Effectiveness of Structured Teaching Program on Knowledge Regarding Home Remedies of Migraine Among Students in Selected Schools of Abohar, Punjab

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Abstract- Background: Migraine is a common neurological disorder among adolescents that negatively affects academic performance, daily activities, and quality of life. Knowledge regarding safe and effective home remedies for migraine management is often inadequate among school students. Structured Teaching Programs (STP) is effective educational strategies to improve health-related knowledge.

Methods: A quasi-experimental pre-test–post-test study was conducted among 80 students aged 13–18 years studying in selected schools of Abohar, Punjab. Participants were selected using convenience sampling. A structured knowledge questionnaire was administered before and after the Structured Teaching Program. The STP included information on migraine, its causes, triggers, symptoms, and home remedies. Post-test assessment was conducted seven days after the intervention.

Results: The mean post-test knowledge score was significantly higher than the mean pre-test score at $p < 0.001$ level, indicating the effectiveness of the Structured Teaching Program. Major improvements were observed in knowledge related to lifestyle modification, dietary measures, sleep hygiene, and relaxation techniques.

Conclusion: The Structured Teaching Program was effective in improving students' knowledge regarding home remedies of migraine. School-based health education programs can play a vital role in promoting self-care and non-pharmacological management of migraine among adolescents.

Keywords- Migraine, Structured Teaching Program, Home Remedies, Knowledge, Adolescents

I. INTRODUCTION

Migraine is a recurrent neurological condition characterized by moderate to severe headaches, often accompanied by symptoms such as nausea, vomiting, and sensitivity to light and sound. It is one of the most common neurological disorders affecting adolescents worldwide and can negatively impact both academic performance and overall quality of life. The prevalence of migraine among adolescents ranges between 8% and 23%, with girls experiencing a higher incidence than boys, particularly during the pubertal period.

Several factors contribute to the rising occurrence of migraine in this age group, including academic pressures, irregular sleep schedules, hormonal changes, excessive use of digital devices, poor dietary habits, and sedentary lifestyles. These episodes can interfere with concentration, school attendance, participation in extracurricular activities, and social interactions, often resulting in emotional stress, diminished self-esteem, and lower overall life satisfaction.

Although medications are available for migraine management, frequent pharmacological treatment may not always be appropriate for adolescents due to potential side effects, risk of medication overuse headaches, and concerns regarding dependency. Consequently, non-pharmacological approaches, particularly lifestyle modifications and home remedies, have become an essential part of migraine management. Interventions such as proper hydration, balanced nutrition, regular

sleep, stress management, physical activity, and relaxation techniques are safe, cost-effective, and readily accessible. However, adolescents often lack adequate knowledge about these measures, which limits their effective utilization.

Structured Teaching Programs (STPs) are carefully planned educational initiatives aimed at improving knowledge and promoting healthy behaviors. Evidence suggests that STPs can significantly enhance awareness, self-care behaviors, and health outcomes among school-aged adolescents for conditions such as migraine, stress management, and general lifestyle improvements. Providing students with systematic education on migraine triggers, preventive strategies, and home remedies can enable them to manage their condition effectively and reduce its impact on daily life.

Schools provide an ideal setting for delivering educational interventions, offering access to a large adolescent population in a structured environment. Integrating migraine management and home remedy education into school health programs can foster self-efficacy, encourage the adoption of healthy habits, and reduce reliance on medications.

Despite evidence supporting the benefits of educational programs, limited research has evaluated the effectiveness of structured teaching interventions specifically addressing knowledge of home remedies for migraine among adolescents in semi-urban areas of India, such as Abohar, Punjab. Conducting such a study is crucial to equip students with practical knowledge, enhance self-management capabilities, and promote preventive health behaviors in this population.

II. OBJECTIVES

1. To assess the pre-test level of knowledge regarding home remedies of migraine among students.
2. To administer a Structured Teaching Program on home remedies of migraine.
3. To assess the post-test level of knowledge regarding home remedies of migraine among students.
4. To evaluate the effectiveness of the Structured Teaching Program by comparing pre-test and post-test knowledge scores.
5. To find the association between post-test knowledge scores and selected demographic variables.

Hypotheses

- H1: There will be a significant difference between pre-test and post-test knowledge scores regarding home remedies of migraine among students.
- H2: There will be a significant association between post-test knowledge scores and selected demographic variables.

Operational Definitions

- Effectiveness: Significant improvement in knowledge scores after administration of the Structured Teaching Program.
- Structured Teaching Program (STP): A systematically planned teaching session covering migraine, its causes, triggers, symptoms, and home remedies.
- Knowledge: Awareness and understanding measured by correct responses on the structured knowledge questionnaire.
- Home Remedies of Migraine: Non-pharmacological measures such as hydration, dietary modification, sleep hygiene, stress reduction, and relaxation techniques.

III. METHODOLOGY

- Study Design: Quasi-experimental pre-test–post-test design.
- Setting: Selected secondary schools of Abohar, Punjab.
- Population: Adolescents studying in selected schools.
- Sample Size: 80 students.
- Sampling Technique: Convenience sampling.

Inclusion Criteria:

- Students aged 13–18 years.
- Students present during data collection.
- Students willing to participate.

Exclusion Criteria:

- Students with diagnosed neurological disorders other than migraine.
- Students absent during data collection.

Tools for Data Collection:

- Section A: Demographic variables.
- Section B: Structured knowledge questionnaire on migraine and home remedies.

Intervention:

The Structured Teaching Program included definition, causes, triggers, signs and symptoms of migraine, importance of home remedies, dietary practices, lifestyle modification, relaxation techniques, and preventive measures.

Data Collection Procedure:

After obtaining permission from school authorities and informed consent, pre-test was conducted. The Structured Teaching Program was administered on the same day. Post-test was conducted after seven days.

IV. DATA ANALYSIS AND INTERPRETATION

Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (paired t-test and chi-square test) were used.

Table 1: Demographic Characteristics of the Students (n = 80)

Variable	Frequency (n)	Percentage (%)
Age (13–15 years)	38	47.5
Age (16–18 years)	42	52.5
Male	36	45.0
Female	44	55.0
Nuclear family	50	62.5
Joint family	30	37.5

Table 2: Comparison of Pre-test and Post-test Knowledge Scores (n = 80)

Test	Mean	Standard Deviation	Mean Difference
Pre-test	8.2	2.1	-
Post-test	13.6	1.9	5.4

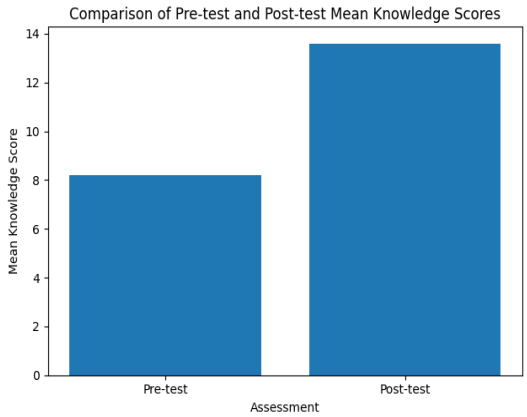

Figure 1: Bar diagram showing comparison of mean pre-test and post-test knowledge scores

Figure 1 shows the comparison of mean pre-test and post-test knowledge scores among students. The bar diagram clearly indicates a substantial increase in mean knowledge score following the Structured Teaching Program, demonstrating its effectiveness.

Table 3: Effectiveness of Structured Teaching Program (Paired t-test) (n = 80)

Test	Mean	SD	t-value	p-value
Pre-test	8.2	2.1		
Post-test	13.6	1.9	12.45	<0.001*

The mean pre-test knowledge score of the students regarding home remedies of migraine was 8.2 ± 2.1, whereas the mean post-test knowledge score was 13.6 ± 1.9. The comparison of pre-test and post-test scores using a paired *t*-test revealed a highly statistically significant improvement in knowledge following the Structured Teaching Program ($t = 12.45$, $p < 0.001$). This indicates that the Structured Teaching Program was highly effective in improving the students' knowledge regarding home remedies of migraine.

Association between Knowledge Scores and Demographic Variables

The association between post-test knowledge scores and selected demographic variables was analyzed using the chi-square test. The findings revealed that there was no statistically significant association between post-test knowledge scores and variables such as age, gender, and family type at the 0.05 level of significance. This indicates that the Structured Teaching Program was equally effective across different demographic groups.

Table 4: Association between Post-test Knowledge Scores and Selected Demographic Variables (n = 80)

Demographic Variable	Adequate Knowledge n (%)	Inadequate Knowledge n (%)	χ^2 value	p-value
Age (13–15 / 16–18 yrs)	32 (40.0)	48 (60.0)	1.24	0.26
Gender (Male/Female)	35 (43.8)	45 (56.2)	0.89	0.34
Family Type (Nuclear/Joint)	38 (47.5)	42 (52.5)	0.67	0.41

The association between post-test knowledge scores and selected demographic variables was analyzed using the chi-square test. The findings revealed that there was no statistically significant association between post-test knowledge regarding home remedies of migraine and age ($\chi^2 = 1.24$, $p = 0.26$), gender ($\chi^2 = 0.89$, $p = 0.34$), and family type ($\chi^2 = 0.67$, $p = 0.41$) at the 0.05 level of significance. This indicates that the effectiveness of the Structured Teaching Program was independent of the students' demographic characteristics and was equally effective among all groups.

The findings revealed that the majority of students had inadequate knowledge regarding home remedies of migraine in the pre-test. Post-test results showed a significant improvement in knowledge scores. The paired t-test demonstrated a statistically significant difference between pre-test and post-test knowledge scores at $p < 0.001$ level.

V. DISCUSSION

The study findings indicate that the Structured Teaching Program was effective in enhancing students' knowledge regarding home remedies of migraine. The improvement observed in post-test scores supports previous research highlighting the effectiveness of educational interventions in improving self-care practices. Improved knowledge can enable adolescents to manage migraine episodes more effectively and reduce reliance on medications.

VI. CONCLUSION

The study concluded that the Structured Teaching Program significantly improved knowledge regarding home remedies of migraine among students. Incorporating such programs into school health services can promote healthy lifestyle practices and effective migraine management among adolescents.

VII. RECOMMENDATIONS

- Similar studies can be conducted with a control group for better comparison.
- Larger samples can be used to enhance generalizability.
- Follow-up studies can assess long-term retention of knowledge.
- Educational interventions can be extended to parents and teachers.

Limitations

- Small sample size.
- Absence of a control group.
- Short duration of follow-up.

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