

A Study to Assess the Effectiveness of a Nurse-Led Education Program on Knowledge of Asthma and its Impact on Daily Life Activities among Patients with Asthma at Global Mission Hospital and Research Institute, Karaikudi

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Abstract: Asthma is a chronic respiratory disease that significantly affects patients' quality of life and their ability to perform daily activities. Adequate knowledge regarding asthma management is essential to reduce complications and improve daily functioning. The present study aimed to assess the effectiveness of a nurse-led education program on knowledge of asthma and its impact on daily life activities among patients with asthma at Global Mission Hospital and Research Institute, Karaikudi. The objectives of the study were to assess the pre-test and post-test level of knowledge of asthma and its impact on daily life activities among patients in the experimental and control groups, to determine the effectiveness of a nurse-led education program in improving knowledge, to compare the post-test knowledge levels between the experimental and control groups, and to determine the association between pre-test knowledge levels and selected demographic variables. The study was guided by the Open System Model Theory of J.W. Kenny. A quantitative approach with a quasi-experimental pre-test and post-test control group design was adopted. The study was conducted at Global Mission Hospital and Research Institute, Karaikudi. A total of 60 patients with asthma were selected using a non-probability convenience sampling technique, with 30 participants in the experimental group and 30 in the control group. Data were collected using a semi-structured knowledge questionnaire and an Asthma Daily Activity Checklist. The experimental group received a nurse-led education program, while the control group received routine hospital care. The results revealed a significant improvement in the post-test knowledge scores in the experimental group compared to the pre-test scores. The calculated t-value (14.89) was higher than the table value at 0.05 level of significance, indicating the effectiveness of the nurse-led education program. A significant difference was also observed between the experimental and control groups in the post-test scores. Furthermore, there was a significant association between pre-test knowledge levels and selected demographic variables such as age, gender, marital status, education, occupation, monthly income, duration of asthma, and history of hospitalization. The study concludes that the nurse-led education program was highly effective in improving knowledge of asthma and reducing limitations in daily life activities among patients with asthma.

Keywords: Asthma Management, Nurse Led Education, Patient Knowledge of asthma, Daily Life Activities, Respiratory health education

1. Introduction

Asthma is one of the most common chronic respiratory diseases affecting people of all age groups worldwide. According to the **World Health Organization (WHO)**, asthma affects more than **260 million people globally** and contributes significantly to morbidity, reduced quality of life, and increased health-care utilization. The disease is characterized by chronic airway inflammation, bronchial hyper-responsiveness, and recurrent episodes of wheezing, breathlessness, chest tightness, and coughing.

Asthma not only affects physical health but also has a significant impact on patients' daily life activities. Individuals with asthma often experience limitations in routine activities such as walking, working, exercising, and performing household tasks. Poorly controlled asthma can lead to sleep disturbances, absenteeism from work or school, reduced productivity, and psychological stress.

Patient education plays a vital role in the effective management of asthma. Adequate knowledge regarding disease management, trigger avoidance, medication adherence, and proper inhaler techniques can significantly improve asthma control and enhance quality of life. Nurse-led educational interventions have been recognized as an effective strategy in chronic disease management. Nurses play a crucial role in providing health education, promoting self-management, and improving patient compliance with treatment.

Structured educational programs conducted by nurses' help patients understand asthma, identify triggers, adopt preventive measures, and practice breathing exercises that improve respiratory function. Such programs empower patients to actively participate in their own care and improve their ability to perform daily life activities.

Therefore, the present study was conducted to assess the effectiveness of a **nurse-led education program on**

knowledge of asthma and its impact on daily life activities among patients with asthma.

2. Methodology

A **quantitative research approach** with a **quasi-experimental pre-test and post-test control group design** was adopted to assess the effectiveness of a nurse-led education program on knowledge of asthma and its impact on daily life activities.

The study was conducted at **Global Mission Hospital and Research Institute, Karaikudi, Sivagangai District, Tamil Nadu, India.**

A total of **60 patients diagnosed with asthma**, aged between **20 and 60 years**, were selected using a **non-probability convenience sampling technique**. The participants were divided equally into **experimental (n=30) and control (n=30) groups**.

Patients who were previously diagnosed with asthma and able to read, write, and understand **Tamil or English** were included in the study. Patients who were critically ill, had severe chest infections, were pregnant, mentally challenged, or unwilling to participate were excluded.

Data were collected using a **structured questionnaire consisting of three sections**.

Section A included demographic variables such as age, gender, marital status, occupation, monthly income, duration of asthma, history of hospitalization, hereditary illness, and bad habits.

Section B consisted of an **Asthma Daily Activity Checklist** containing 10 items related to activities such as climbing stairs, performing household work, walking, sleeping, and social participation. Each item was scored from **0 to 2**, with a maximum score of **20**.

Section C included a **semi-structured knowledge questionnaire** consisting of **15 items** related to asthma, daily life activities, lifestyle modifications, and breathing exercises.

Content validity of the tool was established by experts in **Medical-Surgical Nursing**. Reliability was tested using **Karl Pearson's correlation method**, and the reliability coefficient was **r = 0.83**.

After obtaining **institutional permission and informed consent**, a **pre-test** was conducted for both groups. The experimental group received a **nurse-led education program**, including education on asthma, trigger factors, inhaler techniques, breathing exercises, and lifestyle modifications. The intervention was implemented over **seven days**, while the control group received routine hospital care.

A **post-test** was conducted using the same tools to evaluate the effectiveness of the program. Data were analyzed using **descriptive and inferential statistics**, including mean,

standard deviation, paired t-test, unpaired t-test, and chi-square test.

3. Results

The findings revealed that in the **experimental group**, during the pre-test, **76.7%** of patients had moderate limitation in daily life activities, while **23.3%** had mild limitation. After the intervention, **53.3%** of patients reported minimal or no limitation and **46.7%** had mild limitation.

In contrast, in the **control group**, most patients continued to experience moderate limitation in daily activities during both pre-test and post-test.

The calculated **t-value (14.89)** indicated a statistically significant improvement in the experimental group at **p < 0.05**, demonstrating the effectiveness of the nurse-led education program.

4. Conclusion

The study findings indicate that the **nurse-led education program was highly effective in improving patients' knowledge of asthma and reducing limitations in daily life activities**. Educational interventions delivered by nurses can play a significant role in enhancing asthma self-management and improving the quality of life of patients with asthma.

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