

Assessing Maternal Management of Childhood Illnesses in Anaocha Local Government Area, Anambra State: A Study of Home-Based Practices and Strategies

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Abstract

Original Research Article

Background: Children under 5 years are especially vulnerable to infectious diseases like malaria, pneumonia, diarrhea, HIV, and tuberculosis which are also the major causes of death among this age group. In this study, the three most common under 5 illnesses will be studied which are malaria, pneumonia, and diarrhea. **Objectives:** To ascertain the home management of childhood illness among mothers in Anaocha local government area of Anambra state. **Methodology:** This cross-sectional study was conducted among women and data collected using pretested interviewer administered questionnaire among 320 respondents. Results were analyzed using SPSS 25.0. **Results:** A total of 320 women were interviewed. Their mean age was 28.40 ± 6.07 years, more than half of the respondents were within the age range of 20-29 years. Respondents who had heard about these illnesses before the study were 99.4%, 62.5% and 80.9% for malaria, pneumonia, and diarrhoea respectively. Majority of the respondents had good knowledge of symptoms of childhood illness, 222(69.4%) with an average knowledge score of about $56.4 \pm 21.0\%$. The relationship between educational level of mothers and preventive measure was statistically significant but there was no association between age and preventive measures. The prevalence of home management of the different childhood illnesses was 0.90, 0.81 and 0.36 for malaria, diarrhoea and pneumonia respectively. More than two-third of the respondents visited the hospital to seek for external assistance. The factors identified to cause delays in seeking medical care include cost of health care, 178(55.6%); and transportation, 159(49.7%). With respect to age, highest educational level attained, occupation of mothers and their relationship to visiting the hospital within 24hours of onset of illness, there was significant association with a p-value < 0.05 . **Conclusion:** It was found that mothers were able to recognise symptoms of childhood illnesses. Misconceptions about the treatment and prevention of pneumonia still exist among mothers, these adversely affect the outcome of the management of pneumonia. However, there is need for health education and promotion of appropriate home management of childhood illnesses among mothers.

Keywords: Diarrhoea, Malaria, Pneumonia, Under-5, Childhood Illnesses.

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BACKGROUND

Children under 5 years are especially vulnerable to infectious diseases like malaria, pneumonia, diarrhea, HIV and tuberculosis which are also the major causes of death among this age group [1]. In this study, the three most common under 5 illnesses will be studied which are malaria, pneumonia, and diarrhea. For older children,

non-communicable diseases, injuries, and conflict pose significant threats. The survival of children in developing countries depends on the family's and community's ability to access basic needs to support life. Each year at least 3 million children under the age of five die in the developing world due to environmental-related illnesses [2].

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Malaria is a significant cause of under-five mortality in Africa and constitutes nearly 25% of child mortality outside the neonatal period [3]. An estimated 207 million malaria cases and 627 000 malaria-related deaths occurred globally in 2012, Most of the deaths were among children less than the age of five. Of all the under-five mortality, 85% occurred in sub-Sahara Africa [4]. In sub-Saharan Africa, malaria infection rate rises rapidly from zero to 2.0% during the first 3 months of life and reaches 50.0% by the age of 1 year. There is a persistent high infection rate through childhood [5]. Efforts to reduce malaria deaths have been deterred by lack of effective treatment but the Roll Back Malaria initiative aims to treat at least 60% of all malaria cases by WHO. Home-Based Management of malaria is now considered an important strategy for improving treatment practices and for reducing severe morbidity and mortality in resource-poor countries [3].

Globally, pneumonia accounted for 16% of deaths among children under 5 years of age and also one of the major causes of death overall in 2018 [6]. Integrated Global Action Plan for Prevention and control of Pneumonia aims to end preventable childhood deaths due to pneumonia by 2025 and reducing pneumonia mortality in children less than or equal to 5 years to fewer than 3 per 1000 live births [7]. Childhood community acquired pneumonia is the commonest type of pneumonia. Several bacteria and viruses and their combinations can cause the infection, but there is a lack of rapid and commercially available laboratory tests for most pathogens which may explain why the etiology is rarely established in clinical practice and why antibiotic treatment is empirical in most cases. About 60% of the cases are associated with respiratory syncytial virus infections, so often antibiotics use may be ineffective and unnecessary [8]. Fortunately, immunizations against *Streptococcus pneumoniae* and *Haemophilus influenzae*, the two commonest causes of severe pneumonia, have made huge reduction in pneumonia morbidity and mortality. However, these vaccines are not universally available with significant non-coverage in regions of the world where pneumonia-related deaths are the greatest [9]. *Streptococcus pneumoniae* is the single most common cause of pneumonia across all age groups, *Mycoplasma pneumoniae* has been found to be a common cause among school age and pre-school age children [10].

Diarrheal disease is a major cause of morbidity and mortality among under-fives especially in rural and peri-urban communities in developing countries and can be defined as passage of three or more loose stools per day [2]. Diarrhea causes about 11 per cent of child deaths worldwide, 90 per cent of these deaths occur in sub-Saharan Africa and South Asia [11]. The severity and spread of diarrhea is determined by contaminated food and water, inadequate sanitation, overcrowded shelters, poor hygiene practices as well as malnutrition. The major risk factors for death from diarrhea includes young age, dehydration, lack of breast feeding, and poor nutritional

status. Most of the diarrheal episodes are self-limited [11], The World Health Organization recommends the use of oral rehydration salt (ORS) and also zinc supplementation in diarrhea. The use of oral rehydration salt (ORS) is the first choice in diarrheal disease management. The fluids given could be either ORS or recommended home-based fluids (e.g., soups, rice water, yoghurt drinks or clean water) [12-15]. The early detection of diarrhea at home, early and optimal use of ORT, maintenance of proper, hygienic and safe feeding practices reduce the duration, severity, overall medical costs and death of under five children in diarrhea [11].

Delays in seeking appropriate medical care is one of the major factors contributing to the morbidity and mortality among children presenting to hospitals with severe forms of malaria, pneumonia and diarrhea [16-19].

The objective of this study is to ascertain the home management of childhood illness and factors that influence mothers' knowledge, preventive measures, and home treatment among mothers in Anaocha local government area of Anambra state.

METHODOLOGY

AREA OF STUDY

This study was conducted in Anaocha, LGA, a Local Government Area in Anambra State, south-eastern, Nigeria.

STUDY DESIGN: A cross-sectional descriptive study was adopted for this work.

STUDY POPULATION: The population was comprised of mothers who reside in Anaocha local government area.

INCLUSION CRITERIA; Respondents were mothers with at least one child under the age of five and were willing to participate in the study.

EXCLUSION CRITERIA: Mothers who did not give consent.

SAMPLE SIZE CALCULATION

The formula below was used to calculate the sample size.

$$N = \frac{Z^2 PQ}{d^2}$$

Where N is the minimum sample size: z is the standard normal deviate (1.96) at 95% confidence level.

p is the prevalence = 0.25²⁰

q = 1 - p = 0.75

d is the degree of precision is usually set at 5% (0.05).

$$N = \frac{1.96^2 \times 0.25 \times 0.75}{0.05^2}$$

$$N = 288$$

To calculate the attrition rate using 10%, the adjusted sample size N_s will be.

$N_s = n / 1 - f$ Where n = minimum sample size N_s = Adjusted sample size f = attrition rate

$N_s = 288 / 1 - 0.1$ $N_s = 320$

SAMPLING TECHNIQUE

A multistage sampling technique was employed.

STAGE 1: A simple random sampling technique was used to select four primary health care centres that was studied.

STAGE 2: In the selected primary health care centres, a systematic random sampling method was employed. The sample frame was gotten from the nurses' attendance each day. The first person to be recruited for each sample collection day was selected from the first four names in the sample frame using simple random sampling by balloting and then every 4th person from this name was selected subsequently. If the person selected does not meet the inclusion criteria, then the next person in the sample frame is sampled and then every 4th person after them.

RESEARCH INSTRUMENT

Data was collected through a pre-tested semi structured self-administered and validated questionnaire after seeking verbal consent following a proper orientation of the participants on the objectives and the importance of this study to the society. The questionnaire

was developed with guidance from several works already done on the subject/related or similar works.

DATA ANALYSIS

Data was analysed using SPSS version 25. Descriptive and inferential statistics was applied where necessary. Numerical variables were reported as mean, median and standard deviation, while categorical data will be reported using proportion and percentages. Test of significance, chi-square and T-test was used for both categorical and numerical variables respectively.

ETHICAL CONSIDERATION

This research work was approved by the Nnamdi Azikiwe University Teaching Hospital Ethics Committee (NAUTHEC) through the Head of Department of Community Medicine, Nnamdi Azikiwe University. Participants were well oriented on the objectives of the study; verbal consent was obtained prior to administration of the questionnaire. Data confidentiality was upheld according to the Helsinki declaration of bioethics.

RESULTS

A study was carried out to on Assessment of Home Management of Childhood illness Among Mothers in Anaocha Local Government Area, Anambra State. 320 mothers from Anaocha Local Government Area were sampled and the result obtained are presented in the tables and figures below:

Table 1: Showing the Socio-Demographic Characteristics of the Respondents

Variable	Frequency	Percentage
Age(years)		
< 20	15	4.7
20 - 29	168	52.5
30 - 39	113	35.3
≥40	24	7.5
<i>Average Age(years)</i>	<i>28.40±6.07 years</i>	
Gender		
Female	320	100.0
Tribe		
Igbo	269	84.1
Yoruba	30	9.4
Hausa	21	6.6
Religion		
Christianity	293	91.6
Islam	21	6.6
Traditionalist	6	1.9
Occupation (Mother)		
Civil Servant	43	13.4
Business Owner	171	53.4
Professional	15	4.7
Artisan	6	1.9
Student	54	16.9
Unemployed	31	9.7
Marital Status		
Single	17	5.3
In a relationship but not living together	19	5.9
Married	252	78.8

Variable	Frequency	Percentage
Divorced/Separated	18	5.6
Widowed	14	4.4
Educational Level		
None	6	1.9
Primary School	23	7.2
Secondary School	221	69.1
Tertiary	70	21.9
Employment status		
Employed full-time	103	32.2
Employed part-time	33	10.3
Self-employed	123	38.4
Doing casual work	43	13.4
Working under the table	4	1.3
Unemployed and not looking	9	2.8
Looking for work	5	1.6
Husband's occupation		
Business owner	212	66.3
Civil servant	48	15.0
Artisan	7	2.2
Student	2	0.6
Unemployed	6	1.9
Number of children		
1-3	176	55.0
4-6	131	41.0
≥ 7	13	4.0
Age of Last child(years)		
1	92	28.7
2	92	28.7
3	58	18.1
4	53	16.6
5	25	7.8
Sex of the last child		
Female	155	48.4
Male	165	51.6

From table 1 above, more than half of the respondents were within the age range of 20-29 years, 168(52.5%), with an average age of 28.4 ± 6.07 years. Majority of them were Igbo by tribe, 269(84.1%); Christians 293(91.6%), business owners 171(53.4%); married 252(78.8%) and have completed secondary education, 221(69.1%). A great percentage of them were self-employed, 123(38.4%) and employed fulltime,

103(32.2%), however, the husbands of majority of them were business owners, 212(66.3%). Majority of the respondents had 1-3 children, 176(55.0%), with the age of majority of their last child being 1-2 years, 184(57.4%). However, there were an almost equal distribution of the gender of last child with female and male prevalence of 155(48.4%) and 165(51.6%) respectively.

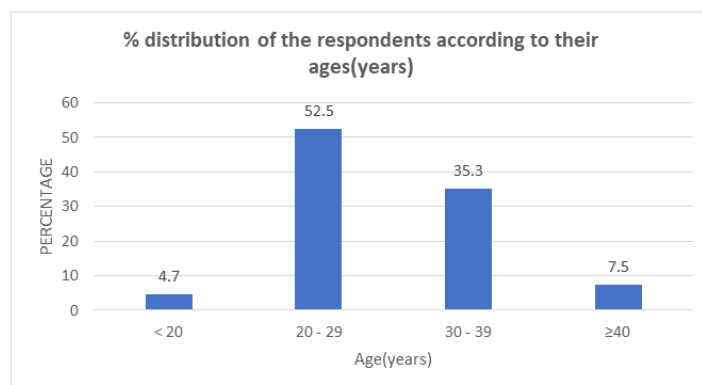


Figure 1: Depicting the % Distribution of the Respondents According to Their Age (Years)

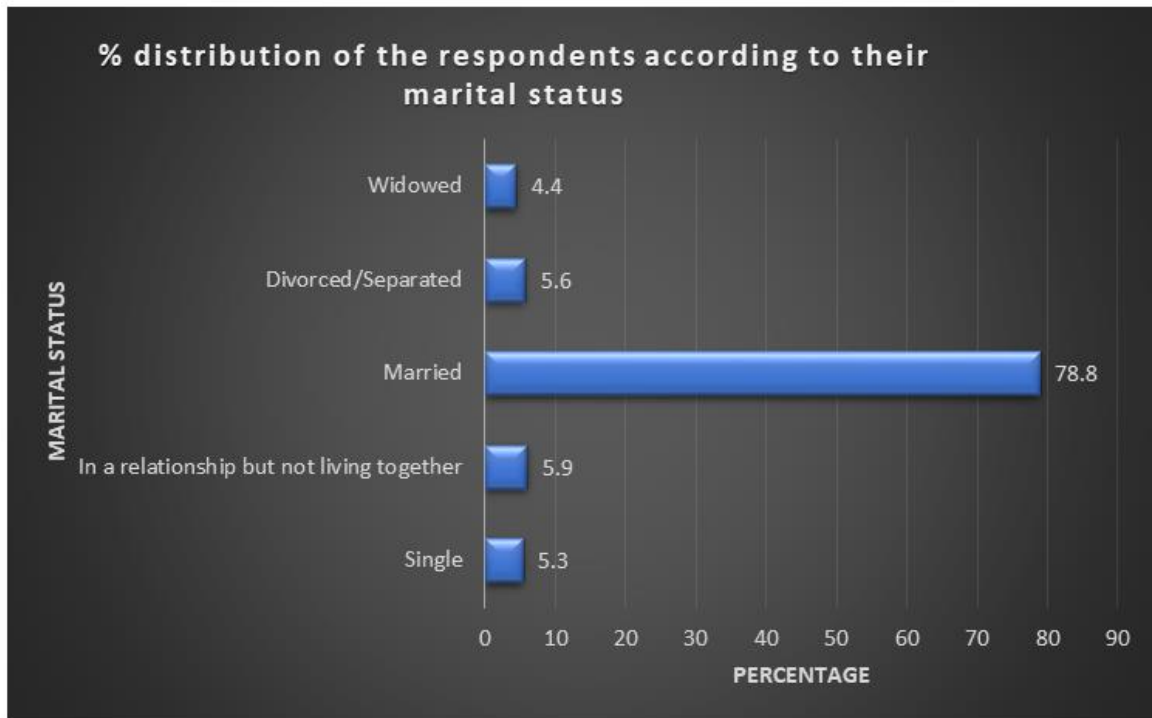


Figure 2: Showing the % Distribution of the Respondents According to Their Marital Status

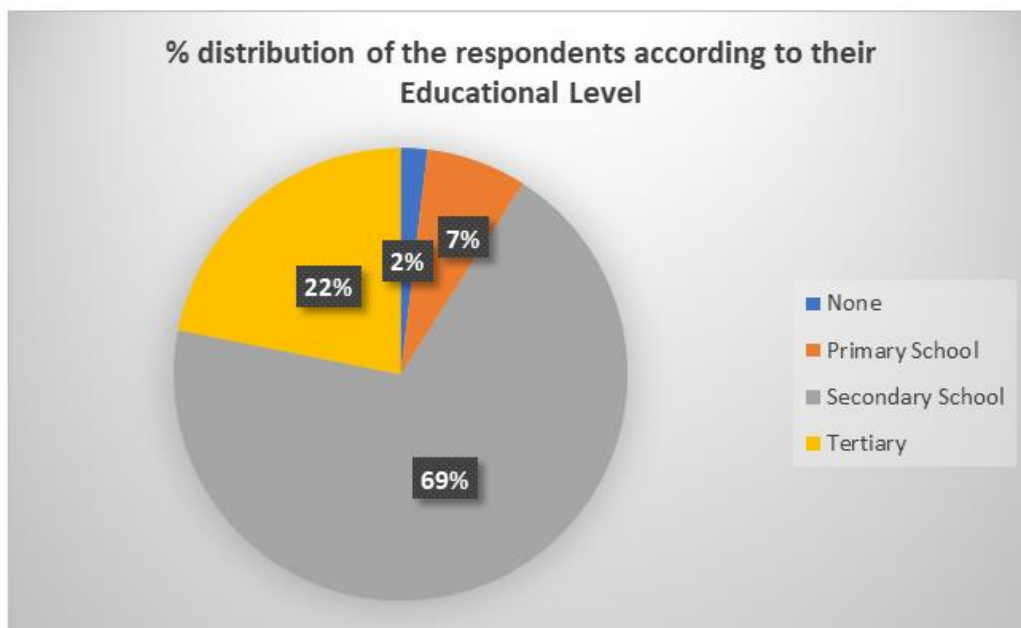


Figure 3: Is a Pie-Chart Showing the % Distribution of the Respondents According to Their Educational Level

Table 2: Showing the Respondents' Knowledge on Symptoms of Childhood Illnesses

Variables	Frequency	Percentage
Have you heard of malaria before now?		
Yes	318	99.4
No	2	0.6
If yes, what was your source of information about malaria?		
Medical Personnel	212	66.3
News/Media	54	16.9
Family & Friends	58	18.1
What are the symptoms of malaria?		
Fever	244	76.3

Variables	Frequency	Percentage
Chills	45	14.1
Rigor	82	25.6
Loss Of Appetite	151	47.2
Convulsion	48	15.0
Fatigue	10	3.1
Headache	142	44.4
Jaundice	2	0.6
Dark-Coloured Urine	101	31.6
Have you heard of Pneumonia before now?		
Yes	200	62.5
No	120	37.5
If yes, what was your source of information about pneumonia?		
Medical Personnel	135	42.2
News/Media	53	16.6
Family & Friends	13	4.1
What are the symptoms of pneumonia?		
Fever	67	20.9
Cough	149	46.6
Fast breathing	59	18.4
Noisy breathing	110	34.4
Chest Indrawing	91	28.4
Have you heard of diarrhoea?		
Yes	259	80.9
No	61	19.1
What are the symptoms of diarrhoea?		
Watery Stool	205	64.1
Vomiting	190	59.4
Fever	64	20.0
Lethargy	125	39.1
Bloody Stool	13	4.1
Loss of Appetite	113	35.3
Total knowledge of Symptoms of Childhood Illnesses		
Poor knowledge (knowledge score < 50)	98	30.6
Good knowledge (knowledge score ≥50)	222	69.4
Average knowledge score	56.37±21.01%	

From table 2 above, almost all the respondents had heard of malaria before the study, 318(99.4%) and their major source of information about malaria were from medical personnel, 212(66.3%). The common symptoms of malaria identified by the respondents were fever, 244(76.3%); loss of appetite, 151(47.2%), headache, 142(44.4%); and dark-coloured urine, 101(31.6%).

About two-third (2/3) of the respondents have heard of pneumonia before the study, 200(62.5%) and their source of information about pneumonia were also from medical personnel, 135(42.2%); however, the common symptoms of pneumonia identified by the

respondents were cough, 149(46.6%); noisy breathing, 110(34.4%); and chest indrawing, 91(28.4%).

About four-fifth (4/5) of the respondents have heard of diarrhoea before the study, 259(80.9%) and the common symptoms of diarrhoea alluded to by the respondents were watery stool, 205(64.1%); vomiting, 190(59.4%); lethargy, 125(39.1%); and loss of appetite, 113(35.3%).

Majority of the respondents had good knowledge of symptoms of childhood illness, 222(69.4%) with an average knowledge score of about 56.4±21.0%.

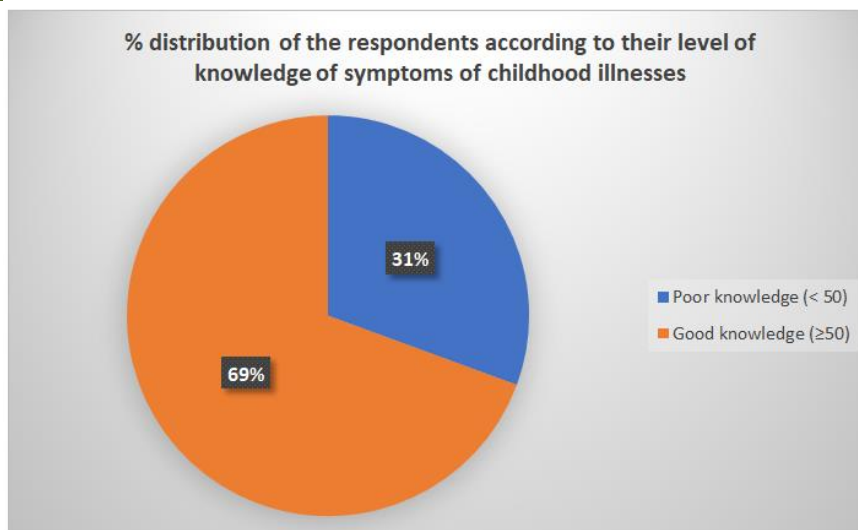


Figure 4: Is a Pie-Chart Depicting the % Distribution of the Respondents According to their Level of Knowledge of Symptoms of Childhood Illnesses

Table 3: Showing the Measures Employed by the Respondents to Prevent Childhood Illnesses

Variable	Frequency	Percentage
Is malaria preventable in children?		
Yes	312	97.5
No	8	2.5
If yes, what are the methods used to prevent the occurrence of malaria?		
Mosquito net	227	70.9
medications	75	23.4
Insecticides spray	164	51.2
Use of Protective Coverings	120	37.5
Clearing of Surrounding	155	48.4
Exclusive Breastfeeding	3	0.9
Is Pneumonia preventable in children?		
Yes	201	62.8
No	119	37.2
If yes, what are the methods used to prevent the occurrence of pneumonia?		
Washing of Hands	26	8.1
Vaccination	59	18.4
Minimize exposure to cold	146	45.6
Wearing of warm clothes	125	39.1
Avoiding persons with cough	10	3.1
Exclusive breastfeeding	0	0.0
Good nutrition	0	0.0
Is diarrhoea preventable in children?		
Yes	253	79.1
No	27	8.4
If yes, what are the methods used to prevent the occurrence of diarrhoea?		
Hand washing	165	51.6
Personal hygiene	220	68.8
Use of herbs	4	1.3
Medications	43	13.4
Immunization	6	1.9
Exclusive breastfeeding	4	1.3

From table 3 above, almost all the respondents alluded to malaria being preventable in children, 312(97.5%), and the common methods identified as prevention measures include mosquito nets, 227(70.9%);

insecticide sprays, 164(51.2%), clearing of surrounding, 155(48.4%); and use of protective coverings, 120(37.5%).

About two-third of the respondents alluded to pneumonia being preventable in children; 201(62.8%) and the common methods identified as being used to prevent the occurrence of pneumonia include minimize exposure to cold, 146(45.6%) wearing of warm clothes, 125(39.1%); and vaccination, 59(18.4%).

About four-fifth of the studied population attested to diarrhoea being preventable in children, 253(79.1%), and the common methods of prevention identified include personal hygiene, 220(68.8%); and hand washing, 165(51.6%).

Table 4: Showing the Respondents' Treatment of Childhood Illnesses

Variable	Frequency	Percentage
Do you practice home management of childhood illnesses?		
Yes	172	53.7
No	148	46.3
If yes, which of the illness do you treat at home?		
Malaria	154	89.5
Pneumonia	63	36.6
Diarrhoea	140	81.4
How do you treat malaria at home?		
Medications	59	34.3
Use of herbs	28	16.3
Tepid sponging	76	44.2
If yes to medications, what drugs(s) do you use?		
Amala tablet	5	2.9
Artemether syrup	27	15.7
Chloroquine	13	7.6
Fansider tablets	2	1.2
Imodium tablets	2	1.2
Maladox syrup	8	4.7
Lomotil tablets	2	1.2
Where do you seek external assistance for malarial treatment?		
Hospital	274	85.6
Patent medicine dealers	14	4.4
Friends and family	6	1.9
How do you treat pneumonia at home?		
Medications	31	18.0
Use of herbs	36	20.9
If yes to medications, what drug(s) do you use?		
Azithromycin	4	2.3
Not known	27	15.7
Where do you seek external assistance for pneumonia treatment?		
Hospital	270	84.4
Patent medicine dealer	12	3.8
Friends and family	2	0.6
How do you treat diarrhoea at home?		
None	6	3.5
Drugs	30	17.4
Oral rehydration therapy	115	66.9
Restriction of fluids	0	0.0
Herbs	1	0.6
If yes to drugs, which drugs do you use?		
Flagyl syrup	16	9.3
Imodium	2	1.2
Lomotil tablet	9	5.2
Zinc tablet	7	4.1
Where do you seek external assistance for diarrhoea treatment?		
Hospital	268	83.8
Patent medicine dealers	16	5.0
Friends and family	5	1.6

From table 4 above, more than half of the respondents practice home management of childhood illnesses, 172(53.7%) and the illness they treatment at home include; malaria, 154(89.5%); diarrhoea, 140(81.4%) and pneumonia, 63(36.6%).

The prevalence of home management of the different childhood illnesses are; 0.90 for malaria, 0.81 for diarrhoea and 0.36 for pneumonia.

Among those who practice home management of childhood illness, 59(34.3%) treat malaria with medications, 28(16.3%) use herbs while 76(44.2%) use tepid sponging. However, the commonest drugs used to treatment malaria include artemether syrup,27(15.7%) and chloroquine, 13(7.6%). Majority of the respondents

seek external assistance for malarial treatment from the hospital, 274(85.6%).

Among those who practice home management of pneumonia, about 31(18.0%) use medications while 36(20.9%) use herbs. The common drugs used for medication include azithromycin, 4(2.3%). However, most of the respondents seek external assistance for pneumonia treatment from the hospital, 270(84.4%).

Among those who practice home management of diarrhoea, more than two-thirds of them use oral rehydration therapy to treat diarrhoea, however the common drugs used include flagyl syrup, 16(9.3%) and lomotil tablet, 9(5.2%). Majority of the respondents seek external assistance for diarrhoea treatment from the hospital, 268(83.8%)

Table 5: Shows the Factors Influencing Mothers' Knowledge, Preventive Measures and Treatment Actions towards Childhood Illnesses

Variable	Frequency	Percentage
After the onset of an illness, when do you visit a health centre?		
Immediately	156	48.8
Within 24 hours	107	33.4
After 24 hours	38	11.9
when it gets worse	18	5.6
I don't visit at all	1	0.3
Factors that cause delays in seeking medical care?		
Cost of health care	178	55.6
Transportation	159	49.7
Father's permission	57	17.8
Absence of health facilities	30	9.4
Do you have the power to take decisions concerning your child's health?		
Yes	197	61.6
No	123	38.4
If No, who has the power to make the decisions?		
Father	103	83.7
Grandmother	4	3.3
Grandfather	3	2.4
Uncle	0	0.0
Aunt	1	0.8
Mother-in-law	17	13.8

From table 5 above, majority visit a health centre immediately after the onset of an illness, 156(48.8%), however about 18(5.6%) visit a health centre when their illness gets worse. The factors identified to cause delays in seeking medical care include cost of health care, 178(55.6%); and transportation,

159(49.7%). Almost two-thirds of them claim to have power to take decisions concerning their child's health, 197(61.6%); however, 123(38.4%) do not have such power, and in such scenario, it's usually the father that have such power, 103(83.

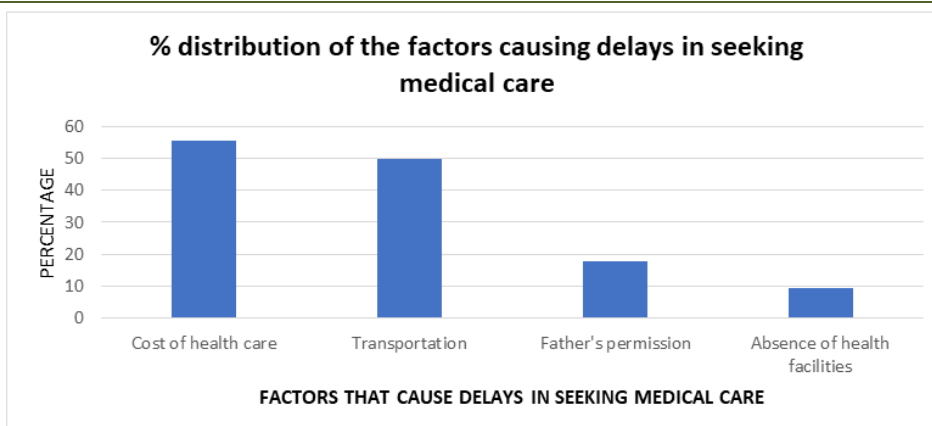


Figure 5: Is a Bar-Chart Showing the % Distribution of the Factors Causing Delays in Seeking Medical Care

Table 6: Showing the Relationship between the Respondents' Socio-Demographics and Knowledge of the Symptoms of Childhood Illnesses

	Respondents' knowledge of the symptoms of childhood illnesses				Chi-square (χ^2)	df	p-value (≤ 0.05)
		Poor knowledge	Good knowledge	Total			
Age (Years)	< 20	5(33.3%)	10(66.7%)	15	6.21	3	0.10
	20 - 29	53(31.5%)	115(68.5%)	168			
	30 - 39	38(33.6%)	75(66.4%)	113			
	≥ 40	2(8.3%)	22(91.7%)	24			
	Total	98	222	320			
Highest educational Level	None	2(33.3%)	4(66.7%)	6	28.97	3	0.00
	Primary School	16(69.6%)	7(30.4%)	23			
	Secondary School	72(32.6%)	149(67.4%)	221			
	Tertiary	8(11.4%)	62(88.6%)	70			
	Total	98	222	320			
Marital Status	Single	16(94.1%)	1(5.9%)	17	42.19	4	0.00
	In a relationship but not living together	7(36.8%)	12(63.2%)	19			
	Married	61(24.2%)	191(75.8%)	252			
	Divorced/separated	6(33.3%)	12(66.7%)	18			
	Widowed	8(57.1%)	6(42.9%)	14			

From table 6 above, as regards the relationship between respondents' age (years) and knowledge of symptoms of childhood illnesses, those ≥ 40 years of age had better knowledge, 22(91.7%), however the difference in knowledge among the different age range were not statistically significant (p-value >0.05).

With respect to highest educational level attained and marital status and their relationship to knowledge of symptoms of childhood illnesses, those with tertiary education and those who are married had better knowledge and this was statistically significant.

Table 7: Showing the Relationship between Respondents' Socio-demographic and Preventive Practices of Childhood Illnesses

	Respondents' Prevention practices of childhood illnesses				Chi-square (χ^2)	df	p-value (≤ 0.05)
		Poor prevention practice	Good prevention practice	Total			
Age (Years)	< 20	3(20.0%)	12(80.0%)	15(100.0%)	6.19	3	0.10
	20 - 29	53(31.5%)	115(68.5%)	168(100.0%)			
	30 - 39	34(30.1%)	79(69.9%)	113(100.0%)			
	≥ 40	2(8.3%)	22(91.7%)	24(100.0%)			
	Total	92(28.7%)	228(71.3%)	320(100.0%)			
Highest educational Level	None	1(16.7%)	5(83.3%)	6(100.0%)	36.59	3	0.000
	Primary School	18(78.3%)	5(21.7%)	23(100.0%)			
	Secondary School	64(29.0%)	157(71.0%)	221(100.0%)			
	Tertiary	9(12.9%)	61(87.1%)	70(100.0%)			
	Total	92(28.7%)	228(71.3%)	320(100.0%)			

Table 8: Showing the Relationship between Respondents' Socio-demographic and Treatment Practices of Childhood Illnesses

	Respondents' Treatment practices of childhood illnesses				Chi-square (x ²)	df	p-value (≤0.05)
		Poor treatment practice	Good treatment practice	Total			
Age (Years)	< 20	9(60.0%)	6(40.0%)	15(100.0%)	4.54	3	0.21
	20 - 29	84(50.0%)	84(50.0%)	168(100.0%)			
	30 - 39	55(48.7%)	58(51.3%)	113(100.0%)			
	≥40	7(29.2%)	17(70.8%)	24(100.0%)			
	Total	155(48.4%)	165(51.6%)	320(100.0%)			
Highest educational Level	None	2(33.3%)	4(66.7%)	6(100.0%)	3.09	3	0.38
	Primary School	9(39.1%)	14(60.9%)	23(100.0%)			
	Secondary School	114(51.6%)	107(48.4%)	221(100.0%)			
	Tertiary	30(42.9%)	40(57.1%)	70(100.0%)			
	Total	155(48.4%)	165(51.6%)	320(100.0%)			

Table 9: Showing the Relationship between Respondents' Socio-demographic and When Mothers' Visit A Health Centre

	WHEN DO YOU VISIT A HEALTH CENTRE							Chi-square (x ²)	df	p-value (≤0.05)
	Variable	I don't visit at all	When it gets worse	After 24 hours	Within 24 hours	Immediately	Total			
Age (Years)	< 20	1(6.7%)	0(0.0%)	4(26.7%)	6(40.0%)	4(26.7%)	15(100.0%)	40.29	12	0.00
	20 - 29	0(0.0%)	6(3.6%)	12(7.1%)	60(35.7%)	90(53.6%)	168(100.0%)			
	30 - 39	0(0.0%)	12(10.6%)	16(14.2%)	34(30.1%)	51(45.1%)	113(100.0%)			
	≥40	0(0.0%)	4(16.7%)	2(8.3%)	7(29.2%)	11(45.8%)	24(100.0%)			
	Total	1(0.3%)	22(6.9%)	34(10.6%)	107(33.4%)	156(48.8%)	320(100.0%)			
Highest educational Level	None	1(16.7%)	3(50.0%)	0(0.0%)	19(16.7%)	1(16.7%)	6(100.0%)	101.76	12	0.00
	Primary School	0(0.0%)	6(26.1%)	4(17.4%)	3(13.0%)	10(43.5%)	23(100.0%)			
	Secondary School	0(0.0%)	11(5.0%)	29(13.1%)	81(36.7%)	100(45.2%)	221(100.0%)			
	Tertiary	0(0.0%)	2(2.9%)	1(1.4%)	22(31.4%)	45(64.3%)	70(100.0%)			
	Total	1(0.3%)	22(6.9%)	34(10.6%)	107(33.4%)	156(48.8%)	320(100.0%)			
Occupation of the mother	Civil Servant	0(0.0%)	3(7.0%)	5(11.6%)	16(37.2%)	19(44.2%)	43(100.0%)	72.21	20	0.00
	Business Owner	0(0.0%)	11(6.4%)	19(11.1%)	56(32.7%)	85(49.7%)	171(100.0%)			
	Professional	0(0.0%)	2(13.3%)	0(0.0%)	2(13.3%)	11(73.3%)	15(100.0%)			
	Artisan	1(16.7%)	0(0.0%)	1(16.7%)	2(33.3%)	2(33.3%)	6(100.0%)			
	Student	0(0.0%)	0(0.0%)	6(11.1%)	20(37.0%)	28(51.9%)	54(100.0%)			
	Unemployed	0(0.0%)	6(19.4%)	3(9.7%)	11(35.5%)	11(35.5%)	31(100.0%)			
	Total	1(0.3%)	22(6.9%)	34(10.6%)	107(33.4%)	156(48.8%)	320(100.0%)			

Table 10: Showing the Relationship between Respondents' Socio-demographic and Power to Take Decisions

	Power To Take Decisions				Chi-square (x ²)	df	p-value (≤0.05)
	Variable	No	Yes	Total			
Age (Years)	< 20	8(53.3%)	7(46.7%)	15(100.0%)	12.79	3	0.005
	20 - 29	74(44.0%)	94(56.0%)	168(100.0%)			
	30 - 39	29(25.7%)	84(74.3%)	113(100.0%)			
	≥40	12(50.0%)	12(50.0%)	24(100.0%)			
	Total	123(38.4%)	197(61.6%)	320(100.0%)			
Highest educational Level	None	3(50.0%)	3(50.0%)	6(100.0%)	2.42	3	0.49
	Primary School	6(26.1%)	17(73.9%)	23(100.0%)			
	Secondary School	84(38.0%)	137(62.0%)	221(100.0%)			
	Tertiary	30(42.9%)	40(57.1%)	70(100.0%)			
	Total	123(38.4%)	197(61.6%)	320(100.0%)			
Occupation of the mother	Civil Servant	19(44.2%)	24(55.8%)	43(100.0%)	17.50	5	0.004
	Business Owner	63(36.8%)	108(63.2%)	171(100.0%)			
	Professional	1(6.7%)	14(93.3%)	15(100.0%)			
	Artisan	3(50.0%)	3(50.0%)	6(100.0%)			
	Student	30(55.6%)	24(44.4%)	54(100.0%)			
	Unemployed	7(22.6%)	24(77.4%)	31(100.0%)			
	Total	123(38.4%)	197(61.6%)	320(100.0%)			

Table 11: Showing Preventive and Treatment Practice Score

Variable	Frequency	Percentage
Prevention practice score		
Poor prevention practice (< 50.00)	92	28.7
Good prevention practice (≥ 50.00)	228	71.3
Average prevention practice score	53.56 \pm 19.37	
Treatment practice score		
Poor treatment practice (< 50.00)	155	48.4
Good treatment practice (≥ 50.00)	165	51.6
Average treatment practice score	49.74 \pm 23.79	

DISCUSSION

This study sets out to assess mothers' home management of childhood illnesses with a view to determine their knowledge, preventive measures, and treatment of these illnesses. Almost all caregivers had heard about malaria with the most common symptom being fever (76.3%), this finding is in keeping with (72%) observed in Ebonyi state [21] and those observed in other studies (89% & 93.5%) in Benin republic and Ghana respectively [22, 23]. About half of the respondents could recognize 2 or more symptoms of malaria, this finding corroborates the study done in Benin republic [22]. Sixty two percent of respondents have heard of pneumonia prior to this study, this is much lower than that gotten in a study in Ogun state, where (85%) had heard of pneumonia [9]. Medical personnel (42.2%) were the commonest source of information about pneumonia, this finding differ from the study by Ekure *et al.*, where friends and relatives (45.1%) were the commonest sources [9]. Majority of respondents chose cough (42.2%) and noisy breathing (34.4%) as the main symptoms of pneumonia which differ from studies made by W. Aftab and E. Opuba *et al.*, where fast breathing and fever were the most common symptoms respectively [7, 18]. Sixty four percent of mothers attributed loose stool to diarrhoea, this finding corroborates the study in pakistan where (76%) of respondents reported loose stool as the commonest symptom of diarrhoea [18]. This study shows that more than two-third of respondents have good knowledge of the symptoms of childhood illnesses, this corroborates study by Feyisetan *et al.*, where (55.8%) of respondents had adequate knowledge [25] With respect to highest educational level attained and marital status and their relationship to knowledge of symptoms of childhood illnesses, those with tertiary education and those who are married had better knowledge and this was statistically significant.

Considering the preventive aspect of childhood illnesses, (97.5%) of mothers agreed to the use of one or more preventive measure against malaria. The use of insecticide treated nets (70.9%) was the commonest preventive measure employed by respondents, this finding is supported by other studies [17-19]. The use of insecticides and clearing of surroundings, (51.2% and 48.4%) respectively, were the other measures used by respondents, study by Orimadegun *et al.*, supports this

finding [27]. Public awareness campaign should be done to inform mothers that exclusive breastfeeding is also a protective measure against malaria, especially for infants less than 6months of age. The two common ways highlighted by respondents for pneumonia prevention were minimizing exposure to cold (45.6%) and wearing of warm clothes (39.1%), this finding is corroborated by study by Ekure *et al.*, carried out in Lagos [9]. This shows the widely held opinion that cold air is a cause of pneumonia, rather pathogens which are the major agents in the pathogenesis of pneumonia. Only (18.4%) of mothers recognized vaccination as a preventive measure, study by Eliyas *et al.*, supports this finding [28]. Public enlightenment with emphasis on exclusive breastfeeding and vaccination as preventive measures have been demonstrated to have great impact on pneumonia related morbidities and mortality [28]. More than half of the respondents chose personal hygiene and hand washing as preventive measure against diarrhoea, this finding is corroborated by several studies [15-19]. Only (1.9%) and (1.3%) of respondents selected immunization and exclusive breastfeeding respectively, as preventive measures, this is quite poor when compared to the study done by Olaniyi *et al.*, where (64.4%) and (30.6%) selected immunization and exclusive breastfeeding as preventive measures [23]. The relationship between educational level of mothers and preventive measure was statistically significant but there was no association between age and preventive measures.

More than half of mothers practice home management of childhood illnesses, of which malaria (89.5%) is the commonest illness that is treated at home and pneumonia (36.6%) being the least managed illness at home. About half of the respondents employ tepid sponging and medications in the treatment of malaria. The commonest medications used were artemether syrup (15.7%) and chloroquine (7.6%), this finding is not in keeping with study done in Ghana where chloroquine use is still very high. Daboer *et al.*, attributed the high use of chloroquine to cheap cost and availability [30]. Study by Nwaneri *et al.*, supports the finding of artemether use in the home management of malaria [5]. More than two-third of respondents seek external assistance for malaria treatment in hospitals, this finding corroborates study by Nwaneri *et al.*, [5]. More respondents use herbs (20.9%) than medications (18%) in the treatment of pneumonia, this is supported by Aftab *et al.*, [24]. Antibiotic is the

drug of choice amongst respondents and (84.4%) seek external assistance in hospitals, similar findings were seen in a study in Egypt [31]. Awareness to desensitize caregivers on the use of herbs for the treatment of pneumonia should be promoted. More than two-third of respondents use oral rehydration therapy in the treatment of diarrhoea, this finding is supported by a study by Chowdhury *et al.*, where (88.2%) respondents cited the use of ORS [11], few studies cited the low use of ORS which contradicts the above findings [33, 32]. The most commonly used medication is metronidazole (9.3%), others include lomotil (5.2%) and zinc tablet (4.1%), Mwambete *et al.*, corroborates the finding of metronidazole as the most used medication [33]. More than two-third of the respondents visit the hospital to seek for external assistance, this finding is higher than the values gotten in a study by Olaniyi *et al.*, in Oyo state [23]. There was no relationship between the educational level and the treatment of childhood illnesses.

Considering the factors influencing mothers' action towards childhood illnesses, the two main factors implicated are cost of health care (55.6%) and transportation (49.7%), this finding is supported by studies done in Nigeria and Egypt [5, 31]. More than half of the respondents visit the hospital within 24hours of onset of symptoms. Another factor influencing mothers' action is decision making, more than one-third of respondents lack the ability to seek medical care. Of which, (83.7%) of respondents seek permission from their husbands, the finding is buttressed by a study in Ghana where (92%) lack the autonomy to initiate treatment at home [4]. There is a relationship between educational status and marital status on knowledge and management of childhood illnesses, those with tertiary education and those who are married had better knowledge and this was statistically significant. This finding is corroborated by other studies [11, 23]. With respect to age, highest educational level attained and occupation of mothers and their relationship to visiting the hospital within 24hours of onset of illness, there was significant association with a p-value <0.05.

CONCLUSION

In this study it was found that mothers were able to recognise symptoms of childhood illnesses. Misconceptions about the treatment and prevention of pneumonia still exist among mothers, these adversely affect the outcome of the management of pneumonia. There is need for health education and promotion of appropriate home management of childhood illnesses among mothers.

RECOMMENDATION

There is need for mass public sensitization on pneumonia prevention, treatment and emphasis on Artemisinin based combination therapy as the drug of choice for home management of malaria. Also, we recommend utilization of primary health care services,

which reduces morbidity and mortality associated with childhood illnesses. There is a need to conduct further studies to measure the quality of care both at the health facility and at home with community health workers.

Study Limitations

The insecurities in Anambra state hindered and prolonged the duration of the research.

REFERENCES

1. WHO, UNICEF on childhealth. <https://www.unicef.org/health/childhood-diseases>
2. Management H, Diarrhea OF, Underfives A, Rural INA, In C. Home Management of Diarrhea among Underfives in A Rural Community In. 2014, 5(3), 142-146.
3. Nsungwa-Sabiiti, J., Peterson, S., Pariyo, G., Ogwal-Okeng, J., Petzold, M. G., & Tomson, G. (2007). Home-based management of fever and malaria treatment practices in Uganda. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 101(12), 1199-1207. doi: 10.1016/j.trstmh.2015.08.005
4. Ameh, S., Welaga, P., Kabiru, C. W., Ndifon, W., Ikpeme, B., Nsan, E., & Oyo-Ita, A. (2015). Factors associated with appropriate home management of uncomplicated malaria in children in Kassena-Nankana district of Ghana and implications for community case management of childhood illness: a cross-sectional study. *BMC Public Health*, 15, 1-10. doi:10.1186/s12889-015-1777-3
5. Nwaneri, D. U., Sadoh, A. E., & Ibadin, M. O. (2017). Impact of home-based management on malaria outcome in under-fives presenting in a tertiary health institution in Nigeria. *Malaria Journal*, 16, 1-9. doi:10.1186/s12936-017-1836-6
6. Amenya, J., Id, M., Aduda, D. S. O., Omondi, A. B., & Onono, A. (2019). Patient-level cost of home- and facility-based child pneumonia treatment in Suba Sub County, Kenya. 25, 1-10.
7. Opuba, E. N., Owenga, J. A., & Onyango, P. O. (2021). Home-based care practices and experiences influencing health-seeking behaviour among caregivers of children diagnosed with pneumonia in Endebess Sub-County, Kenya. 3283, 1-10. doi:10.29392/001c.29573
8. Virkki, R., Juven, T., Rikalainen, H., Svedström, E., Mertsola, J., & Ruuskanen, O. (2002). Differentiation of bacterial and viral pneumonia in children. *Thorax*, 57(5), 438-441.
9. Ekure, E. N., Esezobor, C. I., Balogun, M. R., Mukhtar-Yola, M., Ojo, O. O., Emodi, I. J., ... & Esangbedo, D. O. (2013). Mothers and childhood pneumonia: what should the focus of public campaigns be?. *Nigerian Journal of Paediatrics*, 40(1), 24-29.
10. Paediatrica, A., & Rossen, J. Community-acquired pneumonia in children: what's old? What's new?: Old and new topics in paediatric pneumonia. doi:10.1111/j.1651-2227.2013.01924.x

11. Chowdhury, A., Kumar, R., & Saha, S. (2015). Can Mothers Care For Acute Diarrhoeal Disease of Their Under Five Children Effectively At Home? A Cross Sectional Study in Slum under Five Children Effectively At Home? A Cross. doi:10.18410/jebmh/2015/772
12. Shah, M. S., Ahmad, A., Khalique, N., Afzal, S., Ansari, M. A., & Khan, Z. (2012). Home-based management of acute diarrhoeal disease in an urban slum of Aligarh, India. *The Journal of Infection in Developing Countries*, 6(02), 137-142.
13. Ekwebene, O. C., Ogbuagu, C. N., Modebe, I. A., Ogbuagu, E. N., Igwemadu, W. S., & Emelumadu, O. F. (2020). Assessment of dietary pattern, health implication and the nutritional status of clinical medical students of a tertiary institution in southeast Nigeria. *Int J Health Sci Res*, 10(9), 346-359.
14. Inya, A. O., Ekwebene, O. C., Ogbuagu, C. N., Nnamani, C. P., & Ekwebene, C. F. (2021). Awareness and accessibility of Hepatitis B vaccination among undergraduate clinical students of a tertiary institution in South Eastern Nigeria. *Magna Scientia Advanced Research and Reviews*, 2(2), 70-79.
15. Abalihe, U. O., Edeh, G. C., Ekwebene, O. C., Ashibogwu, E. M., Awugosi, M. C., Chiekezie, C. F., ... & Uro, S. O. (2023). Bridging the care gap: Harnessing telehealth for enhanced care access among adults with chronic health conditions in South-Eastern Nigeria. *Magna Scientia Advanced Research and Reviews*, 8(2), 62-74.
16. Sisay, S., Endalew, G., & Hadgu, G. (2014). Assessment of Mothers / Care Givers Health Care Seeking Behavior for Childhood Illness in Rural Ensaro District, North Shoa Zone, Amhara Region, Ethiopia 2014 Assessment of Mothers / Care Givers Health Care Seeking Behavior for Childhood Illness in Rural Ensaro District, North Shoa Zone, Amhara Region, Ethiopia 2014. 2016; (September 2015).
17. Ekwebene, O. C., Obidile, V. C., Nnamani, C. P., Eleje, G. U., Ekwebene, C. F., & Akubukor, F. C. (2021). Pre and post flooding malaria parasitemia in gravid women, South East, Nigeria. *J Clin Images Med Case Rep*, 2(5), 1368.
18. Ozughalu, J. N., Orji, A. E., Ekwebene, O. C., & Edeh, C. G. (2022). Trends in Childhood Morbidity and Mortality in the Era of Pandemic. *Int J Health Sci Res*, 12(2), 227-232. DOI: <https://doi.org/10.52403/ijhsr.20220232>
19. Chukwudalu Ekwebene, O., Phyllis Nnamani, C., Gabriel Edeh, C., Valentine Obidile, C., & Simeone Tyotswame, Y. (2021). Prevalence of falciparum malaria in conjunction with age, gravidity, abo blood group/rhesus factor, and genotype among gravid women in south-eastern Nigeria. *International Journal of Scientific Research in Dental and Medical Sciences*, 3(1), 12-17. 10.30485/IJSRDMS.2021.272680.1112.
20. Chinawa Josephat, M., Aniwada, E. C., Ugwunna, N. C., Eze, J. N., Ndu Ikenna, K., & Obidike, E. O. (2018). Pattern and prevalence of common pediatric illnesses presenting in a private hospital in Onitsha, southeast Nigeria: a comparative analysis. *Curr Ped Res*, 22(1), 88-94.
21. Agu, A. P., & Nwojiji, J. O. (2005). Childhood malaria: mothers' perception and treatment-seeking behaviour in a community in Ebonyi State, South East Nigeria. *Journal of Community Medicine and Primary Health Care*, 17(1), 45-50.
22. Mumuni, M. Z., Soghaier, M. A., Zankawah, K. B. S., Musah, B., Kubio, C., Mahamadu, T., & Goodstaff, A. (2016). Knowledge and Skills of Mothers/Care Givers of Children Under Five Years in Communities with Home Based Management of Malaria in Tamale, Northern Region, Ghana, 2013. *AIMS public health*, 3(4), 923-932. doi:10.3934/publichealth.2016.4.923
23. Apetoh, E., Tilly, M., Baxerres, C., & Le Hesran, J. Y. (2018). Home treatment and use of informal market of pharmaceutical drugs for the management of paediatric malaria in Cotonou, Benin. *Malaria journal*, 17, 1-14. doi:10.1186/s12936-018-2504-1
24. Aftab, W., Shipton, L., Rabbani, F., Sangrasi, K., Perveen, S., Zahidie, A., ... & Qazi, S. (2018). Exploring health care seeking knowledge, perceptions and practices for childhood diarrhea and pneumonia and their context in a rural Pakistani community. *BMC health services research*, 18, 1-10. doi:10.1186/s12913-018-2845-z
25. Feyisetan, B. J., Asa, S., & Ebigbola, J. A. (1997). Mothers' management of childhood diseases in Yorubaland: the influence of cultural beliefs. *Health Transition Review*, 7(2), 221-234.
26. Yaya, S., Bishwajit, G., Ekholuenetale, M., Shah, V., Kadio, B., & Udenigwe, O. (2017). Knowledge of prevention, cause, symptom and practices of malaria among women in Burkina Faso. *PLoS one*, 12(7), e0180508.
27. Orimadegun, A. E., & Ilesanmi, K. S. (2015). Mothers' understanding of childhood malaria and practices in rural communities of Ise-Orun, Nigeria: implications for malaria control. *Journal of family medicine and primary care*, 4(2), 226-231. doi:10.4103/2249-4863.154655
28. Eliyas, A., Sherali, S., Khan, I., Khan, K., & Hashmi, F. (2018). Mothers knowledge related preventive measure of pneumonia in slum community, Karachi, Pakistan. *Pakistan Journal of Public Health*, 8(3), 156-159.
29. Olaniyi, A. A. O., & Oyerinde, O. (2016). Knowledge of causes, management and prevention of childhood diarrhoea among nursing mothers in two selected primary health centers in Oyo State, Nigeria. *World Journal of Research and Review*, 2(3), 262983.
30. Daboer, J. C., John, C., Jamda, A. M., Chingle, M. P., & Ogbonna, C. (2010). Knowledge and treatment practices of malaria among mothers and caregivers of children in an urban slum in Jos, Nigeria. *Nigerian Journal of Medicine*, 19(2), 184-187.

31. Fadl, N., Ashour, A., & Muhammed, Y. (2020). Medical management of pneumonia in children aged under 5 years in Alexandria, Egypt: mothers' perspective. *Eastern Mediterranean Health Journal*, 26(9), 1042-1051.
32. Mwambete, K. D., & Joseph, R. (2010). Knowledge and perception of mothers and caregivers on childhood diarrhoea and its management in Temeke municipality, Tanzania. *Tanzania journal of health research*, 12(1), 47-54.
33. Memon, K. N., Shaikh, K., Pandhiani, B. S., & Usman, G. (2013). How do mothers recognize & treat pneumonia in their children at home? A study in union council Jhudo, District Mirpurkhas. *JLUMHS*, 12(03), 208.