ASSESSMENT OF KNOWLEDGE AND ATTITUDE TOWARDS CHOLERA PREVENTION AMONG MALE AND FEMALE ADULTS IN ZAMFARA STATE, NIGERIA

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Abstract
The study assessed the knowledge and attitude towards cholera prevention among male and female adults of Zamfara State, Nigeria. One research question and one hypothesis were formulated to guide the study. The ex-post facto research design was used for the study. The population of this study comprised of adults male and female in Zamfara State whose population by gender is 1,069,751 adult male and 2,139,503 adult female, hence, a total population of 3,209,254. Three hundred and ninety nine (399) respondents were selected using proportionate sampling technique. A researcher-developed questionnaire was used to collect data for the research. The data collected were analyzed using independent sample t-test. The findings of the study revealed that there is significant difference in the male and female adults, knowledge of cholera prevention in Zamfara State; There is significant difference in the male and female adults attitude towards cholera prevention in Zamfara State, The study concludes that adult Males have adequate knowledge on cholera prevention than adult Female in Zamfara State, adult Females have a positive attitude towards cholera prevention than adult male in Zamfara State. The study recommended among others that Seminars and workshop should be organized for adult male and female to create more awareness of cholera prevention to improve their knowledge with emphasis placed on female adult. Adult male and female should be encouraged by government and Health personnel to improve in their attitude towards cholera prevention with emphasis placed on male adult and female should improve in participation in sanitation to prevent a cholera outbreak.

Introduction

Cholera is an extremely virulent disease with its transmission closely linked to inadequate access to clean portable water, poor food handling and poor environmental sanitation. The disease is caused by contamination of food or water by the bacterium *Vibrio cholerae.* There are only two serogroups of *V. cholerae*(01 and 0139) that cause outbreaks out of many serogroups that exist. The infection is characterized by severe bouts of acute diarrhea (rice-water stool) and vomiting, it affects people of all ages. According to the World Health Organization (WHO)(2017).Cholera is a disease of public health concern globally and it is an indicator of inequity and lack of social development. Many countries in the world are affected by cholera; Pakistan, Somalia, Sudan, Vietnam, Haiti, India; Bangladesh and other Asia and African countries. Cholera is particularly endemic in many African countries. Devastating epidemics of cholera have occurred in Angola, Ethiopia, Zimbabwe, Ghana, and Nigeria among others. Akinsinde (2014) reported that most cholera infections are not detected, but large outbreaks of cholera occur in developing countries. They pointed out that industrialized countries have seen practically no cholera cases for over a century because of their good water and sewage treatment infrastructure.

The number of cholera cases is possibly much higher than what is reported to the World Health Organization because of differences in case definitions, authorities reluctance to acknowledge and report cholera, poor hospitals surveillance systems, lack of effective diagnostic tests and similarities in clinical presentation of cholera with other Acute Watery Diarrhoea (AWD) diseases. Within Africa, half of all cases between 1970 and 2011 were notified from only seven countries; Angola, Democratic Republic of Congo, Mozambique, Nigeria, Somalia, Tanzania and South Africa. In developing countries, it is difficult to calculate the exact number of cases as many go unreported due to socio-political concern that an outbreak may have a negative impact on tourism to the country. In Nigeria, Cholera remains endemic and increase in morbidity and mortality is high in the northern part of the country, probably due to many people using water from open wells. It is one of the infectious diseases that remains a major health burden in Nigeria and it is a growing threat, especially for those most vulnerable. The most vulnerable include those without clean water, with lack of access to soap water and sanitation, the displaced, the food insecure and the impoverished who are most at risk of being infected, they will become very ill and likely to die.

The northern parts of Nigeria including some part of Zamfara State have been implicated in presenting with cholera in recent times. It was speculated that more than 260 people died of cholera in four northern states with over 96 *people* in Maidugari, Bill, Gwoza, Dikwaand Jajere council areas of Borno *state*. The persistence of cholera in Nigeria has been attributed by many studies to disruption in public sanitation services, landslides and floods also contribute to outbreak by disrupting the normal balance of nature, open flow of sewage water within the surrounding, food and water supplies contaminated by parasites and bacteria when essential system like those for water and sewage are

destroyed, lack of resources, infrastructure and disaster preparedness system among others. Generally, it is believed that cholera occurs in most countries in the dry season, but in Nigeria where it is endemic, it occurs in both rainy and dry seasons, although the burden of cholera tends to increase during beginning of rainy and dry seasons. However, it is still being reported in many studies that the affected areas with cholera in the country lacked good water supply, have poor sanitation, suffer from over crowdedness, poor public health education, lack of good medical infrastructure among others (Marin, 2018).

Cholera remains a global threat, the disease is transmitted through the faecal-oral route that is, eating and drinking contaminated foods and water that contain vibrio cholerae, which leads to water diarrhea, followed by vomiting, rapid dehydration, muscle cramps, suppression of urine and the victim loses a large quantity of fluid and electrolytes including sodium and potassium, thickening of the blood and fall in blood pressure, extreme exhaustion and the eyes are sunken, patient frequently collapses (Chiyangwa,2012). Social disruption and poverty contribute to the spread and lethality of epidemic cholera. Since 1980, 28 (56%) of 50 nations in sub-Saharan Africa have been at war (Icek & Fazio,2018), resulting in migration of adult, disruption of access to clean water, lack of proper waste disposal and lack of health care facilities (Sur, 2017). Large internally displaced and refugee population in Africa have suffered highly lethal cholera epidemics (WHO, 2014). For example, the large resulted in an estimated 58,000 to 80,000 cases of cholera within 1 month and a case – fatality rate of at least 6% (Grey & Geoffrey, 2018). Underlying malnutrition may also increase the risk of cholera mortality. Undernourished infants, particularly those suffering from deficiencies of zinc and vitamin A, appear to be more susceptible to death from diarrheal disease (United National, 2017).

A deeper understanding of community perception to disease outbreak would allow us to better anticipate and control potentially inappropriate and unexpected behaviours in the event of an outbreak. This behaviour spring from the combination of factors such as personal values, social and cultural background, gender and education. The dynamic nature of infectious disease transmission means that behaviour by a number of individuals in a community can have a significant impact on the spread of an outbreak. Understanding the perception of the public to infectious disease outbreak would assist public health agencies to pinpoint knowledge gaps which may be utilized in developing educational programmes to increase the awareness of the public. Learning more about knowledge, attitudes and behaviours of the public during an infectious outbreak can be crucial to improve communication efforts by public health officials and clinicians. It is now apparent that the study is essential to bring out the knowledge and attitude of cholera prevention which this study is aimed at. These questions were asked.

What is the knowledge of cholera prevention among adult male and female in Zamfara State and What is the attitude of adult male and female towards cholera prevention in Zamfara State of Nigeria to further guide the research study.

Hypotheses

Ho_1 There is no significant difference between adult male and female of Zamfara state in their knowledge of cholera prevention.

Ho_2 There is no significant difference between adult male and female of Zamfara state in their attitude towards cholera prevention.

Methodology

An ex-post facto research design was adopted to assess the knowledge and attitude towards prevention of cholera among male and female adult in Zamfara State. Asika (2009), stressed that, ex-post facto (after the fact) research design is a systematic empirical study in which the researcher does not in any way control or manipulate independent variable because the situation for the study already exist or has already taken place. The population of this study comprised of adult male and female in Zamfara State whose population by gender is 1,069,751 for adult men and 2,139,503for adult women. Hence, the total population for male and famale is 3,209,254. Stratified random sampling technique was used to divide the state into three (3), **already existing senatorial zones in the state as strata namely Zamfara North Senatorial** Zone, Zamfara Central Senatorial Zone and Zamfara West Senatorial Zone. In each ofthe three (3) senatorial zones or strata, one (1) local government area was purposively selected. In the affected local government areas, the outbreak was not all over the communities, for example, in Anka Local Government area, the outbreak was in Bagega community, Bakura Local Government area the outbreak was more in Yarkuhuji community, and in Gusau Local Government Area was in Gusau community. In each of the affected area, systematic sampling was used to select the household for the sample and in this technique, the researcher and his research assistants counted four households and the fourth was used as a sample to select the respondents in the affected area. The sample size for this study was drawn from the population of the three (3) purposively selected Local Government areas. The sample size was determined to be400, the number of respondents drawn from each local government areas was worked out by proportions.

To have equal representation of sampling between adult male and female, each local government area sample size was further divided into two (2), adult men and women. The researchers met the respondents in their various households and gave them fair opportunity for each member to be included in the research. Simple random sampling method was used.

The instrument for data collection was questionnaire. The questionnaire consists of three (3) sections. Section A contains three (3) items on demographic characteristics of the respondents. Section B contains ten (10) items on knowledge about cholera prevention. Section C contains ten (10) items on the attitude of the respondents towards cholera prevention.

The researches and two (2) research assistants administered the questionnaire to the respondents using the random sampling technique. In this technique, any adult man or

woman within the sampled household was qualified to fill the questionnaire, therefore, the researcher and the research assistants distributed the copies of the questionnaire to the respondents they met in the various households. For the respondents who could not read, the researchers and the research assistant interpreted the questions in their native language (Hausa). Convenient sampling technique was used. The researchers and the research assistants retrieved the copies of the questionnaire on the spot. The process of data collection lasted for three weeks.

One sample t-test was used to test the formulated hypotheses on knowledge and attitude of male and female adults towards cholera prevention.

Results

Table 1: independent sample t-test analysis of difference in Knowledge towards Cholera Prevention among Adult Male and Female in Zamfara state.

Group	N	Mean	SD	t-cal	A	t-crit	df	p- value	Decision
Male	134	2.98	0.293	2.42	0.05	1.96	397	0.04	Rejected
Female	265	2.97	0.289						

t=df(397),(1.96) = P< 0.05

Table 1 showed that there are differences in the male and female adult knowledge of cholera prevention in Zamfara State. The table showed the t-cal of 2.42 and t-crit of 1.96 while the p-value is 0.04 (p>0.05). This means that there is difference in the knowledge of cholera prevention between male and females in Zamfara State. The mean difference shown there is a slight difference between the male (2.98) and female (2.97) knowledge in favour of the Male. This means male have more knowledge on cholera prevention in Zamfara State. Therefore, the null hypothesis which stated that there is no significant difference between male and female adult of Zamfara state on the knowledge of cholera prevention is hereby rejected.

Table 2: independent sample t-test analysis of difference in attitude towards Cholera Prevention among Adult Males and Females in Zamfara state.

Group	N	Mean	SD	t-cal	A	t-crit	df	p- value	Decision
Male	134	3.28	0.31	3.71	0.05	1.96	397	0.01	Rejected
Female	265	3.45	0.20						

t=df(397),(1.96) = P< 0.05

Table 2 showed that there is significant differences in the male and female adult attitude towards cholera prevention in Zamfara State. The table showed the t-cal of 3.71 and t-crit of 1.96 while the p-value is 0.01 (p> 0.05). This means that there is significant difference

in the attitude towards cholera prevention between male and female in Zamfara State. The mean difference shown there is a significant difference between the male (3.28) and female (3.45) attitude in favour of the female. Therefore, the null hypothesis which stated that there is no significant difference between male and female adult of Zamfara state on the attitude towards cholera prevention is hereby rejected.

Discussion of Findings

The Finding on hypothesis one revealed that there is significant difference in the male and female adult knowledge of cholera prevention in Zamfara State**.** The table showed the t-cal of 2.42 and t-crit of 1.96 while the p-value is 0.04 (p> 0.05). This means that there is difference in the knowledge of cholera prevention between male and females in Zamfara State. The mean difference shown there is a slight difference between the male and female knowledge in favour of the Male. This means male have more knowledge on cholera prevention in Zamfara State. Therefore, the null hypothesis which stated that there is no significant difference between male and female adult of Zamfara state on the knowledge of cholera prevention is hereby rejected.

This finding agreed with a research finding conducted by Chiyangwa (2012), which revealed that adult men and women in Zimbabwe have significant knowledge towards cholera prevention and knew its effect on the economic. The finding of the study is in line with Okeke (2016), who pointed out that the students in Federal College of Education, Pankshin, Plateau state are knowledgeable about cholera prevention as well as the causes and mode of cholera transmission. Furthermore, the result of this study supported Kalua (2016), which showed that adult male and female in Haiti had knowledge of common symptoms of cholera which they described has diarrhea and vomiting in the same vain they are also knowledgeable about the transmission mode which were indicated being the consumption of contaminated water and consumption of contaminated food; and the adult male and female are knowledgeable about the preventive measures against diarrhea and vomiting.

As regards attitude of adult men and women in Zamfara state towards cholera prevention, the finding revealed that the respondents have preventive attitude. The result showed that there was significant difference in the male and female adult attitude towards cholera prevention in Zamfara State. The table showed the t-cal of 3.71 and t-crit of 1.96 while the p-value is 0.01 (p> 0.05). This means that there is significant difference in the attitude of cholera prevention between male and females in Zamfara State. The mean difference show there is a significant difference between the male and female attitude in favour of the female. Therefore, the null hypothesis which stated that there is no significant difference between male and female adult of Zamfara state on the attitude towards cholera prevention is rejected. The finding is in line with Eagly and Chaiken (2005), where it was reported that attitude of adult male and female towards cholera prevention is positive. According to the research, adult male and female prefer washing their fruits before eating them and also washing their hands before and after meals. The finding is also in line with Chiyangwa (2012), who pointed out that there was a high level of belief on preventive

ways of cholera outbreak. The author emphasized the need for more heath education programme to improve on cholera prevention.

Conclusions

Adult Male and female differ in knowledge of cholera prevention in Zamfara State. Adult Male have more knowledge on cholera prevention than adult Female.

Adult Male and female differ in attitude towards cholera prevention in Zamfara State**.**

Adult Female have more positive attitude towards cholera prevention than adult male in Zamfara State.

Recommendations

Seminars / workshop should be organized for adult male and female on cholera prevention so as to improve their knowledge with emphasis on female.

Adult male and female should be further encouraged by government and Health personnel to improve their attitude towards cholera prevention with emphasis on male.

References

Akinsinde, K.A. (2014). Distribution of phage types of V. Cholera 01 biotype E1 Tor in Nigeria. Implication in cholera mortality. *Int. Journal of Medical Science.* 6(12): 245-250.

Asika, N. (2009). *Researcher Methodology in Behaivoural Science.* Lagos, Lagos, Longman Nigeria PLC. 3rd Edition, 72-84.

Chiyangwa, A. (2012). *Community – Based Management:* A case study of a cholera outbreak in Zimbabwe. Unpublished Master of Public Health Thesis. New Zealand University. New Zealand, 54-89.

Eagly, A., Alice H., & Shallz, C. (2018).Attitude structure and function. *Handbook of Social Psychology,* ed. D.T. Gilbert, Susan T. Fiska, and G. Lindsey. New York: McGraw-Hill, 32-38.

Eagly, A., & Chaiken, S. (2005). Attitude Strength, Attitude Structure and Resistance to Change. In R. Petty and J. Kosnik (Eds), *Attitude Strength.*413-432.

Greg, M., & Geoffrey, H. (2018). The Psychology of Attitude and Attitude Change: *Sage Social Psychology Program*. Publisher Saga Press, London. 5TH Edition: 100-115.

Icek, K. & Fazio, K. (2018). *Attitude, Personality, and Behavior*. Publisher McGraw-Hill International. 10TH Edition: 7-12.

Kalua, F. (2016*).The Relationship between Knowledge, Altitude and Practice of Care Givers and Food Hygiene in Day Care Centres*. Unpublished M. Teach dissertation, Pretoria, Technikon Pretoria: 12-23.

Marin, M.A. (2018). Cholera Outbreak in Nigeria area Associated with Multidrug Resistant Atypical El Tor and Non-01/Non-0139 Vibrio Cholerae. *Journal of Tropical Disease*: 34(20)49-51

Okeke, L. (2016). Assessment of Knowledge, Attitude and Disease Prevention Practice. *Journal of Epidemiology and Public Health, 45 (2).13-26.*

Smith, G. (2017). Community: Behind the Broad Street Pump Aetiology, Epidemiology and Prevention of Cholera in mid- 19th century Britain. *International Journal of Epidemiology*, 31(5), 920-932.

Sur, D., (2017). Severe Cholera Outbreak following flood in a Northern District of West Bengal. *Indian J.Med,* 11(2):178-180.

United Nations.(2017). Water for Life. *Journal of Water Health*, 10(71):710-719.

Wood, W. (2017). Attitude Change: Persuasion and Social Influence. *Annual Review of Psychology*. 5(1):539-570.

World Health Organization (2014). Global Defense against the Infections Threat, Chapter on Cholera. *Geneva: WHO;* 74-9.

World Health Organization (2017). Guideline for Cholera control World Health Organization. *Global task force or cholera control, 2th Edition 7-11*