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Assessment of the Prevalence, Risk Factors and Management of Gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria

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Abstract

Background: Globally, diarrhea caused more than 1.3 million deaths and was the fourth leading cause of death (499,000 deaths) among children younger than 5 years old in 2015. The objective of this study is to assess the prevalence, risk factors, and management of gastroenteritis in a federal teaching hospital in Ido Ekiti, Ekiti State, Nigeria.

Methods: A quantitative descriptive research survey type was employed. It involved a quantitative survey through the administration of a structured questionnaire to assess the prevalence, risk factors, and management of gastroenteritis in a federal teaching hospital in Ido Ekiti, Ekiti State, Nigeria. A sample size of 113 was determined using Fisher's formula. Data were collated and analyzed using the Statistical Package for Social Science (SPSS) version 25.

Results: From this study, 113 (100.0%) of the respondents agreed to have diagnosed at least a single case of gastroenteritis in the past. 96 (85.0%) of the respondents agreed that gastroenteritis is one of the most reported cases at the hospital. 112 (99.1%) of the respondents agreed that the risk of infection is higher in children due to their lack of or low immunity. This study concluded that the prevalence of gastroenteritis in federal teaching hospital Ido Ekiti, Ekiti State, Nigeria is 15.9%.

Conclusion: This study concluded that the government should ensure proper and adequate provision of needed medical resources for the prevention, treatment, and management of gastroenteritis. This includes the provision of possible vaccines that prevents it.

Keywords: Prevalence, Risk Factors, Prevention, Management, Gastroenteritis.

INTRODUCTION

Gastroenteritis is one of the most common diseases among children and adults and continues to be a major public health issue worldwide. Globally, diarrhea caused more than 1.3 million deaths and was the fourth leading cause of death (499 000 deaths) among children younger than 5 years in 2015 (Wang et al., 2016). According to the World Health Organization (WHO), over 70% of diarrhea-related deaths among children less than 5 years old occur in Africa and South-East Asia. Rotavirus, norovirus, astrovirus, and adenovirus are the recognized major viral etiologies of diarrheal illness with rotavirus being a leading cause. Rotaviruses belong to the family Reoviridae, which are non-enveloped viruses with an 11-segment double-stranded RNA genome and are classified into nine groups (A-I) based on the VP6 gene sequence-based classification system (WHO, 2018).

Group A rotavirus (RVA) is the most common cause of severe diarrhea in infants and young children worldwide. Noroviruses (NoVs,), of the Caliciviridae family, is the second most common cause of viral diarrhea in children less than 5 years old 9 and are frequently associated with food and water-borne outbreaks. They are non-enveloped RNA viruses and are divided into seven genogroups (GI-GVII)10 with only three (GI, GII, GIV) being associated with human infections. Human adenoviruses (HAdVs) are classified in the family Adenoviridae (linear double-stranded DNA

genome) which contains seven species (A-G) and 52 different serotypes. Adenovirus species F types 40 and 41 are primarily associated with childhood diarrhea (Souza et al., 2021).

Human astroviruses (HAstVs), a single-stranded RNA virus belonging to the Astroviridae family are a leading cause of diarrhea in children and are classified into 10 genotypes. Viral gastroenteritis is transmitted through the fecal-oral route and also from person to person by airborne droplets. It occurs with similar frequencies in developed and developing countries, but the seasonality differs from region to region (Arowolo, et al., 2020). The epidemiology of infectious gastroenteritis is complex and multifactorial, involving both hosts and environmental factors. Local weather factors such as temperature, relative humidity, and rainfall have also been suggested as important factors in the spread and seasonality of infectious gastroenteritis (Manouana et al., 2021).

Nigeria is a country in sub-Saharan Africa located in West Africa between Benin and Cameroon. As of 2017, it had a population of 198 million people distributed over 36 states and the Federal Capital Territory. The Global Burden of Disease estimates in 2015 showed that Nigeria has one of the highest under-5 mortality rates in the world (328 deaths per 100 000) and both India and Nigeria combined had 42% of the 499 000 global under-5 deaths due to diarrhea in 2015 (Vos et al., 2015).

Previous studies in Nigeria showed the different prevalence of EVs infection was higher, differences between these studies were largely due to different epidemiological characteristics of the populations studied, distinct diagnostic methods used, availability of vaccine, and vaccine coverage for rotavirus, among others. In Nigeria, routine investigation of diarrheal diseases is usually based on enteric bacteria identification. Tests for EVs are usually not performed due to the high cost of required reagents and poor health care system. Hence, the actual burden of EVs causing gastroenteritis among children is underestimated (Oppong et al., 2020).

Materials and Methods

Study Area

Ido Ekiti is located in Ido-Osi Local Government Area of Ekiti State, Nigeria. It is situated in the northern part of the state where the routes from Oyo, Osun, and Kwara states respectively converge. Ido-Ekiti is the headquarters of Ido-Osi local council. It is bounded in the east by Ipere and Iludun, in the south by Igbole and Ifinsin axis in the north and northwest by Usi Ekiti and Ilogbo Ekiti. It has a population of 37,891, an Area of 2.18 km²and a Population Density of 17,384 / km. The major hospital in Ido Ekiti is the Federal Teaching Hospital, Ido-Ekiti, which is a Federal Government-owned foremost cutting-edge for primary, secondary, and tertiary health service providers and clinical training institutions in Nigeria. The hospital which is one of the fastest-growing teaching hospitals in the country was established in 1998 by the federal government to provide affordable, qualitative, and accessible medical care to every state of the federation, particularly to the people living in the grassroots of Ekiti State and its environment. The major schools in Ido Ekiti are School of Nursing Ido Ekiti, Oganganmodu Grammar School Ido Ekiti., Government Secondary School Ido Ekiti, New Wine College Ido Ekiti, Community High School Ido Ekiti, and Christ's Public College Ido Ekiti.

Advocacy/Community Entry:

A visit to Ido-Osi Local Government Area secretariat Ekiti State was made to discuss the researcher's intentions and seek approval to carry out this study.

Study Population

According to Burns and Grove (2018), a population is all the elements that meet the criteria for inclusion in a study. Polit (2015) described a population as an aggregate or totality of all the objects, subjects, or members that conform to a set of specifications. In this study, the target population is selected children between the age of five (5) presenting with acute, uncomplicated gastroenteritis at the General Outpatient Clinic Federal Medical Center (FMC) Ido Ekiti.

Study Design

This study used a quantitative descriptive design to gather information about the prevalence, risk factors, and management of gastroenteritis in Ido Ekiti, Ekiti State, Nigeria.

Inclusion criteria

The eligible group included in this research are General outpatients presenting with signs and symptoms of gastroenteritis from 2020 through 2021 in Federal Medical Center (FMC) Ido Ekiti.

Exclusion criteria

The non-eligible group excluded from this research were non-outpatients presenting with signs and symptoms of gastroenteritis from 2020 through 2021 in Federal Medical Center (FMC) Ido Ekiti.

Sample size determination

The sample size was determined by using the statistical formula of Fisher (Korlik & Higgins, 2015).

N = z2pq/d2

Z = 1.96, 95% confidence limit

d= 0.05 as the acceptable margin of error

p= the probability of the event occurring = 0.08

q= 1-p = which is the probability of the event not occurring in this 1-p =0.92

The sample size will then be determined as follows;

n= 1.962 (pq)/d2

n= 1.962(0.08) (0.92)/ 0.0025

n= 0.28274/0.0025

n= 113

Sampling techniques

A simple random sampling technique was used for this study to select 113 health workers from the study area.

Research Instruments

The tool that was used for data collection was a self-structured questionnaire. Relevant data for the analysis will be collected through the distribution of the questionnaire among the population under study. The self-structured questionnaires were distributed to the respondents to elicit information from respondents on background characteristics and other variables relevant to the study objectives and questions. Samples were collected from patients and laboratory tests were conducted on all the samples on gastroenteritis.

Methods of data collection

The structured questions provided data that is objective and reliable for testing. The researcher ensured that the data collection process was properly carried out. The data collection instrument was also carefully administered, discussed, and explained to the respondents for ease of understanding. This was done in Ido Ekiti, Ekiti state for ease of distribution and collection.

Measurement of variables and data processing

The methods of measurement and analysis were objective based using Statistical Package for Social Science (SPSS) clearly and understandably.

Method of Data Analysis

After the data collection, the instruments were thoroughly checked for completeness and consistency. The data collected was analyzed using The Statistical Package for the Social Sciences (SPSS) version 22.0. Both descriptive and inferential statistics of frequency count and percentage and graphs will be used for this study.

Ethical Considerations

Ethical consideration is important in ensuring professional research and is non-intrusive in accomplishing research objectives. For this study, the researcher sought for permission to carry out the study from relevant administrative authorities and confirmed that the study was to accomplish academic goals only. The researcher also acknowledged additional sources of information from other scholars.

The researcher used a self-developed questionnaire on the respondents to elicit the available data used for this study. The respondents' consent was sought, and the research procedures were explained and confidentially assured. The questionnaires were collected from the respondents after they were filled.

Limitations of the study

The major constraints suffered in the course of the study included:

1. The reluctance of some community members to respond to many of the questions asked; and
2. Cultural belief of not saying vulgar (raw) words as regards anything to do with gastroenteritis.

However, these limitations will not affect the validity and reliability of this study.

RESULTS

Table 1: socio demographic information of the respondents

Variables	Number	Frequency
Age		
15-19 years	4	3.5%
20-29 years	7	6.2%
30-39 years	46	40.7%
40-49 years	37	32.7%
50 years and above	19	16.8%
Marital Status		
Married	87	77.0%
Divorced	13	11.5%
Widowed	8	7.1%
Single	5	4.4%
Ethnicity		
Hausa	0	0.0%
Fulani	0	0.0%
Igbo	8	7.1%
Yoruba	105	92.9%
Religion		
Christianity	83	73.5%
Islam	13	11.5%
Traditional	17	15.0%
Educational Status		
Primary	3	2.7%
Secondary	6	5.3%
Vocational	0	0.0%
Tertiary	104	92.0%
None	0	0.0%

Table 1 above shows the socio-demographic information of respondents. age distribution shows that 46 (40.7%) of the respondents were between the age of 30-39 years. 37 (32.7%) of the respondents were between 40-49 years. 19 (16.8%) of the respondents were in the age bracket of 50 years and above, and 7 (6.2%) of the respondents were between 20-29 years. While only a few 4 (3.5%) of the respondents were between (15-19 years). Data on marital status shows that 87 (77.0%) of the respondents were married, 13 (11.5%) were married, 8 (7.1%) were widowed and only 5 (4.4%) were single. Data on ethnicity distribution shows that 105 (92.9%) of the respondents were Yoruba while 8 (7.1%) were Igbo. The majority 83 (73.5%) of the respondents practice Christianity, 13 (11.5%) practice Islam and 17 (15.0%) practice traditional religion. Data on educational status shows that most 104 (92.0%) of the respondents attained a tertiary level of education, 6 (5.3%) attained a secondary level of education and 2 (2.7%) attained a primary level of education.

Answering Research Questions

Question 1: What is the prevalence of gastroenteritis in the Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria?

Table 2: Prevalence of gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria?

Prevalence of gastroenteritis	Yes	No
Have you heard of gastroenteritis before?	113 (100.0%)	0 (0.0%)
Have you diagnosed any case of gastroenteritis before?	113 (100.0%)	0 (0.0%)
Is gastroenteritis one of the most reported cases at the hospital?	96 (85.0%)	17 (15.0%)

Is there any increase in the reported cases of gastroenteritis in the past few years?	15 (13.3%)	98 (86.7%)
Is there any decrease in the reported cases of gastroenteritis in the past few years?	102 (90.3%)	11 (9.7%)

Table 2 above, 113 (100.0%) of the respondents agreed that they had heard of Gastroenteritis before. 113 (100.0%) of the respondents agree to have diagnosed at least a single case of gastroenteritis in the past. 96 (85.0%) of the respondents agreed that gastroenteritis is one of the most reported cases at the hospital. 98 (86.7%) disagreed that there has been an increase in the reported cases of gastroenteritis in the past few years. And 102 (90.3%) agreed that there has been a decrease in the reported cases of gastroenteritis in the past few years.

Table 3: Prevalence of gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria

Variables	Suspected cases	Confirmed cases	Frequencies	Sign.
Viral (Rotavirus, norovirus, adenovirus, astrovirus, and coronavirus)	113	3	2.7%	0.048
Bacterial (Salmonella entericaserovar Typhimurium etc.)		9	8.0%	
Parasitic (Giardia lamblia, Entamoebahistolytica, Cryptosporidium spp.,)		1	0.9%	
Bacterial toxins		2	1.8%	
Chemicals (lead poisoning)		2	1.8%	
Medications (antibiotics)		1	0.9%	
Total	113	18	15.9%	

Table 3 above shows the prevalence of gastroenteritis in the study area. The table shows that of all the 113 suspected cases, 3 (2.7%) were gastroenteritis due to viral microorganisms like rotavirus, norovirus, adenovirus, astrovirus, and coronavirus. 9 (8.0%) were confirmed as gastroenteritis due to bacterial like Salmonella entericaserovar Typhimurium. 1 (0.9%) were gastroenteritis due to parasites like Giardia lamblia, Entamoebahistolytica, and Cryptosporidium spp. 2 (1.8%) were gastroenteritis due to bacterial toxins. 1.8% were gastroenteritis due to chemicals like lead poisoning. Also, 1 (0.9%) were gastroenteritis due to medications like antibiotics. Of the total 113 suspected cases of gastroenteritis, only 18 (15.9%) were confirmed as gastroenteritis. The test outcome shows that gastroenteritis is a significant disease in the study area since the P-values (significant values = 0.048) are less than levels of significance (0.05), which implies that the factor is statistically significant.

Question 2: What are the risk factors of gastroenteritis in the Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria?

Table 4: Risk factors of gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria

Risk factors	Yes	No
Risk of infection is higher in children due to their lack/low of immunity?	112 (99.1%)	1 (0.9%)
Older adults are vulnerable to gastroenteritis due to their possible weaned immune systems later in life	98 (86.7%)	15 (13.3%)
Schoolchildren or dormitory residents is a risk factor for gastroenteritis	96 (85.0%)	17 (15.0%)
Weakened immune systemis a risk factor for gastroenteritis	103 (91.2%)	10 (8.8%)
Each gastrointestinal virus has a season when it is most active	113 (100.0%)	0 (0.0%)

Tale 4 above shows the risk factors of gastroenteritis in the Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria. 112 (99.1%) of the respondents agreed that the risk of infection is higher in children due to their lack/low of immunity while 1 (0.9%) disagreed. 98 (86.7%) of the respondents agreed that older adults are vulnerable to gastroenteritis due to their possible weaned immune systems later in life while 15 (13.3%). 96 (85.0%) of the respondents agreed that schoolchildren or dormitory residents was a risk factor for gastroenteritis while 17 (15.0%) disagreed. The majority, 103 (91.2%) of the respondents agree that a weakened immune system is a risk factor for gastroenteritis while 10 (8.8%)

disagreed. Also, 113 (100.0%) of the respondents agreed that each gastrointestinal virus has a season when it is most active.

Question 3: What are the management strategies of gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria?

Table 5: management strategies of gastroenteritis in a Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria

Management	Yes	No
Is taking plenty of fluid a means of managing gastroenteritis?	98 (86.7%)	15 (13.3%)
Is Oral rehydration drinks a means of managing gastroenteritis?	113 (100.0%)	0 (0.0%)
Is medication a proper means of managing gastroenteritis?	113 (100.0%)	0 (0.0%)
Is continue breastfeeding and other milk feeds a means of managing gastroenteritis in small children?	86 (76.1%)	27 (23.9%)
In severe cases, is intravenous fluid therapy is a way of managing gastroenteritis?	113 (100.0%)	0 (0.0%)

Table 5 above shows the management strategies of gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria. 98 (86.7%) of the respondents agreed that taking plenty of fluid is a means of managing gastroenteritis while 15 (13.3%) disagreed. 113 (100.0%) of the respondents agreed that oral rehydration drinks are a means of managing gastroenteritis. 113 (100.0%) %) of the respondents agreed that medication is a proper means of managing gastroenteritis. 86 (76.1%) of the respondents agreed that continuing breastfeeding and other milk feeds are means of managing gastroenteritis in small children while 27 (23.9%) disagreed. 113 (100.0%) %) of the respondents agreed that in severe cases, intravenous fluid therapy is a way of managing gastroenteritis.

Question 3: What are the preventive and control strategies for gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria?

Table 6: Preventive and control strategies for gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria

Prevention	Yes	No
Is immunization a better means of preventing gastroenteritis?	112 (99.1%)	1 (0.9%)
Is health education a means of preventing gastroenteritis?	98 (86.7%)	15 (13.3%)
Is food hygiene an appropriate means of preventing gastroenteritis?	103 (91.2%)	10 (8.8%)
Is personal hygiene an appropriate means of preventing gastroenteritis?	111 (98.2%)	2 (1.8%)
Is the use of portable water an appropriate means of preventing gastroenteritis?	89 (78.8%)	24 (21.2%)

Table 6 above shows the preventive and control strategies for gastroenteritis in Federal Teaching Hospital, Ido Ekiti, Ekiti State, Nigeria. The majority 112 (99.1%) of the respondents agreed that immunization is a better means of preventing gastroenteritis. 98 (86.7%) of the respondents agreed that health education is a means of preventing gastroenteritis while 15 (13.3%) disagreed. 103 (91.2%) of the respondents agreed that food hygiene is an appropriate means of preventing gastroenteritis while 10 (8.8%) disagreed. 111 (98.2%) of the respondents agreed that personal hygiene is an appropriate means of preventing gastroenteritis. Also, 89 (78.8%) of the respondents agreed that use of portable water is an appropriate means of preventing gastroenteritis while 24 (21.2%) disagreed.

Table 4.3 shows the prevalence of gastroenteritis in the study area. The table shows that of all the 113 suspected cases, 3 (2.7%) were gastroenteritis due to viral microorganisms like rotavirus, norovirus, adenovirus, astrovirus, and coronavirus. 9 (8.0%) were confirmed as gastroenteritis due to bacterial like Salmonella entericaserovar Typhimurium. 1 (0.9%) were gastroenteritis due to parasites like Giardia lamblia, Entamoebahistolytica, and Cryptosporidium spp. 2 (1.8%) were gastroenteritis due to bacterial toxins. 1.8% were gastroenteritis due to chemicals like lead poisoning. Also, 1 (0.9%) were gastroenteritis due to medications like antibiotics. Of the total 113 suspected cases of gastroenteritis, only 18 (15.9%) were confirmed as gastroenteritis. In comparison, this agrees with the findings of a study conducted by Oguntoye & Yusuf (2019), which shows that a total number of 5,912 patients with different conditions were admitted

into FMC Ido Ekiti annually from 2009-2016, out of which 813 (13.7%) were gastroenteritis conditions. The similarities in findings are traceable to geographical, methodological, and research design.
Table 4.5 shows the management strategies of gastroenteritis in federal teaching hospital, Ido Ekiti, Ekiti State, Nigeria. 98 (86.7%) of the respondents agreed that taking plenty of fluid is a means of managing gastroenteritis while 15 (13.3%) disagreed, this is an agreement with the findings of the study conducted by Wain et al. (2015). 113 (100.0%) of the respondents agreed that oral rehydration drinks are a means of managing gastroenteritis. 113 (100.0%) %) of the respondents agreed that medication is a proper means of managing gastroenteritis. 86 (76.1%) of the respondents agreed that continuing breastfeeding and other milk feeds are means of managing gastroenteritis in small children while 27 (23.9%) disagreed. 113 (100.0%) %) of the respondents agreed that in severe cases, intravenous fluid therapy is a way of managing gastroenteritis. This agrees with WHO (2018), which stated that the management of gastroenteritis depends on the cause, but may include: plenty of fluids., oral rehydration drinks, admission to the hospital and intravenous fluid replacement, in severe cases., antibiotics, if bacteria are the cause and drugs to kill the parasites, if parasites are the cause.

Summary

Table 4.1 above shows the socio-demographic information of respondents. age distribution shows that 46 (40.7%) of the respondents were between the age of 30-39 years. 37 (32.7%) of the respondents were between 40-49 years. 19 (16.8%) of the respondents were in the age bracket of 50 years and above, and 7 (6.2%) of the respondents were between 20-29 years. While only a few 4 (3.5%) of the respondents were between (15-19 years). Data on marital status shows that 87 (77.0%) of the respondents were married, 13 (11.5%) were married, 8 (7.1%) were widowed and only 5 (4.4%) were single. Data on ethnicity distribution shows that 105 (92.9%) of the respondents were Yoruba while 8 (7.1%) were Igbo. The majority 83 (73.5%) of the respondents practice Christianity, 13 (11.5%) practice Islam and 17 (15.0%) practice traditional religion. Data on educational status shows that most 104 (92.0%) of the respondents attained a tertiary level of education, 6 (5.3%) attained a secondary level of education and 2 (2.7%) attained a primary level of education.

From this study, 113 (100.0%) of the respondents agree to have diagnosed at least a single case of gastroenteritis in the past. 96 (85.0%) of the respondents agreed that gastroenteritis is one of the most reported cases at the hospital. 112 (99.1%) of the respondents agreed that the risk of infection is higher in children due to their lack/low of immunity. 98 (86.7%) of the respondents agreed that taking plenty of fluid is a means of managing gastroenteritis. The majority 112 (99.1%) of the respondents agreed that immunization is a better means of preventing gastroenteritis, this conforms with the findings of the study conducted by Milligan et al. (2018)

CONCLUSION

This study shows the various levels of prevalence, various management strategies, risk factors, and appropriate means of preventing gastroenteritis. According to Table 4.3 of this study, the prevalence of gastroenteritis in the federal teaching hospital, Ido Ekiti, Ekiti State, Nigeria is 15.9%. This might be a result of the season of conducting this research as the prevalence rate tends to be higher during the rainy season.

Recommendations

Recommendations to government

1. Government should ensure proper and adequate provision of needed medical resources for the prevention, treatment and management of gastroenteritis. This includes provision of possible vaccine that prevent it.
2. Government should always organize seminars for health worker to update their knowledge and skills in the prevention, treatment and management of gastroenteritis.
3. Government should create proper awareness among the general public on the causes, risk factors and proper preventive mechanism of gastroenteritis.

Recommendations to health workers

1. Health workers should ensure proper diagnostic procedure and adequate laboratory investigation while managing various health conditions to avoid misdiagnosis.
2. Health workers should always health educate their patients or clients after medical consultation or treatment to avoid possible complications and reoccurrence of such condition.

Recommendations to individual

1. Everybody should always practice proper food hygiene to prevent gastroenteritis.
2. People should ensure they promptly seek medical help or attention when they notice any unusual changes in their body to prevent possible complications of t gastroenteritis.
3. People should take vaccines that prevent gastroenteritis such as ROTA if available.

REFERENCES

1. Arowolo KO. Ayolabi CI. Adeleye IA. Lapinski B. Santos JS. &Raboni SM. (2020) Molecular epidemiology of astrovirus in children with gastroenteritis in southwestern Nigeria.;165(11):2461-2469. doi: 10.1007/s00705-020-04741-0.
2. Manouana GP. Nguema-Moure PA. MbongNgwese M. Bock CT. Kremsner PG. Borrmann S. Eibach D. Mordmüller B. Velavan TP. Niendorf S. &Adegnika AA. (2021) Genetic Diversity of Enteric Viruses in Children under Five Years Old in Gabon. 24;13(4):545. doi: 10.3390/v13040545.PMID: 33805214
3. Milligan R. Paul M. Richardson M. & Neuberger A. (2018). "Vaccines for preventing gastroenteritis fever". The Cochrane Database of Systematic Reviews. 5: CD001261. doi:10.1002/14651858.CD001261.pub4. PMC 6494485. PMID 29851031.
4. Oguntoye OO.&Yusuf M. (2019) Medical Emergency Conditions at a Tertiary Health Facility in Nigeria. DOI: 10.18502/sjms.v13i1.1684 https://knepublishing.com/index.php/SJMS/article/view/1684/3964
5. Oppong TB. Yang H. Amponsem-Boateng C. Kyere EKD. Abdulai T. Duan G. &Opolot G. (2020) Enteric pathogens associated with gastroenteritis among children under 5 years in sub-Saharan Africa: a systematic review and meta-analysis Epidemiol Infect. 2;148:e64. doi: 10.1017/S0950268820000618.PMID: 32115003
6. Souza EV. de Souza YFVP. Medeiros RS. de Azevedo LS. de Queiroz TGA. Sanz-Duro RL. Marinho RDSS. Komninakis SV. Timenetsky MDCST. &Luchs A. (2021) Diversity of enteric and non-enteric human adenovirus strains in Brazil.;166(3):897-903. doi: 10.1007/s00705-020-04946-3. Epub 2021 Jan 18.PMID: 33459882
7. Vos T. Allen C. Arora M. Barber RM. Bhutta ZA. & Brown A. (2015) Disease and Injury Incidence and Prevalence Collaborators "Global. regional. and national incidence. prevalence. and years lived with disability for 310 diseases and injuries. 1990-2015: a systematic analysis for the Global Burden of Disease Study". Lancet. 388 (10053): 1545–1602. doi:10.1016/S0140-6736(16)31678-6. PMC 5055577. PMID 27733282.
8. Wain J. Hendriksen RS. Mikoleit ML. Keddy KH. &Ochiai RL (2015). "Gastroenteritis fever". Lancet. 385 (9973):1136–45. doi:10.1016/s0140-6736(13)627087.
9. Wang H. Naghavi M. Allen C. Barber RM. Bhutta ZA & Carter A. (2016). "Global. regional. and national life expectancy. all-cause mortality. and cause-specific mortality for 249 causes of death. a systematic analysis for the Global Burden of Disease Study ". Lancet. 388 (10053): 1459–1544. doi:10.1016/s0140-6736(16)31012-1. PMC 5388903. PMID 27733281.
10. World Health Organisation (WHO) (2018) Gastroenteritis vaccines position paper" (PDF). RelevéÉpidémiologiqueHebdomadaire. 83 (6): 49–59. PMID 18260212.

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