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Research Article

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Effectiveness of a Structured Teaching Programme on Knowledge Regarding Prevention of Recurrent Stroke Among Patients with Transient Ischemic Attack Attending the Medical Out Patient Department at Rajiv Gandhi Government General Hospital, Chennai.

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ABSTRACT

Background: Stroke remains one of the major causes of death and long-term disability across the world, while transient ischemic attacks (TIAs) act as important indicators of an increased risk of future stroke. **Aim:** The study aimed to assess the impact of a structured teaching program (STP) on improving knowledge about the prevention of recurrent strokes among TIA patients. **Methodology:** A quantitative research method with a pre-experimental design was utilized. The study took place at Government General Hospital, Chennai. Sixty participants, aged 35–60 years, who had been diagnosed with TIA, were included. A semi-structured questionnaire was administered to evaluate the participants' knowledge of stroke prevention before and after the educational intervention. **Results:** Before the STP, participants demonstrated limited knowledge, with an overall pre-test score of 39.92%. After the intervention, knowledge improved significantly by 39.52%.. The mean score rose from 9.98 ± 2.93 to 19.87 ± 2.34 ($P \leq 0.001$). **Conclusion:** The results indicate that the STP effectively enhanced the participants' understanding of stroke prevention. This study emphasizes the value of educational interventions in improving awareness, encouraging lifestyle modifications, and reducing the risk of recurrent strokes among TIA patients.

Keywords: Stroke, transient ischemic attack, knowledge.

INTRODUCTION

Health is the foundation of a productive and fulfilling life. It cannot be bought as a commodity but must be nurtured and protected. Various disorders can compromise health, among which stroke, or cerebrovascular accident (CVA), is the most common neurological condition with significant physical, economic, and social

consequences. In South Asia, home to three of the ten most populous nations, health challenges differ from those in developed regions due to rapid urbanization, lifestyle changes, and economic transitions. Stroke has emerged as a major concern, largely driven by high rates of hypertension, diabetes, obesity, and smoking in countries like India, Pakistan, Sri Lanka, and Bangladesh. Limited awareness among the public and caregivers and insufficient policy attention further amplify the regional burden. Strengthening prevention and management strategies could considerably reduce stroke-related morbidity and mortality across this region.

Stroke may occur due to ischemic or hemorrhagic causes, with transient ischemic attacks (TIAs) serving as critical warning signs for impending strokes. TIAs are brief episodes of focal neurological dysfunction that typically last less than 15 minutes but signal a high risk of future stroke—ranging between 2% and 17% within 90 days.

Stroke survivors face a substantially higher risk of recurrent events due to underlying vascular damage and associated health conditions. Preventive measures—such as controlling blood pressure, improving diet, quitting smoking, and increasing physical activity—play a key role in reducing this risk. Boehme et al. (2017) classified stroke risk factors as modifiable (for example, hypertension, poor diet, smoking, and inactivity) and nonmodifiable (age, sex, and ethnicity), emphasizing prevention through lifestyle and medical interventions. Similarly, Heron et al. (2015) highlighted that initiating rehabilitation within 90 days of a TIA or minor stroke can effectively address vascular risk factors and improve long-term outcomes.

NEED FOR THE STUDY

The proverb "Prevention is better than cure" is crucial for patients with transient ischemic attacks (TIAs), as they face a high risk of stroke, particularly within 48 hours. Early medical intervention and lifestyle changes can significantly reduce this risk. Nurses play a vital role in stroke prevention through education, symptom recognition, and risk factor management. Despite declining stroke rates in developed countries, India faces a rising incidence, particularly in urban and rural disparities. This study aims to empower patients through nurse-led educational programs to reduce recurrent strokes.

MATERIALS AND METHODS

Study Design and Participants:

The study utilized a quantitative approach with pre-experimental design. It was conducted in the Government General Hospital, Chennai from January 2 to 28, 2018. A total of sixty patients, aged 35–60 years, were selected using a purposive sampling technique.

Inclusion Criteria

Patients aged 35–60 years, both genders, Tamil-speaking, willing to participate, able to follow instructions, and diagnosed with TIA.

Exclusion Criteria

Patients unwilling to participate, with speech or sensory deficits, or diagnosed with haemorrhagic stroke.

Tools

A semi-structured questionnaire developed by the investigator assessed participants' knowledge. It consisted of three parts: demographic data, personal health information, and 25 knowledge. Each correct answer scored 1 mark. Knowledge levels were categorized as inadequate (<40%), moderately adequate (40–80%), and adequate (80–100%). The tool had high reliability ($r = 0.84$) and confirmed content validity.

Data Collection Procedure

After obtaining consent, a pre-test was conducted using the questionnaire to assess baseline knowledge. The STP was then administered individually or in small groups for 45 minutes using flashcards. Post-test knowledge was assessed after three days using the same tool.

Data Analysis

Data analysis was performed with SPSS using descriptive statistics and inferential tests such as paired t-test, Chi-square, and McNemar's test, setting significance at $p < 0.001$.

RESULTS

Demographic Variables

The demographic characteristics of the participants show a diverse range of ages, with the majority in the 35-40 years, 46-50 years, and 56-60 years age groups, each accounting for 23.33%. A significant majority were male (75%) and Hindu (88.33%), with most having completed primary school education (61.67%). In terms of marital status, 75% were married, and 63.33% lived in nuclear families. Regarding occupation, 40% were moderate workers, and the majority had hypertension (71.67%) as their co-morbidity. (Table 1)

Clinical Variables

The clinical characteristics reveal that 48.33% of participants were current smokers, and 56.67% consumed alcohol. Regarding the duration of their treatment, 41.67% had been receiving treatment for 1-2 years. Most participants had been ill for 1-2 days (53.34%), and 90% followed a non-vegetarian diet. (Table 2)

Level of Knowledge

Before the intervention, 86.7% of participants had inadequate knowledge, while post-test results revealed a shift, with 78.3% achieving adequate knowledge. The proportion of participants with moderate knowledge increased from 13.3% pre-test to 21.7% post-test, highlighting the effectiveness of the program. (Table 3)

Comparison of Knowledge Scores

Table 4 shows a significant improvement in knowledge scores, with the pre-test mean score of 9.98 ± 2.93 increasing to 19.87 ± 2.34 post-test. The paired t-test revealed a highly significant p-value of ≤ 0.001, confirming the effectiveness of the teaching program.

Table 1: Demographic data of the participants (n = 60)

Demographic Data	Frequency	%
Age		
• 35 - 40 yrs	14	23.33%
• 41 - 45 yrs	8	13.34%
• 46 - 50 yrs	14	23.33%
• 51 - 55 yrs	10	16.67%
• 56 - 60 yrs	14	23.33%
Gender		
• Male	45	75.00%
• Female	15	25.00%
Religion		
• Hindu	53	88.33%
• Muslim	4	6.67%
• Christian	3	5.00%

Education Status		
• Non formal education	8	13.33%
• Primary school	37	61.67%
• Secondary school	10	16.67%
• Graduate	5	8.33%
Marital Status		
• Married	45	75.00%
• Unmarried	2	3.33%
• Widower/widow	13	21.67%
• Divorced	0	0.00%
Occupation		
• Heavy worker	15	25.00%
• Moderate worker	24	40.00%
• Sedentary worker	21	35.00%
Monthly Family Income		
• Rs. 3000 - 5000	4	6.67%
• Rs. 5001 - 8000	13	21.67%
• Rs. 8001 - 10000	22	36.66%
• > Rs. 10000	21	35.00%
Type of Family		
• Joint	22	36.67%
• Nuclear	38	63.33%
Place of Living		
• Urban	11	18.33%
• Rural	44	73.34%
• Semi urban	5	8.33%
Co-morbidity		
• Cardio vascular diseases	0	0.00%
• Hypertension	43	71.67%
• Diabetes mellitus	12	20.00%
• Obesity	3	5.00%
• All the above	2	3.33%

Table 2: Table 2: Clinical Variables of the Participants (n = 60)

Clinical Variables	No. of Patients	%
Smoking Habit		
• In the past	6	10.00%
• Present	29	48.33%
• Never	25	41.67%
Intake of Alcohol		
• In the past	5	8.33%
• Present	34	56.67%
• Never	21	35.00%
Duration of Treatment of Any Illness		
• < 1 year	17	28.33%
• 1 - 2 years	25	41.67%
• 2 - 3 years	18	30.00%
Duration of Current Illness		
• < 1 Day	20	33.33%
• 1 - 2 Days	32	53.34%
• 2 - 3 Days	5	8.33%
• > 3 Days	3	5.00%
Dietary Habit		
• Vegetarian	6	10.00%
• Non vegetarian	54	90.00%

Table 3: Level of knowledge (n = 60).

Level of Knowledge	Pre-test No. of Patients	Pre-test %	Post-test No. of Patients	Post-test %
Inadequate	52	86.7%	0	0.0%
Moderate	8	13.3%	13	21.7%
Adequate	0	0.0%	47	78.3%

Table 4: Comparison of Overall Knowledge Score (n = 60)

	Pre-test	Post-test	Student's Paired t-test
Overall knowledge Score	9.98 ± 2.93	19.87 ± 2.34	**P < 0.001** (Significant)

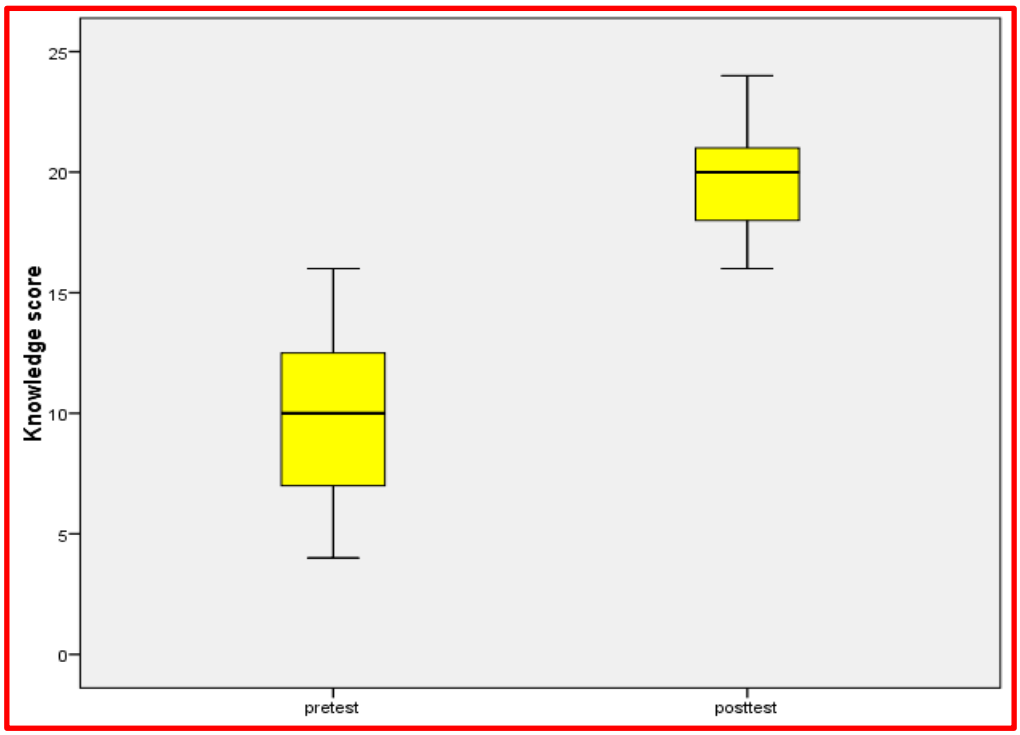

Figure 1: Overall Knowledge Score

DISCUSSION:

The study revealed that patients with Transient Ischemic Attack (TIA) initially possessed limited knowledge about preventing recurrent strokes. The overall pre-test knowledge score was 39.92%, with 86.7% of participants demonstrating inadequate knowledge, 13.3% showing a moderate level, and none achieving adequate understanding. After the intervention, knowledge improved significantly by 39.52%. The mean knowledge score increased from 9.98 to 19.87, highlighting a substantial enhancement in awareness of stroke prevention ($P \leq 0.001$). These results are consistent with findings from Krassen Nedeltchev's 2007 study, which reported similar gaps in knowledge on stroke prevention.

CONCLUSION:

The study concluded that patients with Transient Ischemic Attack had limited knowledge about preventing recurrent strokes before the intervention. The structured teaching program effectively enhanced their understanding, as evidenced by a significant increase in post-test scores. Statistical results ($P \leq 0.001$) confirmed the program's effectiveness. Thus, educational interventions are essential for improving awareness and promoting preventive practices in stroke-prone individuals.

RECOMMENDATION:

The structured teaching program should be implemented as a routine preventive measure in clinical settings. Future studies could expand on this research, compare it with other interventions, or target high-risk groups like hypertensive patients, using experimental designs with control groups for stronger comparisons.

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