EFFECTIVENESS OF HOME BASED STEAM INHALATION THERAPY ON REDUCING THE SYMPTOMS OF ACUTE UPPER RESPIRATORY TRACT INFECTIONS

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ABSTRACT

“He who breathes most air lives most life”

Elizabeth Barret Browning

Acute upper respiratory infections (AURI) are the major causes of morbidity and mortality in children worldwide, particularly in developing countries. The clinical features of AURI are rhinorrhea, nasal stuffiness, cough, sore throat, ear ache, malaise, restless, irritability and occasionally vomiting, onset of fever from 39 to 40 degree celsius, which lasts from few hours to 3 days, irritability, restless, nasal discharge, vomiting and nasal obstruction causes difficulty in sucking and breathing in infants. Steam inhalation may have local effect. Steam introduced into the deeper passages of the respiratory tract provides a larger surface area for absorption. The alveolar capillary network readily absorbs gases and mists introduced into the lungs. Airways must not interfere with the normal gas exchange such as constricting bronchiole.

Every year acute upper respiratory tract infection in younger children is responsible for an estimated 3.9 million deaths worldwide. Every year some 12 million children in developing countries die before they reach their fifth birthday, many during the first year of life. Globally, acute upper respiratory tract infections (AURI) constitute 19% of mortality in this age group. Although most of the attacks are mild and self limiting episodes, AURI is responsible for about 30 - 50 percent of visits to health facilities and for about 20 - 40 percent of admissions to hospitals. The incidence of acute sinusitis varies from 15 to 43 episodes per thousand patients per year. It is also a leading cause of disabilities including deafness as a sequelae of otitis media.

KEYWORDS: Effectiveness of Home Based Steam Inhalation Therapy on Reducing, Acute Upper Respiratory Infections (AURI)

INTRODUCTION

Statement of the Problem

A study to assess the effectiveness of home based steam inhalation therapy on reducing the symptoms of acute upper respiratory tract infections among under five children in Nanchiyampalayam at Dharapuram.

OBJECTIVES

• To assess the symptoms of acute upper respiratory tract infection before and after steam inhalation therapy.
To compare the symptoms of acute upper respiratory tract infection before and after steam inhalation therapy

To find the association between the symptoms of acute upper respiratory tract infection after steam inhalation therapy with their selected demographic variables.

RESEARCH HYPOTHESES

• $H_1$: The mean post test scores is significantly lower than the mean pre test scores of symptoms among under five children with acute upper respiratory tract infection.

• $H_2$: There will be a significant association between the post test scores of symptoms among fewer than five children with acute upper respiratory tract infection with their selected demographic variables.

MATERIALS AND METHODS

RESEARCH APPROACH

Evaluative approach was used to conduct this study.

RESEARCH DESIGN

The research design for this study was pre-experimental one group pre-test and post test design.

SETTING OF THE STUDY

The study was conducted in urban area in Nanchiyampalayam which comes under Dharapuram block and it was 3km away from Bishop's College of Nursing. The total population was 6770. In this the under five children are 130. In this the male under five children are 73 and the female under five children are 57. The children between 2 - 5 years of age are 106. The area consists of 7 streets.

POPULATION

The populations for this study are under five children in Nanchiyampalayam.

SAMPLE SIZE

The sample size comprised of 30 under five children between 2 - 5 years with acute upper respiratory tract infection.

SAMPLING TECHNIQUE

Purposive sampling technique was used in this study to select the samples.

TOOLS

SECTION - I

Demographic variables such as age, sex, mode of delivery, type of family, monthly income of the family, past history of upper respiratory tract infection.

SECTION - II

Observation checklist - to assess the signs and symptoms.
SECTION - III

Rating scale - to assess the symptoms

INTERVENTION

Oral consent was obtained from the mothers. Data collection was done among 30 under five children. Each day 5 - 6 children with mild and moderate acute upper respiratory tract infection was selected. The steam inhalation using plain water was demonstrated to the mother and home based steam inhalation therapy was given in the morning and evening for 5 days. The post test was conducted on the 6th day to find out the effectiveness of home based steam inhalation therapy. The same procedure was followed for 30 under five children. The data was collected and analyzed using descriptive and inferential statistics.

MAJOR FINDINGS

Majority of the children 12 (40%) were in the age group of 4 - 5 years. Most of them 16 (53%) were female. Majority of the children 22 (73.3%) were normal vaginal mode of delivery. Most of them 22 (73.3%) belong to nuclear family. Most of the children 19 (63.3%) belong to monthly income of Rs. 2001 - Rs. 5000. Majority of children 16 (53.3%) had rare past history of acute upper respiratory tract infection. During pre test, the findings revealed that most of the children 26 (86.6%) had moderate symptoms of acute upper respiratory tract and 4 (13.4%) had mild symptoms of acute upper respiratory tract infection before home based inhalation therapy. During post test after giving home based steam inhalation therapy, findings revealed that all 30 (100%) children had mild symptoms of acute upper respiratory tract infection. Highly significant difference was found between pre test symptoms score of acute respiratory tract infection among under five children and post test symptoms scores of acute upper respiratory tract infection after home based steam inhalation therapy among under five children. The mean post test value 3.53 (S.D = 1.95) was lower when compared with the mean pre test value of 21.8 (S.D = 4.45); ‘t’ value was 23.20 which showed highly significant at P < 0.05 level. Chi square values was calculated there is no association found between the symptoms of acute upper respiratory tract infection after home based steam inhalation therapy with their demographic variables.

Table 1: Frequency and Percentage of Symptoms of Acute Upper Respiratory Tract Infection among Under Five Children before and after Steam Inhalation Therapy n = 30

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre Test</th>
<th>Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>Mild</td>
<td>4</td>
<td>13.4%</td>
</tr>
<tr>
<td>Moderate</td>
<td>26</td>
<td>86.6%</td>
</tr>
<tr>
<td>Severe</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Comparision of Mean, Mean Percentage, Standard Deviation, Mean Difference and ‘t’ Value Score of Symptoms of Acute Upper Respiratory Tract infection among under Five Children Before and After Steam Inhalation Therapy n = 30

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Mean Percentage</th>
<th>Mean Difference</th>
<th>‘t’ Value</th>
<th>Table ‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre Test</td>
<td>21.8</td>
<td>4.45</td>
<td>72.7</td>
<td>18.27</td>
<td>23.20</td>
<td>2.045</td>
</tr>
<tr>
<td>2</td>
<td>Post Test</td>
<td>3.53</td>
<td>1.95</td>
<td>11.8</td>
<td></td>
<td></td>
<td>P&lt;0.05</td>
</tr>
</tbody>
</table>
NURSING IMPLICATIONS

The investigator recommended the following implications drawn from the study.

- In nursing service the home based steam inhalation therapy using plain water can be used effectively by the community health nurse in reducing the symptoms of acute upper respiratory tract infection.

- Nurse educators must reinforce the students to practice simple and cost effective home management procedures in reducing the symptoms of acute upper respiratory tract infection at home and in community centers.

- The nurse administrators can take initiation in organizing continuing education programmes on management of acute upper respiratory tract infection among under five children in home set up and in community centers.

- In nursing research the study findings may be utilized by the emerging researchers for their reference purpose. Further research can be done to measure the effectiveness of medicated home based steam inhalation therapy in reducing the symptoms of acute upper respiratory tract infection among under five children.

CONCLUSIONS

The present study was aimed to reduce the symptoms of acute upper respiratory tract infection among the under five children. The intervention used in the study was home based steam inhalation therapy. 30 samples were selected for steam inhalation who had scored in mild and moderate. The study findings revealed that there is significant difference in pre test score of acute upper respiratory tract infection and the post test score of acute upper respiratory tract infection after home based steam inhalation therapy among under five children (’t’ value 23.20) at 0.05 level. It is evident that home based steam inhalation therapy is effective in reducing the symptoms of acute upper respiratory tract infection among under five children.

RECOMMENDATIONS

- Similar study can be replicated on larger sample.

- A study can be conducted to assess the knowledge and attitude among parents regarding the home based steam inhalation for reducing the symptoms of acute upper respiratory tract infection for under five children.

REFERENCES


