

Malaria: Assess and Compare the Effectiveness of Planned Teaching Programme on the Knowledge Regarding Malarial Drug Regimn in Children among Nurses Working in Paediatric Departments in Selected Hospitals of Vidarbha Region

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Abstract: *Background:* In parts of the world where the endemicity of *P. falciparum* is stable, severe malaria is mainly a disease of childhood. On the other hand, in places of lower endemicity, viz., SE Asia, the age shifts upwards and children above 5 years, and adults, suffer from severe falciparum malaria. However, even in these wide geographical areas, there are areas with very high to very low or seasonal transmission. Hence, more recently malaria is being perceived as a local and focal disease.² The situation is further complicated by the recent emergence of resistance to chloroquine and sulphadoxine-pyrimethamine therapy. In India, the resurgence of malaria, after the initial success of National Malaria Eradication Programme (NMEP), has posed a great public health problem due to high mortality, morbidity, and the economic burden arising out of it.³ One of the reasons of high mortality was identified to be the delay in institution of proper antimalarial drugs. India accounts around 85% of the total reported cases in the region. During 1996 also, India contributed 83% of total malaria cases in SE Region. Thus around 80% of reported cases in the region are being contributed by India. Malaria is a complex disease and various factors influenced by human activities and natural calamity like excessive rainfall, flood, drought and other disasters have great bearing on mosquitogenic conditions leading to increased potential for malaria transmission.⁷ *Objectives:* (i) To assess the knowledge regarding the malarial drug regimn in children among nurses in experimental and control group. (ii) To evaluate the effectiveness of a planned teaching programme among nurses in the experimental group. (iii) To compare the effectiveness of a planned teaching programme among nurses in the experimental group and control group. (iv) To associate the post test knowledge of nurses regarding malarial drug regimn in children with the selected demographic variables in experimental and control group. *Method:* This study was based on evaluative approach. The population was all the nurses of Vidarbha region. The sample consists of 60 nurses from the different hospitals. Those working in paediatric department, willing to participate in study. The exclusion done of those with experience less than one year, who are completed specialty in pediatric nursing and who had in service education or training on malaria and its treatment. The sampling technique used in the study was Non-Probability Convenient Sampling. The tool was structured questionnaire. *Results:* In experimental group, the overall mean score knowledge of nurses at pre-test is 23.26±4.01 and after the planned teaching programme, the overall mean score knowledge at post-test was 27.83±2.73. the t-value calculated was 10.00 and probability value was 0.000 i.e. less than table value hence it shows high significance increase in knowledge resulting in effectiveness of planned teaching programme. On comparing post test level knowledge score in experimental and control group, the overall mean knowledge score of post test of experimental group was 27.83±2.73 and overall mean knowledge score of post test of control group was 20.83±3.50. The calculated t-value was 8.63 and probability value was 0.000 which is highly significant as it is less than table value of 0.05 indicating the effectiveness of planned teaching programme. *Conclusion:* The planned teaching programme significantly brought out their improvement in the knowledge regarding malarial drug regimn in children among nurses working in paediatric departments in selected hospitals of vidarbha region. Analysis of data showed that there was significant difference between pre test and post test knowledge in experimental group. And also post test knowledge score in experimental group is more than in control group.

Keywords: Malaria Drug, Chloroquine Resistance, Knowledge, Nurse

1. Introduction

“Malaria is a preventable infection that can be fatal if left untreated.”

“You cannot be vaccinated against malaria, but you can protect yourself.”

Malaria is a major public health problem in India, accounting for sizeable morbidity, mortality and economic

loss. Apart from preventive measures, early diagnosis and complete treatment are the important modalities that have been adopted to contain the disease. In view of widespread chloroquine resistance in Plasmodium falciparum infection, and other recent developments, the national policy has been revised to meet these challenges. Malaria is one of the major public health problems of the country. Around 1.5 million confirmed cases are reported annually by the National Vector Borne Disease Control Programme (NVBDCP), of

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which 40–50% are due to Plasmodium falciparum. Malaria is curable if effective treatment is started early. Delay in treatment may lead to serious consequences including death. Prompt and effective treatment is also important for controlling the transmission of malaria.¹¹

In the past, chloroquine was effective for treating nearly all cases of malaria. In recent studies on Assessment of efficacy, safety and population pharmacokinetics of the fixed-dose combination of Artesunate- Mefloquine in the treatment of acute uncomplicated Plasmodium falciparum malaria in India by national institute of malaria research, New Delhi found that chloroquine-resistant P.falciparum malaria has been observed with increasing frequency across the country. The continued treatment of such cases with chloroquine is probably one of the factors responsible for increased proportion of P. falciparum relative to P. vivax.¹² A revised National Drug Policy on Malaria has been adopted by the Ministry of Health and Family Welfare in 2008 and these guidelines have therefore been prepared for health care workers involved in the treatment of malaria.¹³

Nurses are the main pillar of health system. The nurses play important role in administrating the medication. The children are the seeds of plant of healthy generation. This study helps in increasing the knowledge of nurses in malarial drug regimn in children ultimately leads to effective nursing practices.

2. Materials & Methods

The Quasi experimental design, control group pre-test post-test design was chosen for study. In this design there are two groups - control and experimental. This study was based on evaluative approach. The investigator selected 5 hospitals in vidarbha region. Among these, 3 hospitals are selected for experimental group population and 2 hospitals are selected for control group population. The sampling technique used in this study was non-probability convenient sampling. In this study, the sample size consisted of 60 nurses which fulfills the criteria. Out of which, both experimental and control group consisted of 30 samples each. A structured questionnaire of all close ended questions was prepared to determine the knowledge of nurses regarding malarial drug regimn in children.

PILOT STUDY: The pilot study was conducted in hospitals on 10th February, 2011, to assess the feasibility of the study and to decide the statistical analysis and practicability of research. It was found feasible. 10 nurses were selected for pilot study using convenience sampling technique. 5 nurses in each experimental and control group. Two different hospitals were selected for choosing the group. Prior administrative permission was taken from the Director of both the hospitals. Written consent was taken from each one of the sample. The subjects included in pilot study are excluded in final study. The association between demographic variables and knowledge was analyzed by Guttman split half and all the tests were set at $p < 0.05$. The results showed that the statistical test chosen to test the results was appropriate.

DATA COLLECTION: The data gathering process began from 21st February to 10th March, 2011. The investigator visited to the concerned hospitals in advance and obtained the necessary permission from the concerned authorities. The investigator introduced him and informed the nurses about the nature of the study so as to ensure better co-operation during the data collection.

The investigator explained the need, scope, purpose and objectives of the study to the concerned authority. After securing the permission from the concerned authority of hospital and photocopy of written permission letter was given to the ward incharges and OPD incharges with necessary verbal information about the plan of action to get their cooperation.

Then the questionnaire was distributed to all samples The 30 minutes are given to each sample for solving the questionnaire. Next day the planned teaching was imparted to the group by the lecture cum discussion with effective use of Visual aids. The session is of 45 minutes. On fifth day, post test was administered by using the same questionnaire to assess the effectiveness of planned teaching. The same process was used for control group without planned teaching and this process continued till the expected sample size was availed.

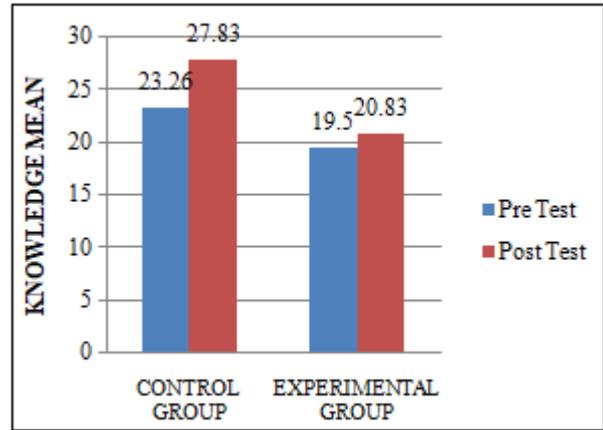
The collected data was coded, tabulated and analyzed by using descriptive and statistics (mean percentage, standard deviation) and inferential statistics. To associate the demographic characteristics, one way ANOVA test was used and multiple comparisons were done by using Tukey multiple comparison test.

3. Results

Distribution of samples according to age shows that 13.3% samples of experimental group and 40% samples of control group between the age group of 19-24 years and 23.3% samples of experimental group and 43.3% samples of control group between the age group of 25 to 30 years and 40% samples of experimental group and 10% samples of control group belong to 31-35 years of age. And 23.3% samples of experimental group and 6.7% samples of control group were above 35 years of age Hence, it is interpreted that most of the samples under study were between the age group of 31-35 years in experimental group and 25 to 30 years in control group. Distribution of samples according to their professional qualification shows that 3.3% samples of experimental group none from control group were ANM qualified. 90% samples of experimental group and 93.3% samples of control were GNM qualified. And 6.7% samples of both group were having qualification of B.Sc. Nursing. And none of the samples of experimental & control group were P.B.B.Sc. Nursing. Hence, it is interpreted that most of the samples under study were GNM qualified in both group.

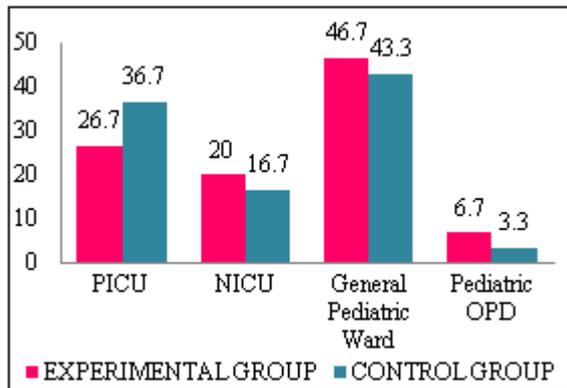
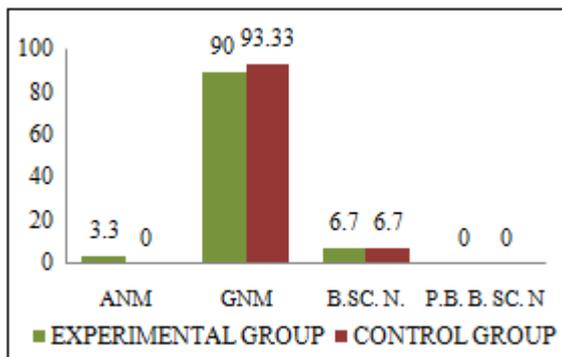
Distribution of samples according to their working experience shows that 13.3% samples of experimental group and 60% samples of control group were having the 1-4 years of working experience and 30% samples of both group were having the 5-7 years of working experience, 40% samples of experimental group and 3.3% samples of control group

were having the 8-10 years of working experience And 16.7% samples of experimental group and 6.7% samples of control group were having the more than 10 years of working experience. Hence, it is interpreted that most of the samples under study were having the 8-10 years of working experience in experimental group and 1-4 years working experience in control group. Distribution of samples according to their area of working shows that 26.7% samples of experimental group and 36.7% samples of control group were from PICU area and 20% samples of experimental group and 16.7% samples of control group were from NICU area, 46.7% samples of experimental group and 43.3% samples of control group belong to general pediatric ward. And 6.7% samples of experimental group and 3.3% samples of control group were belongs to pediatric OPD Hence, it is interpreted that most of the samples under study were belongs to general pediatric ward in both group.



The table & graph explains that in experimental group, after PTP there was significant increase in knowledge level of the subjects. The probability value for t-value 10.00 is 0.000 which is less than 0.05 hence, it is highly significant.

In control group, the t-value calculated as 5.41 and probability value for that is 0.06 which is more than 0.05, hence, it is non-significant. From this, it is conclude that there was no significant increase in knowledge level of control group subject as they did not receive planned teaching programme.



Difference of Knowledge Score in Pre and Post Test in Nurses in Relation to Knowledge of Malarial Drug Regime in Children

EXPERIMENTAL GROUP [n=30]				
Knowledge area	Pre Test	Post Test	t-value	p-value
Overall	23.26±4.01	27.83±2.73	10.00	0.000,S,p<0.05
CONTROL GROUP [n=30]				
Knowledge area	Pre Test	Post Test	t-value	p-value
Overall	19.50±2.95	20.83±3.50	5.41	0.06,NS,p>0.05

4. Discussion

Under general assessment Distribution of nurses, knowledge regarding malarial drug regimn in children, in experimental group that most of the sample has excellent level of knowledge (63.33%), good level of knowledge is only 10(33.33%) and only 1(3.33%) have average level of knowledge. And there was no samples belongs to poor level of knowledge. In control group, that most of the sample has good level of knowledge (80%), excellent level of knowledge is only 3 (10%) and only 3(10%) have average level of knowledge. And there was no samples belongs to poor level of knowledge.

In experimental group, the overall mean score knowledge at pre-test is 23.26±4.01 and after the planned teaching programme, the overall mean score knowledge at post-test was 27.83±2.73. the t-value calculated was 10.00 and probability value was 0.000 i.e. less than table value hence it shows high significance increase in knowledge resulting in effectiveness of planned teaching programme.

On comparing post test level knowledge score in experimental and control group, the overall mean knowledge score of post test of experimental group was 27.83±2.73 and overall mean knowledge score of post test of control group was 20.83±3.50. The calculated t-value was 8.63 and probability value was 0.000 which is highly significant as it is less than table value of 0.05 indicating the effectiveness of planned teaching programme.

Association of knowledge and age group is calculated with F-test, p value is 0.69 which is more than table value so there is no association between age and knowledge regarding malarial drug regimn in children in experimental group. In control group, association of knowledge and age group is

calculated with F –test, p value is 0.44 which is more than table value so there is no association between age and knowledge regarding malarial drug regimn in children.

Association of knowledge and gender is calculated with student t –test, p value is 0.25 which is more than table value so there is no association between gender and knowledge regarding malarial drug regimn in children in experimental group. In control group, association of knowledge and gender is calculated with student t –test, p value is 0.89 which is more than table value so there is no association between gender and knowledge regarding malarial drug regimn in children.

Association of knowledge and professional qualification is calculated with F –test, p value is 0.005 which is less than table value so there is significant association between professional qualification and knowledge regarding malarial drug regimn in children in experimental group. In control group, association of knowledge and professional qualification is calculated with t –test, p value is 0.89 which is more than table value so there is no association between professional qualification and knowledge regarding malarial drug regimn in children.

Association of knowledge and working experience is calculated with F –test, p value is 0.32 which is more than table value. Also, in control group, association of knowledge and working experience is calculated with F –test, p value is 0.71 which is more than table value so there is no association between working experience and knowledge regarding malarial drug regimn in children in both group.

Association of knowledge and area of working is calculated with F –test, p value is 0.00 which is less than table value so there is significant association between area of working and knowledge regarding malarial drug regimn in children in experimental group. In control group, association of knowledge and area of working is calculated with F –test, p value is 0.98 which is more than table value so there is no association between area of working and knowledge regarding malarial drug regimn in children

Significant association in experimental group between knowledge and area of working which indicates knowledge score of PICU and NICU and general ward with Pediatric OPD shows significant association but no significant association found between PICU with general ward and NICU also there is no significant association found between NICU and general ward .

5. Conclusion

- 1) Most of the nurses in experimental group shows significant increase in knowledge level after planned teaching programme. During pre-test 63.33% nurses were excellent which increased to 93.33%.
- 2) Knowledge score shows that there is effectiveness of planned teaching programme as there was significant increase in knowledge level after post test in experimental group.

- 3) Comparison of post test score of experimental and control group also shows significant increase in knowledge level in experimental group.
- 4) Most of the demographic factors are not associated with knowledge but professional qualification and area of working is significantly associated with knowledge level of nurses in experimental group. In control group, none of the demographic factors are not associated with knowledge.

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