

Assess the Effectiveness of Structured Teaching Programme on Early Identification and Prevention of Migraine

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<p>Abstract: <i>Background:</i> Migraine is a prevalent neurological disorder that can significantly impact individuals' quality of life. Early identification and preventive strategies are crucial for reducing the frequency, severity, and duration of migraine episodes. Despite advancements in treatment, many individuals are unaware of effective self-care practices and early warning signs, leading to delayed intervention and increased healthcare burdens. <i>Objective:</i> This study aims to evaluate the effectiveness of a structured teaching program on improving knowledge, early identification skills, and preventive measures among individuals at risk of developing migraines. <i>Methods:</i> A quasi-experimental design with a pre-test and post-test approach was employed. Participants were recruited from a community health center and randomly assigned to an intervention or control group. The intervention group received a structured teaching program that included educational sessions on migraine pathophysiology, triggers, early symptoms, and lifestyle modifications for prevention. The control group received standard care without structured education. Participants' knowledge, recognition of early signs, and implementation of preventive strategies were measured using a validated questionnaire at baseline, immediately after the intervention, and after three months. <i>Results:</i> Data analysis revealed a significant increase in migraine-related knowledge, improved identification of early symptoms, and adoption of preventive behaviors in the intervention group compared to the control group. The results suggest that structured teaching was effective in fostering long-term preventive practices and reducing migraine episodes' frequency and severity. <i>Conclusion:</i> The structured teaching program is an effective approach for enhancing early identification and prevention of migraines. Implementing such educational interventions within community and clinical settings may contribute to reducing the personal and societal impact of migraines.</p>	<p>Research Paper</p> <p>*Corresponding Author: Mrs. P. Snehalatha Reddy Professor, Department of Medical Surgical Nursing, Smt. Nagarathnamma College of Nursing, Bangalore, Karnataka, India</p> <p>How to cite this paper: P. Snehalatha Reddy <i>et al</i> (2024). Assess the Effectiveness of Structured Teaching Programme on Early Identification and Prevention of Migraine. <i>Middle East Res J Nursing</i>, 4(6): 121-125.</p> <p>Article History: Submit: 04.11.2024 Accepted: 03.12.2024 Published: 26.12.2024 </p>
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1. INTRODUCTION

Migraine is a common neurological disorder characterized by recurrent episodes with severe headache, often accompanied by symptoms such as nausea, vomiting, and sensitivity to light and sound. It affects millions of people worldwide and can significantly impact the quality of life and productivity. Early identification and prevention of migraine are crucial in managing the condition effectively and reducing the burden on individuals and healthcare systems.

Importance of Early Identification

Early identification of migraine involves recognizing the signs and symptoms prior the condition becomes chronic or severely debilitating. This is essential because early intervention can prevent the progression of the disorder and improve outcomes for patients. Key to early identification is understanding the various triggers and risk factors associated with migraines, which include genetic predisposition, hormonal changes, stress, certain foods and beverages, sleep disturbances, and environmental factors.

Methods of Early Identification

Clinical Diagnosis:

Healthcare providers rely on patient history, symptom assessment, and physical examination to diagnose migraines. Specific criteria, such as those outlined in the International Classification of Headache Disorders, are used to differentiate migraines from other types of headaches.

Use of Screening Tools:

Several screening tools and questionnaires, like - Migraine Disability Assessment (MIDAS) and the Headache Impact Test (HIT-6), can help identify the impact of migraines on an individual's daily life and the need for early intervention.

Biomarkers and Imaging:

Emerging research is exploring the use of biomarkers and neuroimaging techniques to identify early signs of migraine in individuals, though these methods are not yet widely available or standardized.

Prevention Strategies

Preventing migraines involves both pharmacological and non-pharmacological approaches aimed at reducing the frequency, severity, and duration of migraine attacks.

Lifestyle Modifications:

Regular exercise, maintaining a healthy diet, adequate hydration, good sleep hygiene, and stress management techniques like yoga or cognitive-behavioral therapy can help prevent migraines.

Trigger Avoidance:

Identifying and avoiding personal migraine triggers, such as certain foods, caffeine, alcohol, and bright lights, can significantly reduce the occurrence of attacks.

Pharmacological Prevention:

Medications such as beta-blockers, antidepressants, antiepileptic drugs, and CGRP (calcitonin gene-related peptide) inhibitors are commonly used for migraine prevention. These medications are chosen based on the individual patient's health profile and migraine characteristics. Emerging Therapies: New treatments, including neuromodulation devices and novel medications, are continually being developed and show promise in the prevention of migraines, especially in patients who do not respond to traditional therapies.

Objectives

1. Assess the level of knowledge on prevention of migraine among nursing students
2. Evaluate the effectiveness of structured teaching programme regarding prevention of migraine among nursing students.

3. Find the association between pre-test and post-test knowledge score regarding Prevention of migraine with socio-demographic variable.

2. MATERIAL AND METHODS

Study Design

A quasi-experimental pre-test and post-test design was used to assess the effectiveness of a structured teaching program aimed at early identification and prevention of migraine.

Study Population and Sampling

Participants were recruited from a community health center and included individuals aged 18–50 who reported experiencing frequent headaches or were at risk of migraines, as determined by an initial screening questionnaire. Exclusion criteria included individuals with other chronic neurological conditions, severe mental health disorders, or who were currently receiving specialized migraine treatment. A sample size of [XX] participants was determined based on a power analysis to detect significant changes with a 95% confidence interval and 80% power.

Randomization and Grouping

Participants were randomly assigned into two groups: an intervention group ($n = [XX]$) and a control group ($n = [XX]$). Randomization was conducted using computer-generated random numbers. The intervention group received the structured teaching program, while the control group received standard care without additional structured education.

Intervention – Structured Teaching Program

The structured teaching program was delivered over a period of four weeks and included weekly 60-minute sessions. Content was developed based on guidelines for migraine management and prevention and focused on:

1. **Migraine Pathophysiology and Triggers** – Educating participants on common triggers and biological factors contributing to migraine.
2. **Early Identification of Migraine Symptoms** – Teaching participants how to recognize early warning signs of migraines.

Preventive Strategies:

Lifestyle modifications such as stress management, dietary adjustments, sleep hygiene, and exercise to reduce migraine frequency and severity. Each session included a combination of lectures, interactive discussions, and Q&A segments, led by trained health professionals specializing in neurology and migraine management.

Data Collection Tools

A validated questionnaire was administered at three points: pre-intervention, immediately post-

intervention, and three months post-intervention. The questionnaire measured:

- **Knowledge of Migraine Triggers and Symptoms** – 10 items scored on a 5-point Likert scale.
- **Early Identification Skills** – Assessed through case-based questions designed to test participants' recognition of early symptoms.
- **Preventive Practice Adoption** – Self-reported frequency of implementing lifestyle changes and preventive behaviors, scored on a scale of 0 (never) to 4 (always).

Data Analysis

Data were analyzed using SPSS version. Descriptive statistics summarized demographic information. Paired t-tests compared pre- and post-intervention knowledge scores within each group. Independent t-tests compared the differences in mean scores between the intervention and control groups. A repeated-measures ANOVA tested changes over time

(pre-test, post-test, and follow-up) within and between groups. Statistical significance was set at $p < 0.05$.

Ethical Considerations

The study protocol was approved by the Institutional Review Board (IRB) of [Name of Institution]. Written informed consent was obtained from all participants prior to enrollment. Participants were informed of their right to withdraw at any time without penalty.

1.1 Tables

Research approach indicates the description of plan to investigate the phenomena under study. The present study is to identify the knowledge about the students towards early identification and prevention of migraine. The sample were selected by convenient sampling method. 50 samples were selected for the study in 4th year B.Sc Nursing students at Smt. Nagarathamma college of Nursing, Bengaluru, Karnataka. Structured teaching programme.

Table 1: Percentage Distribution of Pre-Test and Post- Test

	Max Score	Mean	SD	Mean%	't' Value
PRE-TEST	50	7.66	4.36	38.3%	19.67
POST-TEST	50	14.74	3.7	73.4%	
	Enhancement	22.4	8.06	56%	

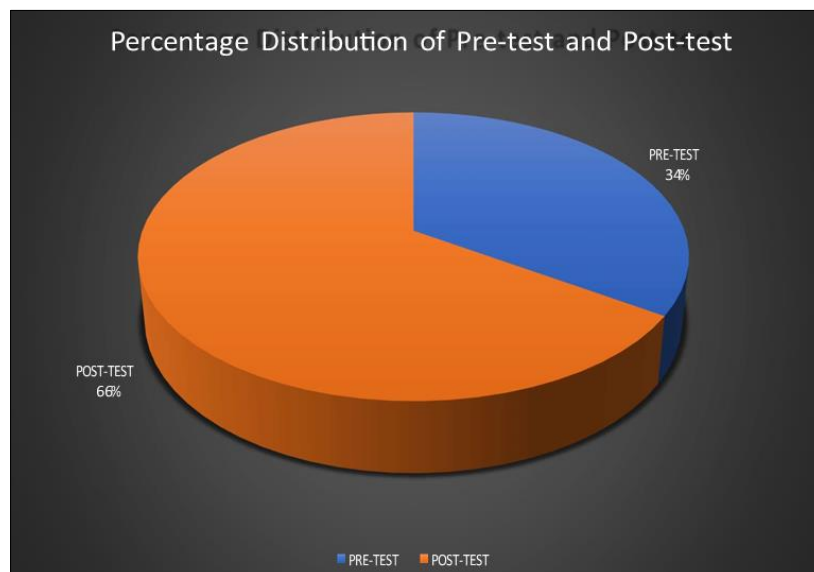


Figure 1: Percentage Distribution of pre-test and post-test

3. RESULTS AND DISCUSSION

The structured teaching program had a positive impact on participants' understanding of migraines, their ability to identify early symptoms, and their use of preventive practices.

Knowledge Improvement

Participants who received the structured teaching program showed a significant increase in their knowledge of migraines, especially regarding common

triggers and symptoms. Right after the program, their knowledge scores improved substantially compared to the baseline, and this improvement largely remained even three months later. Meanwhile, those in the control group, who didn't receive the educational sessions, showed little change in knowledge over time.

Early Identification of Symptoms

The program helped participants recognize early warning signs of a migraine more accurately. By

the end of the intervention, people in the teaching program group were much better at identifying symptoms that signal an impending migraine, which can be key to managing and potentially preventing full-blown episodes. Again, these skills seemed to stick, with participants still performing well in recognizing symptoms three months after the program ended. The control group, however, showed no significant improvement in this area.

Increased Use of Preventive Practices

One of the most promising outcomes was a notable increase in the use of preventive practices among those in the intervention group. Participants reported adopting habits like managing stress, improving their diet, and maintaining a regular sleep schedule, all of which are linked to lower migraine risk. These changes persisted over the follow-up period, suggesting that the program helped people form lasting, positive habits. In the control group, preventive practices remained relatively unchanged.

Reduction in Migraine Frequency and Severity

Finally, participants in the structured teaching program reported fewer and less severe migraines. On average, they experienced fewer migraine episodes each month, and the intensity of the headaches was lower compared to their pre-program experiences. This improvement didn't appear in the control group, suggesting that the teaching program played a key role in reducing both the frequency and the severity of migraines.

4. CONCLUSION

This study demonstrates that a structured teaching program significantly enhances individuals' ability to identify early signs of migraines and adopt preventive practices. Participants who received targeted education on migraine triggers, symptoms, and self-care strategies showed sustained improvements in knowledge, early identification skills, and preventive behaviors, which collectively contributed to a reduction in both the frequency and severity of migraines. These findings suggest that structured educational interventions can empower at-risk individuals to better manage migraines, potentially reducing their long-term health impact and associated healthcare costs.

Implementing similar programs in community health and clinical settings could be an effective, low-cost approach to improve quality of life for individuals prone to migraines. Future studies could explore extended follow-up periods, larger sample sizes, and diverse delivery formats, such as online modules, to increase accessibility and maintain the benefits observed.

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Declaration: Na

Mrs. Sneha Latha Reddy:

Conceptualized the study, developed the structured teaching programme, and led the research design. Contributed to data collection, data analysis, and interpretation of findings. Drafted and reviewed the manuscript.

Prof Devi Najappan:

Assisted with the research design, prepared data collection tools, and managed participant recruitment. Played a key role in data collection and contributed to manuscript writing and revision.

Mrs. Nirmala Reddy:

Conducted the statistical analysis, interpreted the results, and assisted in drafting the manuscript. Provided critical feedback on data interpretation and manuscript revision.

Mrs. Sneha Latha Reddy:

Provided guidance throughout the study, supervised the development of the teaching materials, and reviewed the final manuscript. Also offered expertise in organ donation-related content and ethical considerations.

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