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Knowledge and Implementation of Integrated Management of Childhood illness by Nurses in University of Port Harcourt Teaching Hospital, Rivers State.

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Abstract: This study was carried out to determine the knowledge and level of implementation of Integrated Management of Childhood Illness by nurses in University of Port Harcourt Teaching Hospital, Rivers State. Three (3) specific objectives and one (1) hypothesis were formulated to guide the study. A self-structured questionnaire was used to carry out a non-experimental descriptive survey on 109 respondents using the convenience sampling technique. Reliability and the validity of the instrument were ascertained. Data collected were analysed using descriptive statistics of frequencies and percentages for the research questions and inferential statistics of chi-square test for hypothesis. The result of the study showed that 26 (23.85%) of the respondents had good knowledge of Integrated Management of Childhood Illness, 48 (44.04%) had fair knowledge while 35 (32.11%) had poor knowledge. It also showed that 35 (32.11%) of the respondents rated the level of implementation of Integrated Management of Childhood Illness as high, 51 (46.79%) rated it moderate while 23 (21.10%) rated it low. The result of the analysis showed that "there is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness" since the x^2 calculated equaling 1.0335 is less than the x^2 tabulated equaling 9.4880. It is therefore recommended that intensive training sessions be made available to nurses in order to adequately acquaint them with the core essence of Integrated Management of Childhood Illness.

Keywords: knowledge, implementation, integrated, management, childhood, illnesses

INTRODUCTION

Every day, millions of parents seek health care for their sick children, taking them to hospitals, health centres, pharmacists, doctors and traditional healers, surveys have revealed that many sick children are not properly assessed and treated by these health care providers, and that their parents are poorly advised (WHO, 2014[1]; Nisar, N. (2003)[2]). Neonatal and infant mortality rates pose a major public health challenge and progress in reduction over the past years has been slow. Every year in the world's developing countries, child mortality remains high where more than 10 million children die before they reach their fifth birthday and most of these deaths occur from common, preventable and easily treatable childhood diseases (Christiane & Anna 2009)[3].

Acute respiratory infection mostly pneumonia, diarrhoea and malnutrition are among the five leading causes of death in children in most developing countries. In some areas, malaria is also a significant cause of disease and death. Measles, whose incidence and mortality rate had markedly decreased following vaccination campaigns in the countries, is re-emerging, though progress is being made toward its elimination. These conditions equally constitute the reason for which medical consultations are sought for by at least four out of every five children who access health facilities every day.

Five out of every ten deaths of children under- five years of age in developing countries are from pneumonia and diarrhoea which constitute the principal health problem of children and malnutrition, malaria and measles cause an additional two out of ten deaths (Revista, 2015)[4]. Thus, seven out of every ten deaths of children under- five years of age are attributable to this group of diseases and health problems which could easily be avoided by implementing measures for adequate prevention, early diagnosis and provision of appropriate treatment. However achieving this seems to be a mirage, because, at first-level health facilities in low-income countries, diagnostic supports such as radiology and laboratory services are minimal or non-existent, drugs and equipment are often scarce; there are also limited supplies and equipment, combined with an irregular flow of patients. The health workers at this level are left with few opportunities to practice complicated clinical procedures, more so, they often rely on history and signs and symptoms to determine a course of management that makes the best use of the available resources (WHO, 2014)[1], hence the high rate of mortality.

Many well-known prevention and treatment strategies have proven effective for saving young lives. Childhood vaccinations have successfully reduced deaths due to measles, oral rehydration therapy has contributed to a major reduction in diarrhoeal deaths, effective antibiotics have saved millions of children with pneumonia, prompt treatment of malaria has allowed more children to recover

and live healthy lives and most improvements in breastfeeding practices have reduced child deaths.

While each of these interventions has shown great success, accumulating evidence suggests that a more integrated approach to managing sick children is needed to achieve better outcomes. Child health programmes need to move beyond single diseases to addressing the overall health and wellbeing of the child. Because many children present with overlapping signs and symptoms of diseases, a single diagnosis can be difficult and may not be appropriate. This is especially true for first-level health facilities where examinations involve few instruments, little or no laboratory tests and x-rays (WHO, 2014)[1].

During the mid-1990s, in an effort to reduce child morbidity and mortality especially among the under-fives, the World Health Organization (WHO), in collaboration with United Nations International Children's Emergency Fund (UNICEF) and many other agencies, institutions and individuals, responded to this challenge by developing a strategy called Integrated Management of Childhood Illnesses (IMCI) in 1992, with the aim of prevention, early detection and prompt treatment of the leading childhood diseases and equally as an integrated approach to improving child health (Steer et al, 2009;[5] U, Hope, Simon, Jamie & Susana, 2012[6]).

Integrated Management of Childhood Illnesses (IMCI) is a systematic approach to child health which focuses on the general wellbeing of the whole child achieved by providing continuous and comprehensive care of the sick child. Although the major reason for developing the Integrated Management of Childhood Illness (lMCl) strategy stemmed from the needs of curative care, the strategy also addresses aspects of nutrition, immunization and other important elements of disease prevention and health promotion.

The Integrated Management of Childhood Illness is in line with the Millennium Development Goal (MDG) number four which commits nations to reduce child mortality by two-third by 2015. This has not been fully actualized in Nigeria though recent trends show that the country is making progress in reducing under five mortality rate, the pace still remains too slow to achieve the Millennium Development Goal of reducing child mortality by even one-third by 2015 (UNICEF Nigeria, 2013)[7].

Implementation of Integrated Management of Childhood Illness (IMCI) by nurses is paramount to significantly reduce the under-five morbidity and mortality rates especially in developing countries like Nigeria and equally provide an integrated approach to managing children in holistic manners.

The findings of this study may be useful in increasing the knowledge and level of implementation of Integrated Management of Childhood Illness by nurses and midwives in general. It may also bring to notice the strengths, weaknesses, opportunities and threats influencing the implementation of IMCI.

The findings of this study may be used by Schools of Nursing and Midwifery, degree awarding institutions in Nursing Science to review their curriculum in order to evaluate Integrated Management of Childhood Illness courses incorporated in their programmes of study.

It is for these reasons that the researchers aims at determining the knowledge and level of implementation of Integrated Management of Childhood Illness (IMCI) by nurses in University of Port Harcourt Teaching Hospital, Rivers State.

OBJECTIVES OF THE STUDY

The objectives of the study include:
1. To determine the knowledge level of nurses about Integrated Management of Childhood Illness in the studied institution.
2. To determine the level of implementation of Integrated Management of Childhood Illness by the nurses.
3. To determine the factors influencing the implementation of Integrated Management of Childhood Illness by nurses.

HYPOTHESIS

There is no significant relationship between nurse's knowledge and the level of implementation of Integrated Management of Childhood Illness.

RESEARCH METHODOLOGY

RESEARCH DESIGN

The research design used for the study was non-experimental descriptive survey to determine the nurses' knowledge and level of implementation of Integrated Management of Childhood Illness in University of Port Harcourt Teaching Hospital, Rivers State.

RESEARCH SETTING

The study was carried out in the University of Port Harcourt Teaching Hospital, Rivers State. The institution is one of the third generation tertiary hospitals which initially commenced operation in 1980 and was officially commissioned by the Federal Government in 1985.University of Port Harcourt Teaching Hospital, a federal health care institution is located in Alakahia community along East-West Road in Obio/Akpor Local Government Area of Rivers State. It is strategically placed in that, it provides primary, secondary and tertiary health care services to residents within and outside the state. It delivers these services through the combined efforts of well trained and experienced staff which comprise of over 450 nurses and other medical and paramedical personnel.

University of Port Harcourt Teaching Hospital has various units amongst these are the Paediatrics units which comprise of sub-units like Special Care Baby Unit (SCBU), Children surgical ward, Children medical wards I and II and Children emergency ward. Other sections that are also directly or indirectly involved in the care of children include Antenatal clinic, Antenatal ward, Labour and Postnatal wards. SCBU

is made up of 2 cubicles with 30 beds and a staff strength of 19 nurses, Children surgical ward comprise of 4 cubicles namely A to D with 26 beds and a staff strength of 13 nurses, Children medical ward I has 4 cubicles with 36 beds and a staff strength of 13 nurses, Children medical ward II has 2 cubicles with 36 beds and a staff strength of 12 nurses whereas Children emergency ward has 2 cubicles with 24 beds and a staff strength of 17 nurses. On the other hand, Antenatal clinic has staff strength of 9 nurses, Antenatal ward comprise of 4 cubicles with 30 beds and staff strength of 16 nurses, Labour ward has staff strength of 35 nurses whereas Postnatal ward has 4 cubicles with 40 beds and staff strength of 16 nurses.

TARGET POPULATION

The target population for the study included all nurses in Special Care Baby Unit (SCBU), Children medical wards I and II, Children surgical ward, Children emergency ward, Antenatal clinic, Antenatal, Labour and Postnatal wards of the University of Port Harcourt Teaching Hospital, Rivers State.

SAMPLE SIZE

Yaro Yamane formula was used to select a sample size of 109 respondents for the study.

SAMPLING TECHNIQUE

The sampling technique used is the convenience sampling technique. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher.

EXCLUSION CRITERIA

All the respondents that participated in the test-re-test were excluded from the study.

INSTRUMENT FOR DATA COLLECTION

A self-structured questionnaire consisting of four sections, A to D was used to collect data for the study. Section A contained 6 items on Socio-demographic characteristics of respondents, Section B contained 12 items on Knowledge of nurses about Integrated Management of Childhood Illness, Section C contained 8 items on Level of implementation of Integrated Management of Childhood Illness by nurses and Section D contained 8 items on Factors influencing the implementation of Integrated Management of Childhood Illness by nurses.

VALIDITY OF THE INSTRUMENT

The self-constructed questionnaire was submitted to two (2) specialists in measurement and evaluation and the field of study that assessed the face and content validity of the instrument and their comments were used to make necessary corrections before administration.

RELIABILITY OF THE INSTRUMENT

The reliability of the instrument was determined using the Test-Retest method. Ten (10) copies of the questionnaire were administered to nurses working in the units under study and re-administered after two weeks. The data collected was coded and analyzed using the Pearson's Moment Correlation coefficient formula which gave a value of 0.76. The respondents used for the reliability study were excluded from the study.

PROCEDURE OF DATA COLLECTION

Data was collected using the self-structured questionnaire which was administered by the researchers and 6 assistants recruited from among the nurses. A total of 109 of the instrument were administered after necessary explanation and providing a guide on the filling of the instrument. Some of the questionnaires were filled and returned immediately while others were retrieved later. All the questionnaires were properly completed and a return rate of 100% recorded.

METHOD FOR DATA ANALYSIS

The raw data collected were coded in a spreadsheet for easy analysis. Statistical soft ware package, Statistical Package for Social Sciences (SPSS) version 20.0 was used for the analysis. Descriptive statistics of frequencies and percentages for the research objectives and inferential statistics of chi-square test for hypothesis testing. For assessment of the knowledge of Integrated Management of Childhood Illness by nurses, scores of 1-3 indicate poor knowledge; 4-6 indicate fair knowledge while scores of 7-9 indicate good knowledge. For assessment of the level of implementation of Integrated Management of Childhood Illness by nurses, a scale of 1-20 was utilized in the study where scores of 1-7 indicate low level, 8-14 indicate moderate level while scores of 15- 20 indicate high level.

ETHICAL CONSIDERATION

Approval was obtained from the ethical committee of the institution where the study was carried out. Also, informed verbal consent was obtained from the respondents after explaining the purpose of the study to them. They were also assured that any information provided will be treated confidentially and not used against them in any way.

PRESENTATION OF DATA

Table 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS (n=109)

VARIABLE	CLASSIFICATION	FREQUENCY	PERCENTAGE
SEX	Female	109	100
	Male	Nil	Nil
AGE	20-30 years	24	22.02
	31-40 years	36	33.03
	41-50 years	19	17.43
MARITAL STATUS	Single	35	32.11
	Married	56	51.38
	Widowed	18	16.51
HIGHEST EDUCATIONAL QUALIFICATION	Diploma	52	47.71
	Bachelor's Degree	47	43.12
	Master's Degree	10	9.17
YEAR OF WORKING EXPERIENCE	1-10years	28	25.69
	11-20years	45	41.28
	21years and above	36	33.03
RANK	No ii	28	25.69
	No i	18	16.51
	SNO	16	14.68
	PNO	21	19.27
	ACNO	12	11.01
	CNO	14	12.84

Table 1 shows that of the 109 respondents studied, 109 (100%) are females while nil are males, 24(22.02%) are aged 20-30 years, 36 (33.03%) are aged 31- 40 years, 30 (27.52%) are aged 41-50 years while 19 (17.43%) are aged 51 years and above, 35 (32.11%) are single, 56 (47.71%) are married while 18 (16.51%) are widowed, 52 (47.71%) have Diploma, 47 (43.12%) have Bachelor's degree while 10 (9.17%) have Master's degree, 28 (25.69%) have 1- 10 years working experience, 45 (41.28%) have 11-20 years working experience while 36 (33.03%) have 21 years and above working experience, 28(25.69%) are NO II, 18 (16.51%) are NO I, 16 (14.68%) are SNO, 21 (19.27%) are PNO, 12 (11.01%) are ACNO while 14 (12.84%) are CNO.

TABLE 2: KNOWLEDGE OF NURSES ABOUT INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (n=109)

VARIABLE	CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
Knowledge of nurses about integrated management of childhood illness	Good knowledge	26	23.85
	Fair Knowledge	48	44.04
	Poor Knowledge	35	32.11

Table 2 shows that of the 109 respondents studied, 26(23.85%) had good knowledge, 48(44.04%) had fair knowledge while 35 (32.11%) had poor knowledge of Integrated Management of Childhood Illness respectively.

TABLE 3: LEVEL OF IMPLEMENTATION OF INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS BY NURSES (n=109).

VARIABLE	CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
Level of implementation of integrated management of childhood illness by nurses.	High level	35	32.11
	Moderate Level	51	46.79
	Low level	23	21.10

Table 3 shows that of the 109 respondents studied, 35 (32.11%) rated the level of implementation of Integrated Management of Childhood Illness as high, 51 (46.79%) rated the level of implementation of Integrated Management of Childhood Illness as moderate whereas 23 (21.10%) rated the level of implementation of Integrated Management of Childhood Illness as low respectively.

TABLE 4: FACTORS INFLUENCING THE IMPLEMENTATION OF INTEGRATEDMANAGEMENT OF CHILDHOOD ILLNESS BY NURSES (n=109).

ITEMS	AGREE FREQUENCY (%)	DISAGREE FREQUENCY (%)
1. Low initial training coverage involving nurse	87 (79.82)	22 (20.18)
2. Shortage of nurse compared to the increasing number of children seeking medical care.	87(79.82)	22 (20.18)
3. Lack of motivation and retention of nurses.	81(74.31)	28(25.69)
4. Shortage of essentials drugs and supplies as recommended by IMCI CASE management guidelines	87(79.82)	28(20.18)
5. Poor attitude of nurse in the implementation of integrated Management Childhood illness	66 (60.55)	43 (39.45)
6. Lack of regular supportive supervision and onsite monitoring	80 (73.39)	29 (26.61)
7. Reduce budgetary allocation to integrated management of childhood illness.	82(75.23)	27 (24.77)
8. Lack of follow-up service and refresher courses	87 (79.82)	22 (20.18)

Table 4 shows that the major factors influencing the implementation of Integrated Management of Childhood Illness include low initial training coverage involving nurses, shortage of nurses compared to the increasing number of children seeking medical care, shortage of essential drugs and supplies as recommended by Integrated Management of Childhood Illness case management guidelines and lack of follow-up services and refresher courses followed closely by reduced budgetary allocation to Integrated Management of Childhood Illness, lack of motivation and retention of nurses, lack of regular supportive supervision and onsite mentoring and least influenced by poor attitude of nurses in the implementation of Integrated Management of Childhood Illness.

TEST OF HYPOTHESIS

HYPOTHESIS: There is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness. Chi-square was used to test the hypothesis at 0.05 level of significance.

TABLE 5: RELATIONSHIP BETWEEN NURSES' KNOWLEDGE AND THE LEVEL OFIMPLEMENTATION OF INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS (n=109).

KNOWLEDGE	LEVEL			TOTAL	X^2 CALC	X^2 TAB	DECISION
	HIGH	MODERATE	LOW				
Good	9	10	7	26			
Fair	21	15	12	48	1.0335	9.4880	Accept null hypothesis
Poor	12	13	10	35			
Total	42	38	29	109			

X^2 calculated =1.0335; x^2 tabulated =9.4880; df = 4;p = 0.05

Table 5 shows that there is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness.

DISCUSSION OF FINDINGS, SUMMARY, CONCLUSION AND RECOMMENDATIONS

Knowledge level of nurses about Integrated Management of Childhood Illness:

Findings from the study revealed that only 26 (23.85%) nurses had good knowledge of Integrated Management of Childhood Illness, 48 (44.04%) nurses had fair knowledge while 35 (32.11%) nurses had poor knowledge of Integrated Management of Childhood Illness respectively. This is in contrast with other findings: Tikmani et al (2013)[8] reported that from a cross-sectional survey of nursing personnel knowledge about Integrated Management of Childhood Illness conducted in 6 community health centres of a selected district of Haryana, India, majority of the nursing personnel had good knowledge of Integrated Management of Childhood Illness; In another study by Adekanye &

Odetola (2014)[9], it was observed that more than 50% of the respondents had fair knowledge and implementation of IMCI but completion and proper use of the guidelines was limited.

Level of implementation of Integrated Management of Childhood Illness by nurses:

Findings from the study revealed that 35 (32.11%) nurses rated the level of implementation of Integrated Management of Childhood Illness by nurses as high, 51 (46.79%) nurses rated the level of implementation of Integrated Management of Childhood Illness as moderate while 23 (21.10%) rated the level of implementation of Integrated Management of Childhood Illness as low respectively in terms of assessment of children for general danger signs such as difficult breathing, diarrhoea, fever and cough, classification of illness according to need for urgent pre-referral treatment, special medical treatment and simple advice on home management, provision of practical treatment instructions such as advice on drug administration, feeding and treatment of local infections at home, provision of referral services and follow-up care, availability of essential drugs and

supplies, utilization of triage system to determine children requiring urgent medical attention, provision of health education services for mothers on the need for exclusive breastfeeding, proper waste disposal, personal, environmental and food hygiene and advocacy on the need for compliance by mothers of sick children to treatment regimen, follow-up and referral, immunization schedule and prevention of home accidents and injuries.

This is in consonance with other findings :Duyen et al (2013)[10] where nurses were more likely to correctly classify illness (Response rate - 1.93, 95% Confidence Interval: 1.66 - 2.24), demonstrated greater improvement in prescribing medications (Response rate - 3.08, 95% Confidence Interval: 2.04 - 4.66), immunizing children (Response rate - 3.45, 95% Confidence Interval:1.49 - 8.01), counseling families on adequate nutrition (Response rate - 10.12, 95% Confidence Interval: 6.03 - 16.99) and administering oral therapies (Response rate - 3.76, 95% Confidence Interval: 2.30 - 6.13); Tikmani et al (2013)[8] in a cross-sectional survey of nursing personnel consultation with sick children under five years of age in terms of Integrated Management of Childhood Illness guidelines conducted in 6 community health centres of a selected district of Haryana, India where nursing personnel performed best in assessing children (2 months to 5 years) in areas of fever (89.7%, 95% Confidence Interval: 79.7 - 96.9); cough (89.2%, 95% Confidence Interval: 81.6 - 96.7) and identifying treatment (89.1%, 95% Confidence Interval: 83.7 - 96.7) contrary to their performance in identifying classifications related to diarrhoea (71.4%, 95% Confidence Interval: 62.8 - 84.7), malnutrition (67.2%, 95% Confidence Interval: 59 - 77.6), anaemia (77.3%, 95% Confidence Interval: 70 - 87.5), immunization (78.9%, 95% Confidence Interval: 71.1 - 88.8) and feeding problem (75.9%, 95% Confidence Interval: 66.9 - 86.3) which was relatively less.

Factors influencing the implementation of Integrated Management of Childhood Illness by nurses:

The result of the study observed that there are various factors affecting the implementation of IMCI. Major factors among them include low initial training coverage involving nurses, shortage of nurses compared to the increasing number of children seeking medical care, shortage of essential drugs and supplies as recommended by IMCI case management guidelines, lack of follow-up services and refresher courses followed closely by reduced budgetary allocation to Integrated Management of Childhood Illness, lack of motivation and retention of nurses, lack of regular supportive supervision and onsite mentoring. This is in consonance with other findings, which observed that low initial training coverage involving nurses, lack of regular supportive supervision and onsite mentoring, reduced budgetary allocation to Integrated Management of Childhood Illness and lack of follow-up services and refresher courses are major factors influencing the implementation of Integrated Management of Childhood Illness by nurses,(Hildegalda & Josephine,(2009)[11]; Adekanye & Odetola, (2014)[9]).

HYPOTHESIS

There is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness.

The null hypothesis was tested using inferential statistics of chi-square test (p = 0.05). Findings showed that there is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness since the x^2 calculated equaling 1.0335 is less than the x^2 tabulated equaling 9.4880, we therefore accept the null hypothesis that "there is no significant relationship between nurses' knowledge and the level of implementation of Integrated Management of Childhood Illness". This is in contrast with the findings of Adekanya & Odetola (2014)[9], which observed that nurses' knowledge of IMCI greatly influence their implementation of IMCI interventions

SUMMARY

This study aimed at determining the knowledge and level of implementation of Integrated Management of Childhood Illness by nurses in University of Port Harcourt Teaching Hospital, Rivers State. A self-structured questionnaire was used to carry out a non-experimental descriptive survey on 109 respondents using the convenience sampling technique. 3 specific objectives and 1 hypothesis were formulated to guide the study. Results from the study showed that majority of nurses had fair knowledge of Integrated Management of Childhood Illness and rated the level of implementation of Integrated Management of Childhood Illness as moderate Also, various factors influences the implementation of IMCI. It is therefore recommended that intensive training sessions be made available to nurses in order to adequately acquaint them with the core essence of Integrated Management of Childhood Illness.

CONCLUSION

Integrated Management of Childhood Illness as a systematic approach to child health has demonstrated significant impact in the reduction of child morbidity and mortality rates as it helps in the early detection and prompt treatment of childhood illness. Therefore, it is imperative that a multidisciplinary approach be adopted and actively imbibed by members of the health care team, taking into cognizance the concept of Integrated Management of Childhood Illness, through the provision of holistic care so as to promote improved survival, growth and development of children.

RECOMMENDATIONS

The following recommendations were made based on findings:
1. Provision of intensive training and practical demonstration sessions for nurses on Integrated Management of Childhood illness.
2. Recruitment of more professional nurses trained on Integrated Management of Childhood Illness to meet the increasing demand of children requiring medical care.

3. Adequate supply of Essential drugs and supplies as recommended by Integrated Management of Childhood Illness case management guidelines.
4. Increased budgetary allocation to Integrated Management of Childhood Illness by the Federal Ministry of Health.
5. Provision of follow-up services and refresher courses for nurses and other members of the health care team.
6. Provision of regular supportive supervision and onsite mentoring for nurses trained on Integrated Management of Childhood Illne

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