PROBLEMS ASSOCIATED WITH PREVALENCE OF COMMUNICABLE DISEASES AMONG SCHOOL CHILDREN IN GWALE LOCAL GOVERNMENT AREA OF KANO STATE

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Abstract
Communicable diseases constitute a considerable proportion of the global burden of morbidity and mortality especially among children. The incidences, prevalence and health problems of communicable diseases among children in Gwale Local Government Area of Kano State has become alarming, hence, the need for this study. A well- structured questionnaire was developed and administered to one hundred and twenty (120) randomly sampled respondents using the stratified and simple random sampling techniques. Seventy-five (75) fully completed questionnaire were collated and analysed using inferential statistics of Chi-square (X^2). The resultsfrom the study revealed that there is prevalence of communicable diseases among children in the area; they are diagnosed late because they are presented late due to paucity of information of the nature and mode of transmission of these diseases amongst other factors. It is, therefore, recommended that government enlighten the people on the nature of communicable diseases using health education, media houses and their religious and traditional leaders. Immunization is also suggested against childhood communicable diseases. These measures will go a long way to stemming the outbreak and spread of communicable diseases in the area.

Key Words: Communicable diseases, Immunization, Morbidity, Mortality, Prevalence,

Introduction
Through developments and the establishment of trade routes and especially now with rapid travel so readily available to large number of people, we have enabled pathogens to spread around the world (Tulchinsky and Varavikova, 2014) and the Corona Virus (COVID- 19) pandemic that has affected virtually all nations of the world. Communicable diseases are illnesses caused by viruses, or bacteria, fungi or parasites that people spread to one another through direct or indirect contact with contaminated surfaces, bodily fluids, blood products, insect bites or through the air (Edemekong, Huang 2019). Several communicable disease outbreaks have long presented a major public health challenge in Nigeria, given its size and complexity. The Northern part of Nigeria where Gwale Local Government is located has experienced series of outbreak of communicable diseases affecting more children than parents.

Diseases can also be transmitted through sharing of clothing and other materials, consumption of contaminated food and water, through inhalation of infected air or animal or through the agency of an intermediate animal host, vector or the environment. Communicable diseases include tuberculosis, cold, cough, diarrhea, pinkeye conjunctivitis, eye irritation, ringworm, chicken pox, small pox, eczema, head lice, oral thrush, rash, sore throat, measles, meningitis, mumps, HIV, hepatitis, etc. Due to the large number of these diseases that can be spread easily, the World Health Organization (WHO, 2019) defined this category of infectious diseases as those caused by microorganisms such as bacteria, virus, parasites and fungi that can be spread directly or indirectly from one person to another. Thus, a variety of disease producing bacteria and viruses are carried in the mouth, nose, throat and respiratory tract.

Communicable diseases along with maternal, prenatal and nutritional conditions in Nigeria accounted for an estimated 67% of all mortality in 2018 (Commonwealth Health Online, 2020). These diseases also constitute a considerable proportion of the global burden of morbidity and mortality accounting for 19.1% of the global burden of deaths. According to WHO (2019), in 2018 alone, an estimated 6.2 million children and adolescents under age of 15 years died mostly from preventable causes. Of these deaths, 5.3 million occurred in the first five years of life with almost half of these in the first month of life.

Several large infectious disease outbreaks have been reported in Nigeria including the meningitis outbreak in 1996 with 109,500 cases and 11,717 deaths (Mohammed et.al.,2000), cholera outbreaks in 2001 and 2004 (WHO, 2018); the meningitis outbreak in 2017 (WHO, 2017) and the more recent Ebola and Corona Virus diseases (COVID- 19).Barnett, Edelmann and Meadow, (2011) affirmed that infectious diseases are prevalent and remain a leading cause of death, although individual illnesses are often mild and of minor consequences. Most instances of common communicable diseases such as measles, chicken pox and mumps are encountered in childhood. More than half of these early child deaths are preventable or can be treated with simple, affordable interventions including immunization, adequate nutrition, safe water and food and appropriate care by a trained health provider when needed. Agbonlahor and Makinde, (2018) affirmed that prevention of diseases is the planning for and measures taken to forestall the onset of disease. Successful prevention of any disease therefore depends on the knowledge of its causation, mode of transmission, identification of risk factors and risk groups, availability of prophylactic measure and facilities for early detection and treatment (Parmar, 2007).

The health of children in the school system is of vital importance for effective learning. It is also an outgrowth of the universal search for more improved way of life because if good health is disrupted or truncated, dreams would not be attained. It is in support of this fact that the school health programme has as one of its eighteen (18) specific objectives, ‘reduction in the incidence of communicable

and non- communicable diseases' (Moronkola, 2012). It is important that communicable diseases occurrence is prevented because of the nature of the spread of these diseases. In Nigeria, the prevalence of communicable diseases differs from one community to another depending on the availability of health facilities, materials, personnel and health awareness level of the people.

In Kano State, the government is working hard to minimize and eradicate the spread of communicable diseases through the implementation of the Federal Government Expanded Programme on Immunization (EPI), building of MCH clinics and hospitals in all the local government areas of the state, provision of drugs, training and recruitment of health personnel. However, issues of outbreak of communicable diseases are still rampant among school children and this may be related to the research questions raised in respect of lack of diagnosis at early stages, non-use isolation of the infected persons from the uninfected, poor communication with health authorities and hindrances to immunization. This study therefore assessed the incidence and problems associated with communicable diseases among children in Gwale LGA of Kano State.

Methodology

The descriptive survey research design was adopted for the study. This design was employed because according to Shields and Rangarjan (2013), it helps to describe the characteristics of a population or phenomenon being studied. The population of the study comprised all the children in Gwale Local Government Area. Simple random sampling was used to pick seven health centers from Loko Madera, Jaen Sekia, Chiranch, Gidan Gabas, Dukawuya, Mandowari, Gadon Kaya. Simple random sampling was also used to select the sample of 75 (60% of the population) from the population of health personnel and parents in Gwale Local GovernmentArea. The instrument for this study was a self-structured, vetted questionnaire, designed in line with the objectives of the study; and based on the modified Likert four-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).It was validated by health experts for content and face validity and subjected to reliability analysis using PearsonProduct Moment Correlation Coefficient (PPMCC). The reliability coefficient r=0.76was high enough to establish the reliability of the instrument for the study. The researcher and two trained research assistants participated directly in the administration of the questionnaire. The fully completed copies of the questionnaire (75) were analyzed using inferential statistics of Chi-square to test the hypotheses at $p < 0.05$ for significance.

Results and Discussion

Table 1: Reasons for late detection and diagnosis of communicable diseases

Options	SA	A	D	SD	TOTAL	Df	X^2 Cal	X^2 Crit
1	O=20 E=14.29	O=41 E=20.92	O=11 E=22.30	O=3 E=20.45	**75**			
2	O=22 E=15.71	O=34 E=17.35	O=13 E=26.35	O=6 E=40.91	**75**			
3	O=38 E=27.14	O=32 E=16.33	O=5 E=10.14	O=0 E=0	**75**			
4	O=25 E=17.86	O=40 E=20.41	O=8 E=16.22	O=2 E=13.63	**75**			
TOTAL	**105**	**147**	**37**	**11**	**300**	**9**	**154.96**	**16.92**

$X^2_{(9)}$=154.96>0.05 *Significant

A careful examination of Table 1 reveals the several reasons put forward for not detecting communicable diseases early enough. The higher proportion of Strongly Agreed and Agreed respondents (252) indicated that illiteracy and strong belief in traditional methods of treating suspected ailments are the reasons for late detection and diagnosis of communicable diseases in the area of study. This is opposed to the number (48) that disagreed and strongly disagreed there is late detection and diagnosis of communicable diseases. When these results were subjected to inferential statistics of Chi square, calculated value was significant ($X^2_{(9)}$ = 154.96> 0.05). Thus the stated hypothesis of no significant response difference was not accepted on the basis of the reasons for late detection and diagnosis of communicable diseases.

Table 2: Why infected person were not isolated from un-infected ones

Options	SA	A	D	SD	TOTAL	Df	X^2 Cal	X^2 Crit
1	O=30 E=19.91	O=31 E=18.31	O=9 E=13.78	O=5 E=34.36	**75**			
2	O=18 E=11.95	O=46 E=27.17	O=9 E=13.78	O=2 E=13.36	**75**			
3	O=20 E=13.27	O=29 E=17.13	O=26 E=38.27	O=0 E=0	**75**			
4	O=25 E=17.86	O=40 E=20.41	O=8 E=16.22	O=2 E=13.63	**75**			
TOTAL	**93**	**146**	**52**	**9**	**300**	**9**	**118.61**	**16.92**

$X^2_{(9)}$ = 118.61>0.05 *Significant

A cursory look at Table 2 reveals why patients with communicable diseases were not isolated from the un-infected ones. From the responses obtained, it was not part

of the culture to keep the sick away from their loved ones; hence those that strongly agreed and agreed with non-isolation were higher (239) than those who disagreed and strongly disagreed (61). When these responses were subjected to Chi square computation, results obtained was significant ($X^2_{(9)}$ = 118.61> 0.05). Hence the stated null hypothesis of no significant response difference was not accepted on the basis of reasons given for not isolating infected persons from un-infected ones.

Table 3: Why health authorities were not informed about the outbreak of diseases

Options	SA	A	D	SD	TOTAL	Df	X^2 Cal	X^2 Crit
1	O=30 E=21.84	O=30 E=17.58	O=10 E=13.89	O=5 E=25	**75**			
2	O=25 E=18.20	O=30 E=17.58	O=16 E=22.22	O=4 E=20	**75**			
3	O=17 E=12.38	O=38 E=22.27	O=18 E=25	O=2 E=10	**75**			
4	O=31 E=22.52	O=30 E=17.58	0=10 E=13.89	O=4 E=20	**75**			
TOTAL	**103**	**128**	**54**	**15**	**300**	**9**	**101.8**	**16.92**

$X^2_{(9)}$ = 101.8 >0.05 *Significant

Table 3 gave several reasons why health authorities are not usually informed early during disease outbreaks. Most of the responses bother on the financial implications involved in orthodox medical practice, directives on feeding practices that may be difficult to procure and indirect isolation of victims in hospital wards. The respondents that strongly agree and agree to these reasons are higher (231) than those that disagree and strongly disagree (69). However, when these variable responses were subjected toChi-square (X^2) computation, a significant response difference was obtained ($X^2_{(9)}$=101.8 > 0.05). Thus, the stated null hypothesis of no significant response difference was not accepted based of the reasons given.

Table 4: Analysis to responses to hindrances to immunization

Options	SA	A	D	SD	TOTAL	Df	X^2 Cal	X^2 Crit
1	O=30 E=15.20	O=40 E=26.55	O=5 E=12.10	O=0 E=0	**75**			
2	O=43 E=21.79	O=29 E=19.25	O=3 E=7.26	O=0 E=0	**75**			
3	O=35 E=17.74	O=20 E=13.27	O=14 E=33.87	O=6 E=56.25	**75**			
4	O=40 E=20.27	O=24 E=15.93	O=9 E=21.77	O=2 E=18.75	**75**			
TOTAL	**148**	**113**	**31**	**8**	**300**	**9**	**175.97**	**16.92**

$X^2_{(9)}$ = 175.97> 0.05 *Significant

As presented in Table 4, the reasons put forward as hindrances to immunization ranged from belief in traditional and religious healing homes which are known to the people, disruptions in family life in respect of timing, use of dangerous chemicals that can cause permanent damage to the recipients to fear of infertility in later years for those administered with it. Respondents that strongly agree and agree(261) are higher than those that disagree and strongly disagree (49) with these reasons. Result of the variable responses subjected to Chi-square computation was significant ($X^2_{(9)} = 175.97 > 0.05$). Thus, the stated null hypothesis was rejected on the basis of the reasons put forward as hindrances to immunization.

Discussion

Communicable diseases are infectious diseases caused by microorganisms such as bacteria, virus, parasites and fungi that can be spread directly or indirectly from one person to another (WHO, 2019). These diseases can also be transmitted through sharing of clothing and other materials, consumption of contaminated food and water, through inhalation of infected air or animal or through an intermediate animal host, vector or the environment. The study revealed that diseases are not diagnosed at early stages because they are not presented early because some parents are not only religious and superstitious in their belief, some parents also lack knowledge of the nature of these in the area of study. This could be found in the analysis presented in Table 1in which Chi-square (X^2) calculated value was higher than table value ($X^2_{(9)} = 154.96 > 0.05$). This finding is in agreement with the finding of Oberklaid (2014) who stated that prevention and early intervention have long been a far reaching goal for health planners and academics. The idea of introducing a health check for children in order to detect emerging problems and risk factors, and offer treatment early in life, seems a natural and welcome policy response. Although some studies see the early detection of emerging infections as problematic (Lambert, et. al., 2012), believing that issues in young children are transient, systematically eliciting and responding to parents concerns is the best method of early detections *(Murdoch Children's Research Institute, 2009).*

Result of the study obtained in respect of the question raised about the non-isolation of infected persons ($X^2_{(9)} = 118.61 > 0.05$) showed majority of the respondents were of the opinion that they lacked information necessary for proper isolation without resulting to stigma. This finding corroborates the statement of Edemekong and Huang, (2019) who suggest that infected persons are not isolated because they do not know how contagious communicable diseases are, but basically, they lack information. Health professionals need to be aware that some require reporting to appropriate health department or government agencies in the locality of outbreaks so education and awareness can be done to improve the outcome of the patient.

Result presented in Table 3 on why health authorities are not informed about outbreak of the disease, revealed that those who strongly agreed and agree

were higher in number than those who disagreed and strongly disagreed.Test for significance Chi square (X^2) results showed calculated value critical value ($X^2_{(9)}$ = 101.8>0.05). Thus, the above stated reasons why health authorities are not being informed about outbreak of disease was significant. It showed that they do not have means in most of the areas to report cases of outbreak of diseases, lack awareness of the appropriate channel to use and health authorities do not have agents in some of these areas. Hence community elders use superstitious practices in controlling outbreak of diseases, which turn out negative. In support of this statement, Isere, Fatiregun, and Ajayi (2015) asserted that lack of awareness of the existence of a surveillance network for notifiable diseases is one of the reasons why health authorities do not get information on disease outbreak.Detecting and responding to infectious diseases has long presented a major public health challenge in Nigeria, given its size and complexity (Njidda, et. al., 2018). According to the authors, the Nigeria Centre for Disease Control (NCDC) reports that several large infectious diseases have been reported in Nigeria, from yellow fever, meningitis to cholera; the public health challenge continues to grow- rapid population growth, increasing movement of people and destruction of infrastructure in the North East of Nigeria following the 'Boko Haram' insurgency and outbreaks from new and re-emerging pathogens**.**

On the hindrances to immunization, it was observed that political and religious differences, socio- cultural factors, insufficient campaign on immunization by government, and lack of awareness by the populace on the importance of immunization were reasons strongly agreed by respondents, thus significant ($X^2_{(9)}$ = 175.97 > 0.05). This agrees with the findings of Niederhauser&Ferris (2016) and Esposito, Principi and Cornaglia (2014) which assert that parental barrier, lack of understanding on the parts of parents and health workers, misinformation and socio-cultural factors play a role in hindering immunization.

Conclusion and recommendations

Based on the result of the study, it was concluded that the most prevalent reason why communicable diseases among school children are not presented early is because they are not detected early enough and signs and symptoms are not noticed.Some parents believe in traditional medicine and spiritual healing rather than modern medication. Most people are not aware of the fact that there should be isolation of infected people from the un-infected ones. This is not done because they lack information of the contagious nature of communicable diseases.The channel/ appropriate authorities for reporting outbreak of diseases in rural area is not available in most cases because of communication gap between health authorities and the community, hence the belief in superstition and traditional methods in controlling diseases.There's a complete lack of awareness of the importance of immunization despite government's enlightenment campaigns and

socio-cultural, political and religious influences are barriers to people in the community getting immunization.Based on the findings of this study, the following recommendations are proffered:

i. Government has a big role to play in ensuring children are immunized irrespective of tribal or religious influences through the expanded programme on immunization.
ii. Enlightenment should be carried out by various agencies on the mode of transmission of communicable diseases through health education, mediaand religious leaders. Audio messages are more effective in the local dialect while using community elders
iii. Medical services should be extended to every town, district and village to make medical services easily accessible.
iv. There is need for improvement in sanitation, housing, provision of portable water and immunization. Government should provide adequate facilities, such as health centres, drinking water and drugs. This will go a long way in reducing drastically, the incidences of communicable diseases.
v. School authorities should constantly have partnership programmes that would involve parents/ guardians in their health education programmes for effects.

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