary international journal 1(1).26-39*
31. *Sasaki, S, Suzuki, H, Igarashi, K, Tambatamba, B, Mulenga, P (2008) Spatial analysis of risk factor of cholera outbreak for 2003–2004 in a peri-urban area of Lusaka, Zambia. American Journal of Tropical Medicine and Hygiene 79: 414–421.*
32. *Schiavo, R. (2007). What is health communication? In health communication: from theory to practice, edited by R. Schiavo. San Francisco, CA: John Wiley & Sons, 3-29.*
33. *Siddique AK, Islam Q, Akram K, Mazumder Y, Mitra A, Eusof A.(1989). Cholera epidemic and natural disasters; where is the link. Tropical Geographical Medicine. 41 (4):377–382.*
34. *Sinyange, N, Brunkard, J.M, Kapata, N, Mazaba M.L, Musonda K.G, Hamoonga R, et al.(2018) Cholera epidemic—Lusaka, Zambia, October 2017-May 2018. MMWR Morb Mortal Wkly Rep. 67(19):556–9.*
35. *Sokey, P.P.,Adjei, E., Ankrah, E.(2018) Media use for health information dissemination to rural communities by the Ghana Health Service Journal of Information Science, Systems and Technology, (2) 1, 1 – 18.*
36. *Wahed, T, Kaukab, S. S. T., Saha, N.C. Khan, I.A., Khanam, F., Chowdhury, F., Saha, A., Khan, A., Siddik, A. U., Cravioto, A., Qadri, F., & Uddin, J., (2013) Knowledge of, attitudes toward, and preventive practices relating to cholera and oral cholera vaccine among urban high-risk groups: Findings of a cross-sectional study in Dhaka, Bangladesh. BMC Public Health, 13:242*

37. *World Health Organization (2004). Cholera outbreak: assessing the outbreak response and improving preparedness. Geneva: World Health Organisation. WHO/CDS/CPE/ZFK/2004.4.*
38. *World Health Organization /UNICEF (2010). Joint Monitoring Programme for Water Supply and Sanitation. Progress on sanitation and drinking-water: 2010 update. Geneva, World Health Organization/UNICEF.*