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Health Education and Its Impact on Malaria Prevention among Nursing Mothers in Nsugbe Health Center, Abata Anambra State

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Abstract
This study investigated "Health education and its impact on malaria prevention among nursing mothers in Nsugbe Health Centre." The objectives of the study were to assess the influence of health education on malaria prevention, to determine the impact of malaria prevention among nursing mothers, and to ascertain the nursing interventions on the preventive measures of malaria among nursing mothers. A systematic random sampling technique was adopted for the study. The study population comprised 250 nursing mothers, while 150 respondents were selected through systematic random sampling. A structured questionnaire served as the main instrument for data collection. The validity and reliability of the instrument were ensured. Data collected were analyzed using frequency distribution tables and charts. The results revealed, among others, that the majority of the respondents had received health education and possessed good knowledge and information regarding malaria prevention. Based on the findings, recommendations were made, including the need to educate nursing mothers on the importance of malaria prevention and its potential benefits, addressing barriers that may hinder nursing mothers from accessing malaria prevention programs, and adopting diverse educational approaches such as pamphlets, lectures, role-play, and video-based learning.

Keywords: ***role play, video-based learning, health education, malaria prevention***

Introduction

Health education is the main, inherent and complementary at the same time element of health promotion (Woynarowska, 2017). Its aim is to raise awareness, expand knowledge, gain skills and shape a health-oriented attitude of particular individuals who are also perceived as elements of a society (Książek, 2018). Health education is a process in which people learn how to take care of their health and the health of their community. The process concentrates on making people realize the relation between one's health, their lifestyle, physical and social

setting. Approximately, 40% of the world's population, mostly those living in the poorest countries, is at risk of malaria (FMOH, 2013). The malaria preventive behaviors among mothers of under-fives have been found to be generally poor across the six geo-political zones in Nigeria (Happi, 2014).

Malaria is the most prevalent parasitic endemic disease in Africa, which is preventable, treatable and curable, yet it remains one of the major health problems in Nigeria FMOH, 2014). The obstacles to the success of these interventions are socio-cultural, economic and political in nature (Nabarro, 2020). Malaria is currently the most important cause of death and disability in children under five in the country. Modern medicine has tended to interpret health in terms of medical interventions, and to over-emphasize the importance of medical technology. It is important to promote the concept of health as a result of the interaction of human beings and their total environment (Happi, 2014)

There are several reasons why Africa bears an overwhelming proportion of the malaria burden. Most malaria infections in Africa, South of the Sahara are caused by Plasmodium falciparum, the most severe and life-threatening form of the disease. This region is also home to the most efficient, and, therefore, deadly, species of the mosquitoes which transmit the disease. Moreover, many countries in Africa lacked the infrastructures and resources necessary to mount sustainable campaigns against malaria and as a result few benefitted from historical efforts to eradicate malaria (Happi, 2014).

As a result of health education, awareness increases, an ability to make decisions concerning health enhances knowledge and skills connected not only with health and sickness but also the prevention and coping with difficult situations improve. Malaria Drug Resistance to the cheapest and most widely used anti-malarial drug, chloroquine, is now common across Africa. New treatments have been developed but they come at a high cost. An adult dose of a newer drug may be 10 to 20 times more expensive than older anti-malarials. One reason for the rise of drug resistance is that people do not finish their course of treatment but stop when they start to feel better. Poorly trained pharmacists and store owners may also allow patients to buy just a portion of a course of drugs, as that is all they can afford, which contributes to dangerous drug resistance (Health poverty action, 2021).

Therefore, in Nsugbe health center Mile four, Abata, where the research was carried out, the activities that was conducted is to know the Health Education and Its Impact on Malaria Prevention among Nursing Mothers.

Statement of Problems

Investigation revealed that malaria is a major public health problem in Africa; the disease is a significant contributor to the poor health situation in Africa, in which Africa alone is estimated to lose at least US$ 12 billion per year in direct losses e.g. illness, treatment, premature death. It is the 2nd leading cause of death from infectious diseases in Africa, after HIV/AIDS. Despite numerous interventions that have been instituted so far malaria situation in Nigeria is deteriorating (Fatungase, k., Amoran, O., Alausa, K., 2022). According to the Nigerian national malaria strategic plan 2014-2020, malaria is responsible for 60% of outpatient visits to health facilities, 30% of childhood deaths, 25% of deaths in children under one year, and 11% of maternal deaths. Hence, the researcher's needs to assess the influence of Health Education and Its Impact on Malaria Prevention among Nursing Mothers in Nsugbe health center, Abata, Anambra state.

Objectives of Study

The objectives of this study is to:

1. Assess the influence of health education on malaria prevention among nursing mothers in Nsugbe health center, Abata, Anambra State.
2. Determine the impact of malaria prevention among nursing mothers in Nsugbe health center, Abata, Anambra State.
3. Ascertain the nursing intervention on the preventive measures of malaria among nursing mothers in Nsugbe health center, Abata, Anambra State.

Research Questions

The following research questions were formulated to guide the study.

1. What is the influence of health education on malaria prevention among nursing mothers in Nsugbe health center, Abata, Anambra State?
2. What is the impact of malaria prevention among nursing mothers in Nsugbe health center, Abata, Anambra State?

   What is the nursing intervention on preventive measures of malaria among nursing mothers in Nsugbe health center, Abata, Anambra State?

Literature Review

This chapter focuses on the review of related literature. A literature review includes the current knowledge as well as theoretical and methodological contributions to a particular topic. It documents the state of the art with respect to the topic one is writing. It surveys the literature in the topic selected. In this research work the literature review includes the Conceptual Review, Theoretical framework, Empirical Review and Summary Of Literature Review.

Theoretical Framework

Protection Motivation Theory

Protection Motivation Theory (PMT) was originally developed to understand individual responses to fear appeals. PMT proposes that people protect themselves based on two key appraisals:

Threat Appraisal – Evaluates the severity of a threat and the perceived probability of its occurrence (vulnerability).

Coping Appraisal – Assesses perceived response efficacy (belief that the recommended action will mitigate the threat) and self-efficacy (belief in one's ability to carry out the action successfully).

PMT helps explain why individuals engage in unhealthy behaviors and provides guidance for changing them through education and motivation.

Primary prevention: Actions to prevent the development of health problems (e.g., using insecticide-treated nets to prevent malaria).

Secondary prevention: Steps to prevent a condition from worsening (e.g., adhering to antimalarial medication schedules).

Application of PMT to Malaria Prevention

Studies indicate that individual perceptions—such as susceptibility to malaria, perceived severity, treatment costs, and response efficacy—affect malaria risk perception and

preventive behaviors. Understanding these perceptions is crucial for designing interventions that encourage preventive actions and reduce infection risk, especially in student and community populations.

Empirical Studies

Health Education and Caregivers

Chirrdan & Zoakan (Jengre, Nigeria) conducted a community-based intervention with caregivers of children under five. Health education sessions significantly improved caregivers' knowledge of malaria causation, transmission, prevention, and treatment. Post-intervention, caregivers demonstrated better treatment practices and faster responses to fever onset, highlighting the impact of structured education on malaria prevention behaviors.

ITN Usage and Knowledge

Badmos et al. (2021) analyzed 11 studies across Sub-Saharan Africa involving 20,523 participants. Educational interventions improved knowledge of malaria and increased insecticide-treated net (ITN) usage. Interventions based on theories or models showed the greatest effect, emphasizing the importance of structured, evidence-based health education.

Based Interventions in Nigeria

A quasi-experimental study in Nsugbe, Anambra State, Nigeria, with 400 mothers revealed that health education interventions significantly improved malaria control practices. However, lasting changes in attitudes and beliefs required longer, persistent efforts, suggesting that education alone may need reinforcement through community engagement.

Knowledge, Attitude, and Practice (KAP) Studies

Ghana: Afoakwah, Deng & Onur (2018) found high knowledge levels among mothers regarding malaria causes, symptoms, and prevention. Positive attitudes toward early treatment were common, but 35.5% were not actively practicing malaria prevention. Demographic factors such as education, occupation, and religion were significantly associated with attitudes toward prevention.

Ethiopia: Belaynesh & Abaineh (2018) conducted a hospital-based study in South Gondar. While knowledge and attitudes were generally good, only half the participants demonstrated effective malaria prevention practices. Poor knowledge and practice were significantly associated with higher malaria prevalence, emphasizing the role of health education in addressing misconceptions.

Research Methodology

Research Design

The researcher used cross sectional descriptive research survey design in building up this project work the choice of this research design was considered appropriate because of its advantages of identifying attributes of a large population from a group of individuals. The design was suitable for the Health Education and Its Impact in Malaria Prevention among Nursing Mothers in Nsugbe health center, Abata, Anambra State.

Area of Study

This study was conducted at Nsugbe Health Centre, located in Abata Community, within Anambra East Local Government Area of Anambra State, Nigeria. Abata is a semi-urban community situated near the larger Nsugbe town. The health centre is a primary healthcare

institution providing maternal, child, and community health services to residents of Abata, Nsugbe and neighbouring communities.

Target Population of Study

The target population of a study refers to the group of persons or aggregate of individuals from whom the researcher seeks to obtain information relevant to the research problem. For this study, the target population consists of nursing mothers receiving healthcare services at Nsugbe Health Centre, located in Abata Community, Anambra State. These nursing mothers are essential to the assessment of health education and its impact on malaria prevention within the community.

A total of two hundred and forty (240) respondents constituted the population of the study.

Sample size

Sample is the set people or items which constitute part of a given population sampling. Due to large size of the target population, the researcher used the Taro Yamani formula to arrive at the sample population of the study.

$$n = \frac{N}{1+N\,(e)^2}$$

n: describes the sample size.

N: describes total number of populations of the area

e: describes maximum variability or margin of Error = 0.09.

1: describes the probability of the event occurring.

$$n = \frac{240}{1+240(0.05)^2}$$

$$n = \frac{240}{1+240(0.0025)}$$

$n = 240 / (1+0.6) = 240 / 1.6 = 150.$

Sampling Technique

A systematic random sampling technique was used for this study. The researcher selected nursing mothers who were readily available and attending health services at Nsugbe Health Centre. Respondents were chosen in a predetermined order based on their availability, ensuring that every eligible nursing mother had an equal chance of being included in the study. This method allowed the researcher to access participants in a systematic and unbiased manner.

Instrument for Data Collection

The major research instrument used is the questionnaires. This was appropriately structured and moderated by the researcher from the review of literatures. The respondents were administered with the questionnaires to complete, with or without disclosing their identities. It consists of four sections: Sections A-D. Section A consists of bio-data, Section B, C and D used close ended questions to assess the influence of health education on malaria prevention, to determine the impact of malaria prevention, to ascertain the nursing intervention on the preventive measures of malaria among nursing mothers in Nsugbe health center, Abata, Anambra State respectively.

Validity of Instrument

Face and content validity of Instrument that was used in the study was ascertained by the researcher's supervisor and two experts in the researcher's institution. Their corrections were adopted and effected before producing final copy of the instrument of the study.

Reliability of Instrument

A test–retest method was used to determine the reliability and consistency of the research instrument. Initially, 10 copies of the questionnaire were administered to nursing mothers in another health facility outside the study area, the Onitsha General Hospital, and their responses were collected. After an interval of two weeks, the same participants were given another set of 10 copies of the same questionnaire, and their responses were obtained again. The two sets of responses were compared and were found to be consistent. These results were then compared with responses obtained from the study population at Nsugbe Health Centre, and they also correlated. Therefore, the instrument was considered reliable, having produced stable and consistent results at different times.

Method of Data Collection

An introductory letter from the researcher's institution was presented to the management of Nsugbe Health Centre to obtain permission for data collection. Upon approval, the unit heads at the health centre introduced the researcher to the nursing mothers, and the purpose of the study was clearly explained to them.

The researcher and her assistant scheduled appropriate dates for data collection. The data were collected using a structured questionnaire, which was administered directly to the respondents. The completed questionnaires were retrieved on the same day with the assistance of the unit heads, ensuring complete and orderly collection of all instruments.

Method of Data Analysis

For a comprehensive analysis of data collected, emphasis was laid on the use of absolute numbers frequencies of responses and percentages. Also, the data were presented using tables for clarity purpose. Answers to the research questions were provided through the comparison of the percentage of workers response to each statement in the questionnaire related to any specified question being considered.

Ethical Consideration

The following ethical considerations was maintained in the course of this study:

Anonymity: This was ensured as self-identification data like name was not included in the questionnaire.

Confidentiality: All information provided by the respondents was kept confidential and was not to be revealed to another person.

Informed Consent: The researcher ensured that full information about the study was given to the respondent.

Voluntary participation: The researcher did not force any individual to fill the questionnaire, it was at self-will.

Results

This chapter focuses on data analysis collected from the respondents and presentation of results. The data were analyzed in tabular form with simple percentage for easy understanding. A total of one hundred and fifty (150) questionnaires were distributed and 150 questionnaires were returned.

Section A: Demographic Characteristics of the Respondents

Table 1: Percentage Response on the demographic data of the Respondents

Items	Response	Frequency	Percent	Cumulative percent
Age	21-30	86	57.33%	57.33%
	31-40	43	28.67%	86.00%
	41-50	21	14.00%	100.00%
	Total	**150**	**100.00%**	
Marital status	Single	76	50.67%	50.67%
	Engaged	41	27.33%	78.00%
	Married	24	16.00%	94.00%
	Divorced	9	6.00%	100.00%
	Total	**150**	**100.00%**	
Religious Identity	Christian	81	54.00%	54.00%
	Muslim	47	31.33%	85.33%
	Others	22	14.67%	100.00%
	Total	**150**	**100.00%**	
Ethnicity	Yoruba	41	27.33%	27.33%
	Hausa	35	23.33%	50.67%
	Igbo	55	36.67%	87.33%
	Others	19	12.67%	100.00%
	Total	**150**	**100.00%**	
Educational status	BSC	27	18.00%	18.00%
	MSC	31	20.67%	38.67%
	PHD	23	15.33%	54.00%
	HND	31	20.67%	74.67%
	ND	26	17.33%	92.00%
	Others	12	8.00%	100.00%
	Total	**150**	**100.00%**	

From the above table according to their ages it shows that 86 (57.33%) of the respondents were 21-30years, 43(28.67%) of the respondents were 31-40years and 21(14.00%) of the respondents were 41-50years. As it regards to marital status 76(50.67%) of the respondents were single, 41(27.33%) of the respondents were engaged, 24(16.00%) of the respondents were married and 9(6.00%) of the respondents were divorced. As concerned their religion above, it shows that 81(54.00%) of the respondents were Christian, 47(31.33%) of the respondents were Muslim, 22 (14.67%) of the respondents didn't respond. The respondents that were Yoruba are 41(27.33%), 35(23.33%) of the respondents were from Hausa ethnicity, 55 (36.67%) of the respondents were from Igbo ethnicity, and 19(12.67%) of other ethnic group respondents didn't respond to the question.

In respect to educational qualifications 27(18.00%) of the respondents were BSC, 31(20.67%) of the respondents were MSC, 23(15.33%) of the respondents were PHD, 31(20.67%) of the respondents were HND, 26(17.33%) of the respondents were ND, and 12(8.00%) of the respondents were others. .

Section B: What is the influence of health education on malaria prevention among nursing mothers?

Table 2: Showing responses on the influence of health education on malaria prevention among nursing mothers.

SN	Items	Responses	Frequency	Percentage
1.	Have you heard of malaria before? **Total**	Yes No	90 60 **150**	60% 40% **100.00%**
2.	Do you know the signs and symptoms of malaria? **Total**	Yes No	95 55 **150**	63.3% 36.6% **100%**
3.	Do you seek treatment immediately, if you suspect malaria? **Total**	Yes No	89 61 **150**	59.4% 40.6% **100%**
4.	Do you know how to prevent malaria? **Total**	Yes No	109 41 **150**	72.7% 27.3% **100%**
1.	Do you use insecticide treated nets? **Total**	Yes No	123 27 **150**	82% 18% **100%**
2.	Have you ever taken step to treat malaria? **Total**	Yes No	77 73 **150**	51.3% 48.7% **100%**
3.	Do you know that eliminating mosquito breeding sites around homes such as removing standing water can help to prevent malaria? **Total**	Yes No	92 58 **150**	61.4% 38.6% **100%**

Section C: What is the impact of malaria prevention among Nursing Mothers?

Table 3: Showing responses to determine the impact on malaria prevention among Nursing mothers.

SN	Items	Responses	Frequency	Percentage
8.	Have you noticed a decrease in malaria cases since the introduction of malaria prevention efforts?	Yes No **Total**	130 20 **150**	86.7% 13.3% **100%**
9.	Do you feel that you have the information and resources you need to prevent malaria in yourself and your family?	Yes No **Total**	98 52 **150**	65.3% 34.7% **100%**
10.	Are there any barriers to accessing malaria prevention in the healthcare system?	Yes No **Total**	50 100 **150**	33.3% 66.7% **100%**
11.	Do you feel that insecticide-treated bed nets are effective in preventing malaria?	Yes No **Total**	137 13 **150**	91.3% 8.7% **100%**
12.	Have you ever had malaria despite sleeping under an insecticide-treated bed net?	Yes No **Total**	142 8 **150**	94.7% 5.3% **100%**

Section D: What is the nursing intervention on the preventive measures of malaria among nursing mothers?

Table 4: Showing responses of nursing intervention on the preventive measures of malaria among nursing mothers?

S/N	Items	Responses	Frequency	Percentage
13.	How often do you receive information about malaria prevention from healthcare professionals?	Always Never **Total**	122 28 **150**	81.3% 40.7% **100%**
14.	How often do you have access to treatment for malaria?	Always Never **Total**	145 5 **150**	96.7% 3.3% **100%**
15.	Do you willingly participate in a program that educates you about malaria?	Always Never **Total**	89 61 **150**	59.3% 40.7% **100%**
16.	Have you ever heard of the mode of transmission of malaria?	Always Never **Total**	111 39 **150**	74.0% 26.0% **100%**

Discussion of Key Findings

The response rate among the 150 Respondents in this study was 100%. This demonstrates the willingness of nursing mothers towards the research

Research Question 1, shows that (60%) majority of respondents have heard of malaria, (63.3%) knows the signs and symptoms of malaria, (59.4%) of the respondents seek treatment immediately if they suspect malaria, (72.7%) knows how to prevent malaria, (82%) of respondents uses Insecticide treated nets, (61.4%)knows that eliminating mosquito breeding sites can help prevent malaria and (51.3%) takes step to treat malaria when noticed.

This is in-line with a study by Afoakwah, Deng & Onur (2018), A study assessed on the knowledge, attitudes, and practices of malaria preventive measures among mothers with children under 5 years old in a rural setting
A smaller number of respondents were not aware of the signs and symptoms, didn't seek treatment immediately if they suspect malaria, know how to prevent malaria, takes steps to rest malaria when noticed.

Research Question 2, shows that (86.7%) majority of the respondents agreed that they have noticed a decrease in malaria cases since the introduction of malaria prevention efforts, (65.3%) feels that they have the information and resources needed to prevent malaria in their family and (66.7%) are of the opinion that there are no barriers to accessing health care in order to prevent malaria. This supports the findings on a study impact of health education on knowledge of malaria, its recognition, treatment and prevention among caregivers of children under five in Jengre, North Central Nigeria by Chirrdan & Zoakan (2018), which reveals Majority of the respondents said that they are aware of the knowledge, information and resources needed to prevent and treat malaria and there are no barriers to access health care in addition with their willingness to access health care for treatment in prevention of malaria

Research Question 3, shows that majority of the respondents often do receive information about malaria prevention from healthcare professionals, (96.7%)of respondents often do have access to treatment for malaria, (59.3%) of respondents willingly participated in a program that educates about malaria, (74.0%) has heard of mode of transmission of malaria. This supports the study of assessing the knowledge, attitude, and practice (KAP) towards malaria and its preventive and control methods among people attending Mekaneeyesus primary hospital, South Gondar, northwestern Ethiopia by Belaynesh & Abaineh, (2018), which reveals that the overall knowledge score, attitude, information and practice level of respondents towards malaria was relatively good.
A smaller number of respondents do not receive information from health care professionals, do not have access to treatment of malaria and had not willingly participated in a program that health educates about malaria. Thus, health education which is aimed at raising community's awareness about the disease is necessary to address the gaps identified by this study.

Implication of the study to Midwifery
Positive attitudes of both nurses and midwives towards malaria prevention is important because it will expose on the good knowledge and to display a positive attitude on different methods of health educating strategies so as to lay an impact on nursing mothers at any point in time, they come in contact with each other. Educating nursing mothers about malaria prevention can improve the quality of care provided by nurses and midwives. Furthermore, it can lead to the development of new policies and programs to improve health outcomes for nursing mothers and their families. It can also lead to increased collaboration between nurses, midwives, and other health care professionals.

Limitation of the study
The researcher encountered some challenges in the course of the study which significantly narrowed the scope of this work and completing it within the stipulated time. These challenges include;

- The cost of transportation to the study area during the study period was challenging.
- Gathering relevant materials on time to complete this work especially for literature review.
- Constructing and distributing the questionnaires that was used for data collection, this took some time, because the instrument went through validation and reliability testing, and typographical editing before it was approved for distribution.
- Due to the sensitive nature of some of the questions, answers given by the respondents may not be consistent with actual practice

Summary

The study was carried out to examine the health education and its impact on malaria prevention among nursing mothers in Nsugbe Health Centre. Three objectives were stated and three research questions were formulated from the objectives. Relevant literatures and similar studies were reviewed based on the major variables of the study. The protective motivation theory is the theory that underpinned the study. The study employed cross-sectional descriptive design, validity of the instrument was done by the researcher's supervisor and two other experts in the researcher's institution. Data were analyzed manually with the aid of a calculator and then presented in tables, frequency and percentage. Questionnaire was used to elicit data from the respondents as the instrument of data collection. Findings reveal that nursing mothers accessing care in Nsugbe Health Centre have positive feelings about being health-educated and the impact it has on malaria prevention.

Conclusion

In essence, the research work was successfully researched to meet the objectives set at the beginning of the project work. From the finding, the researcher therefore concludes that, the respondents have positive attitude about bearing the health education and it's impact on malaria prevention. However, the percentage of those with fair and poor knowledge calls for concern.

Recommendations

Based on the findings, it was recommended that:

- It would be useful to focus on the importance of educating nursing mothers about malaria prevention, and the potential benefits of this education.
- It would also be helpful to consider the barriers that may prevent nursing mothers from accessing information about malaria prevention, and how these barriers can be overcome.
- it would be valuable to explore the role of health care providers in educating nursing mothers about malaria prevention.
- It would be helpful to look at the effectiveness of different educational methods, such as pamphlets, lectures, and videos.
- **I**n addition, it might be useful to investigate the impact of cultural factors on malaria prevention and the effectiveness of educational interventions.

Suggestions for further Studies

The researcher suggests that it would be beneficial to conduct a longitudinal study to examine the long-term effects of health education interventions on malaria prevention

behaviors among nursing mothers in Nsugbe Health Centre and other health institutions. Additionally, it would be useful to investigate the impact of different types of health education interventions (e.g., one-on-one counseling, group education, or community-wide interventions) on malaria prevention behaviors. Finally, it would be valuable to explore the role of social support and social networks in influencing health education interventions and their impact on behavior change.

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