Evaluating Self care management Skills among adult asthmatics; A Randomized controlled study

M. Varalakshmi, RN, MSN, MBA, PGDBE, (PhD)
Assistant Professor,
School of Medical Sciences,
University of Hyderabad
Telangana - 46, India.
varamanchana@gmail.com
Learner Objectives

- Increases your knowledge on effectiveness of nursing interventions to improve disease control among asthma patients
- Identifies the clinical and community requirement of equipping adequate knowledge and practices among patients
- Enhances the care and communication of asthma patients towards effective management.

- Conflict of Interest: None
- Sponsorship/Funding: None
“When you can’t breathe, nothing else matters”, is the mantra of American Lung Association.

Asthma is a major cause of disability, health resource utilization and poor quality of life for those who are affected (WHO, 2012).

Uncontrolled asthma and rising prevalence remains to be a Public health challenge.
Significance of the Study

- Asthma is a chronic respiratory disorder affecting 300 million people worldwide\(^4\).
- There may be an additional 100 million people with asthma by 2025\(^5\).
- Estimates suggesting an increase in the asthma prevalence globally by 50% every decade\(^1\).
- The overall burden of asthma in India is estimated to be more than 15 million\(^2\).
- High prevalence and poor control of asthma makes its management a major public health issue worldwide\(^2\).
Knowledge is the key to life.

Awareness, self-monitoring and appropriate measures help in the health maintenance of asthma patients.

Positive asthma control and effective asthma management improve the quality of life among asthmatic patients.

**Aim:** The study aimed to assess the effectiveness of selected nursing interventions on the self care management of Bronchial asthma.
Materials & Methods

- The present study adopts Experimental Research approach.
- The Research design; Pre test – Post test control group design.
- The experimental (n=100) and control (n=50) groups were selected by simple random sampling after securing ethical approval, appropriate institutional permissions and informed consent from the patients.
**Tools:**
Pre tested Structured Questionnaire on;
1. Demographic data
2. Knowledge Questionnaire, and
3. Structured Observation checklist ;

**Nursing Interventions:**
Developed and administered on;
- Identifying asthma triggers, warning signs and self care monitoring practices.
- Demonstration of selected practices.
- **Validity**: Content validity of the tools was ascertained by the subject experts.

- Tools were implemented after 100% agreement on the content.

- **Reliability**: Reliability was calculated by using the test and retest method.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Test used</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Structured Knowledge Questionnaire</td>
<td>Test retest method</td>
<td>r=0.876</td>
</tr>
<tr>
<td>2. Structured Observational Check-list</td>
<td>Test retest method</td>
<td>r=0.836</td>
</tr>
</tbody>
</table>
Results

- Maximum of 51% (exp, n=100) and 50% (contr, n=50) were between 51 to 60 years of age.
- 63% were men and 37% were women (exp, n=100), it was 58% and 42% in the control group.
- In relate to education about 52% (exp) and 56% (contr) were illiterates and only 4 - 5% were recorded of having graduate level of education.
- Occupation wise 30% were laborers and minimum of 7% were skilled workers; whereas professionals were 15% and 25% in to business.
- Majority of the subjects’ i.e.88% in the experimental and 68% in the control groups were passive smokers.
Table 1: Test of Significance showing the difference of Pre & Post test Knowledge Scores in the Experimental group; n=100

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Areas of Knowledge</th>
<th>Mean</th>
<th>S.D</th>
<th>SEM</th>
<th>‘t’ test value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pre test</td>
<td>Post test</td>
<td>Pre test</td>
<td>Post test</td>
</tr>
<tr>
<td>1</td>
<td>Identifying Asthma triggers</td>
<td>10.13</td>
<td>19.05</td>
<td>3.969</td>
<td>1.167</td>
</tr>
<tr>
<td>2</td>
<td>Warning signs and prevention of acute attacks</td>
<td>5.59</td>
<td>12.19</td>
<td>3.452</td>
<td>1.721</td>
</tr>
<tr>
<td>3</td>
<td>Self monitoring and self care management</td>
<td>4.18</td>
<td>11.07</td>
<td>3.01</td>
<td>1.182</td>
</tr>
<tr>
<td>4</td>
<td>Total Knowledge</td>
<td>19.9</td>
<td>42.31</td>
<td>8.841</td>
<td>3.449</td>
</tr>
</tbody>
</table>

Significant at p<0.001(**)
Table 2: Test of Significance showing the difference of Post test Knowledge Scores between the Experimental and Control groups: 

<table>
<thead>
<tr>
<th>S.N</th>
<th>Areas of Knowledge</th>
<th>Mean</th>
<th>S.D</th>
<th>SEM</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Exp</td>
<td>Contr</td>
<td>Exp</td>
<td>Contr</td>
</tr>
<tr>
<td>1</td>
<td>Identifying Asthma triggers</td>
<td>19.05</td>
<td>10.25</td>
<td>1.167</td>
<td>3.226</td>
</tr>
<tr>
<td>2</td>
<td>Warning signs and prevention of acute attacks</td>
<td>12.19</td>
<td>7.22</td>
<td>1.721</td>
<td>2.452</td>
</tr>
<tr>
<td>3</td>
<td>Self monitoring and self care management</td>
<td>11.7</td>
<td>3.78</td>
<td>1.882</td>
<td>2.27</td>
</tr>
<tr>
<td>4</td>
<td>Total Knowledge</td>
<td>42.31</td>
<td>21.28</td>
<td>3.449</td>
<td>6.743</td>
</tr>
</tbody>
</table>

Significant at p<0.001(**)
Table 3: Pre test and Post test Practice scores comparison of Experimental group: n=100

<table>
<thead>
<tr>
<th>S. No</th>
<th>Item</th>
<th>Pre test</th>
<th>Mean</th>
<th>SD</th>
<th>SEM</th>
<th>“t” value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Peak flow monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>7.71</td>
<td>1.445</td>
<td>0.144</td>
<td>18.893</td>
</tr>
<tr>
<td>2</td>
<td>Inhalation technique</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>6.91</td>
<td>0.839</td>
<td>0.084</td>
<td>16.864</td>
</tr>
<tr>
<td>3</td>
<td>Deep breathing and Coughing exercise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post test</td>
<td>9.3</td>
<td>1.655</td>
<td>0.165</td>
<td>19.500</td>
</tr>
</tbody>
</table>

Significant at p<0.001(**)
Table 4: Test of significance comparison of Post test Practice scores between Experimental and Control groups;  n=150

<table>
<thead>
<tr>
<th>S.N O</th>
<th>ITEM</th>
<th>Mean Exp gr.</th>
<th>Mean Contr gr.</th>
<th>SD Exp gr.</th>
<th>SD Contr gr.</th>
<th>SEM Exp gr.</th>
<th>SEM Contr Gr.</th>
<th>“t” value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Peak flow monitoring</td>
<td>7.71</td>
<td>4.72</td>
<td>1.145</td>
<td>1.371</td>
<td>0.144</td>
<td>0.194</td>
<td>12.152</td>
</tr>
<tr>
<td>2</td>
<td>Inhalation technique</td>
<td>6.94</td>
<td>4.92</td>
<td>0.839</td>
<td>1.158</td>
<td>0.084</td>
<td>0.164</td>
<td>12.197</td>
</tr>
<tr>
<td>3</td>
<td>Deep breathing and Coughing exercise</td>
<td>9.3</td>
<td>4.96</td>
<td>1.655</td>
<td>1.34</td>
<td>0.165</td>
<td>0.189</td>
<td>16.090</td>
</tr>
</tbody>
</table>

Significant at p<0.001(**)
<table>
<thead>
<tr>
<th>S. NO</th>
<th>Practice</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre test</td>
<td>Post test %</td>
<td>Pre test</td>
</tr>
<tr>
<td>1</td>
<td>Peak flow monitoring</td>
<td>Poor         35    2</td>
<td>50   44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average      65    16</td>
<td>50    56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good         0     82</td>
<td>0     0</td>
</tr>
<tr>
<td>2</td>
<td>Inhalation technique</td>
<td>Poor         31    3</td>
<td>30   20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average      69    9</td>
<td>70    80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good         0     88</td>
<td>0     0</td>
</tr>
<tr>
<td>3</td>
<td>D B C</td>
<td>Poor         77    3</td>
<td>94   90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average      23    28</td>
<td>6     10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Good         0     69</td>
<td>0     0</td>
</tr>
<tr>
<td>4</td>
<td>Total Practices</td>
<td>Poor         47    4</td>
<td>68   50</td>
</tr>
</tbody>
</table>
The study identifies remarkable limitation in the patients’ knowledge about the condition and its self care management. The study findings support the findings of Prabhakaran et al, (2006)\textsuperscript{18}, Ghosh CS et al (1998)\textsuperscript{6}; Mishra N (2005)\textsuperscript{14} a, Aggarwal A N.et al (2006)\textsuperscript{13}, Kotwani S K et al, (2011)\textsuperscript{5} which highlights the need for adequate patient education.

Study to (Warsi A et al, (2004 ), evaluate Self management educational programs finds similar impact of education on self care management. The study finds the impact of knowledge on self care practices in controversy to the findings of O Abdulwadud, showing no impact of intervention on patient skills.
Similar findings in efficacy of asthma education and importance of self-care manuals have been reported in some Indian studies\textsuperscript{17,5,10,14,16,18,22}.

The present study findings supporting the studies\textsuperscript{12,5,6,18,20,22} on impact of patient education study have evaluated the impact of Nursing intervention on knowledge and Practices to experience control over the disease process.
Strengths

- Sample size was large enough to generalise the findings of the study
- Random allocation of the sample
- Study involves equipping knowledge, practices with an emphasis on self care management among patients with asthma.
- Study focuses on long term management of chronic condition like asthma.
Limitations

- The study is limited to a single health care organization.
- The study have not included elderly patients above 60 years.
- Study was limited to patients on inhalers.
- Limited to follow up of 8 weeks.
The findings of the present study supports the positive impact of nursing interventions on knowledge, Practices, which in turn effects the self care management skills among asthma patients.

Comprehensive patient education with necessary information and skills equip them with confidence and to manage the condition effectively.

However patient education should be taken as a team approach on continuous basis.
References:


22. Nadia M, Taha Zeinab H Ali. Effect of Therapeutic guidelines for Bronchial Asthma in adult patients’ knowledge, practices, Compliance and disease severity; Life science journal; 2011; 8(3); 199-208
Profound acknowledgements to my mentor Dr. Rajinder Kaur Mahal, who is instrumental to direct me throughout my research work.

I thank INC for facilitating me to do my Research.

My sincere gratitude to my University Vice Chancellor, UPE2 for the encouragement and the travel support to make my visit to this Convention possible.

I thank our Dean Dr. G.K. Vemuganti for her moral support and stimulus, which truly influenced me for attending the Convention.

I also thank STTI and Phi Gamma Chapter for the opportunity to be part of the magnificent convention.
THANK YOU
For
Attention