



## **EFFECTIVENESS OF SELF-INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING STROKE AMONG RESIDENTS AT HIGH RISK TO DEVELOP STROKE AT A SELECTED VILLAGE IN KERALA**

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### **Abstract:**

Stroke is a very serious condition in which the brain is not receiving enough oxygen to function properly. Determine the effectiveness of self instructional module on aspects of knowledge regarding stroke among the residents of a selected village. Determine the effectiveness of self instructional module in overall knowledge regarding stroke among the residents of a selected village. Associate the level of knowledge regarding stroke with the demographic variables in pre and posttest. A Quasi Experimental of one group pre and posttest design was adopted. By simple random sampling method 120 samples were recruited for this study. The findings showed that the overall mean score in pretest and posttest were found to be statistically significant at  $p < .01$  level. Hence it was found that self-instructional module on stroke was an effective method to teach people and also to improve their knowledge.

**Key Words:** Cerebrovascular Accident, Stroke, Lifestyle & Transient Ischemic Attack

### **Introduction:**

Stroke is a very serious condition in which the brain is not receiving enough oxygen to function properly. The incidence of stroke and stroke mortalities has gradually declined in many industrialized countries in recent years as a result of increased recognition and treatment of the risk factors. Modifiable risk factors can be reduced or eliminated through life style changes. Stroke is the second most common cause of death worldwide and a significant cause of chronic disability (Murray and Lopez 1997).

A WHO study, has quoted the incidence of the disease in India to be around 130 per 1,00,000 population every year and says about 20 % of heart patients are susceptible to it. Compared to heart attack the awareness about brain stroke, which is even more debilitating, is very limited. The earliest report on prevalence of stroke in India was from Vellore (Tamilnadu), which estimated 0.56 per 1000 prevalence of stroke. During 1982 – 1984 Gouri Devi et al, carried out a study in Karnataka which estimated 1.18 /1000 and 0.98/1000 prevalence in urban and rural areas respectively. Baruch et al carried out a study among the PARSI community of Bombay which reported a stroke prevalence of 4.25 /1000 during 1995.

Transient ischemic attacks (TIAs) are "warning strokes" that produce stroke-like symptoms but no lasting damage. TIAs are strong predictors of stroke. A person who's had one or more TIAs is almost 10 times more likely to have a stroke than someone of the same age and sex who hasn't. Recognizing and treating TIAs can reduce your risk of a major stroke. TIA should be considered a medical emergency and followed up immediately with a healthcare professional.

The Trivandrum stroke registry by Sridharan MD (2003): states that the single most contributors to the modern ills of Kerala are lack of physical activity. The increasing use of tobacco has also contributed cerebrovascular problems, early detection through screening for DM, hypertension and overweight can prevent from a stroke attack. "Effective screening, evaluation and management strategies for stroke are well established in high income countries but these strategies have not been fully implemented in India".

### **Hypothesis:**

**H<sub>1</sub>.** There is a significant difference in the aspects of knowledge regarding stroke before and after giving self-instructional module.

**H<sub>2</sub>.** There is a significant difference in overall knowledge regarding stroke before and after giving self-instructional module.

### **Materials and Methods:**

A Quasi Experimental of One Group Pre test Post test Design was adopted for this study. The study was conducted in Muhamma village, Alappuzha city (Kerala). The population selected were the residents of those residing in the respective ward nos. (1, 6 & 15) who were all at risk and high risk people while screening using [Stroke Risk Factors – Self Assessment Score Card. (Stroke foundation of New Zealand Inc). The sample

consists of 120 people who fulfil the inclusive criteria such as, high risk and very high risk category while screening, people between 20 - 80 years of age, people who can read and write Malayalam, only one in a family were selected by survey method and by using simple random sampling technique.

**Results:**

Table 1: Distribution on knowledge regarding stroke in pretest N=120

S.No	Aspects of knowledge	Inadequate Knowledge		Moderately Adequate knowledge		Adequate Knowledge	
		n	%	n	%	n	%
1.	General	19	15.8	60	50	41	34.2
2.	Causes& Risk	29	24.2	64	53.3	27	22.5
3.	Prevention & Management	28	23.3	44	36.7	48	40.0

Table 2: Distribution of knowledge regarding stroke in posttest N = 120

S.No	Aspects of knowledge	Moderately Adequate knowledge		Adequate Knowledge	
		n	%	n	%
1.	General	7	5.8	113	94.2
2.	Causes & Risk	29	24.2	91	75.8
3.	Prevention & Management	18	15	102	85

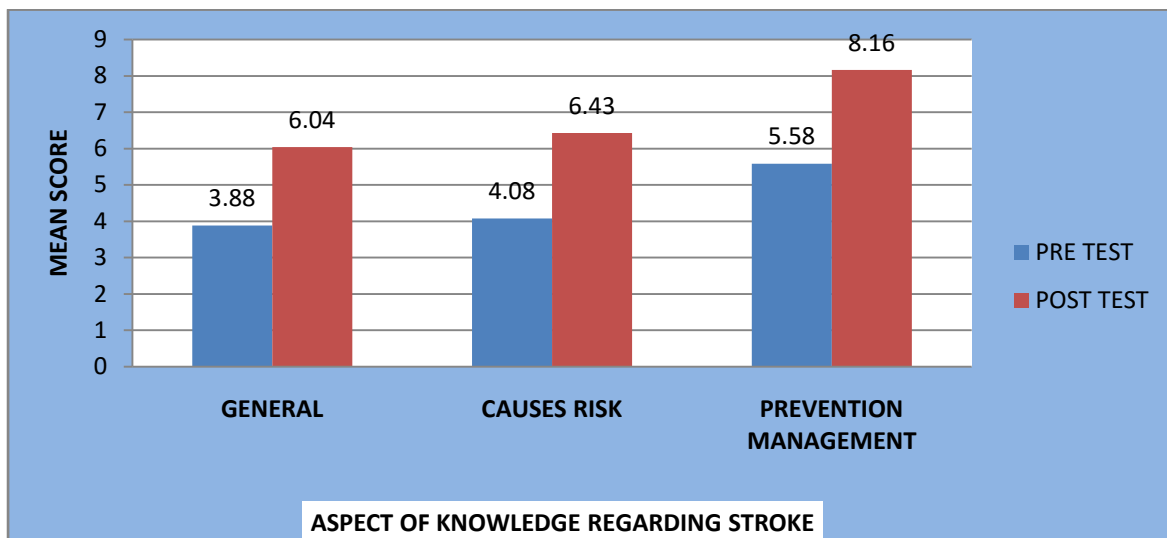


Figure 1: Mean, SD of Aspect of Knowledge Regarding Stroke in Pre & Post test and its significance

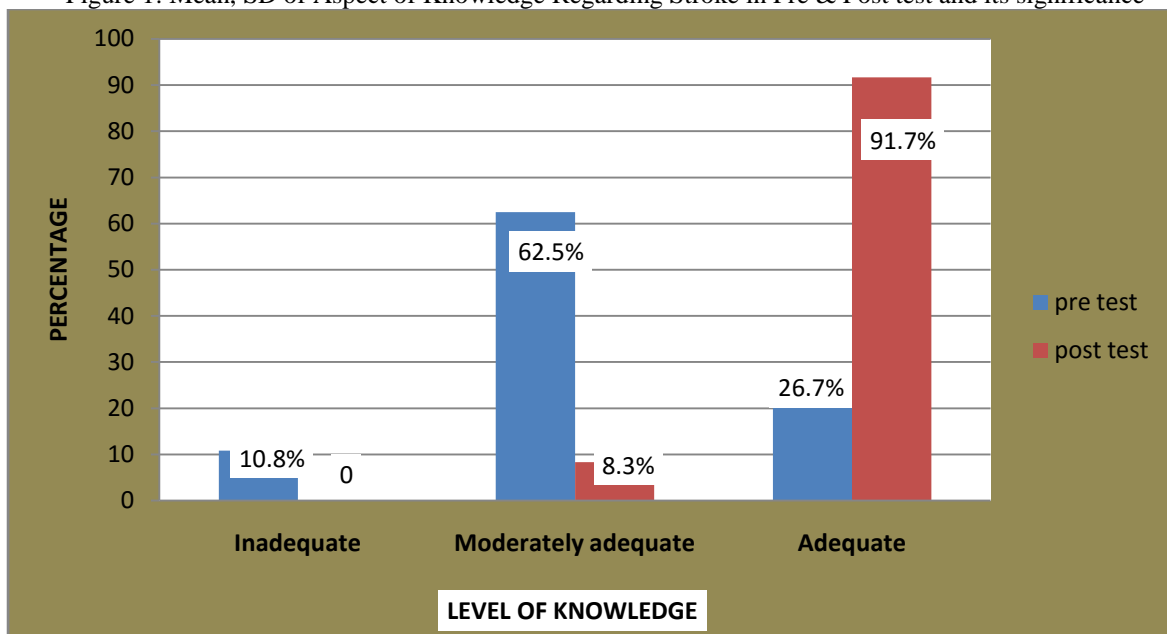


Figure 2: Overall frequency and percentage distribution of samples on knowledge of stroke in pre and post test

Table 3: Overall pre and posttest scores of knowledge regarding stroke N = 120

Level of knowledge	Mean	SD	T value	p value
Pre test	13.53	4.524	23.663	0.00 (S)**
Post test	20.58	2.84		

S – significant at  $p < 0.01$

In the pretest the demographic variables showed no significant association except for the education, at  $p < .05$ . There was a significant association elicited between the variables like education, food habits and smoking at  $p < .05$  with the level of knowledge.

**Discussion:**

The mean score and standard deviation on various aspects of stroke in pre and posttest. In pretest, the data revealed that samples possess almost equal mean score percentage i.e. 55%, 51%, 56% for all three aspects on stroke; namely general, cause risk and prevention management. In posttest, samples had almost same mean score percentage 86%, 80%, 82% on above mentioned aspects on stroke. The result showed that after administering SIM, the samples had adequate knowledge on all aspects on stroke. This study result is consistent with the study conducted by Borhani Haghighi a et al (2010), on knowledge and attitude towards stroke risk factors, warning symptoms and treatment in an Iranian population. The result showed that the knowledge and attitude towards stroke risk factors in the general population is possible to promote using the public media and school education. In addition, study conducted by Kaddumukasa et al (2015), on the knowledge of stroke, its related risk factors and warning symptoms in the populations of Sub-Saharan Africa. The awareness of stroke, and its risk factors and symptoms is low. The results suggest that specific education programs improve people knowledge of stroke and their awareness of related risk factors on stroke.

In pretest mean score for general and cause risk are almost same i.e. 3.8 and 4.08, but for prevention management the mean score value accounts for 5.58. 1.504 and 1.91 is the standard deviation values for the formal two aspects and 2.41 is the standard deviation value for the later aspect on stroke in pre test. In post test, general and cause risk aspects mean score show almost same value i.e. 6.04 and 6.43 with a standard deviation value of 0.947 , 1.339 respectively. But a slight increase can be noticed in the mean score aspect of prevention management i.e. 8.16 with a standard deviation value of 1.660. The result showed a statistically significant increase in level of knowledge regarding stroke after administration of self-instructional module at ( $p < .01$  level) and hence hypothesis H1 is accepted. This result is consistent with the study done by Hwang LL et al, (2010) on ‘Changes in stroke awareness among undergraduate students after an educational intervention in Taiwan. The result illustrated that after the educational intervention, the mean scores of posttest were found significant higher than that of pre test ( $p < .001$ ).

The majority of samples in the pre test 75 (62.5%) had moderately adequate knowledge regarding stroke. However in post test most samples 110(91.7%) gained adequate knowledge on stroke. This result inferred that in addition to the positive reinforcement, the use of stroke risk assessment card which created awareness among the individuals to thus there is a marked improvement in the level of knowledge in the post test.

The overall mean, standard deviation and significance on pre and posttest level of knowledge regarding stroke showed a statistically significant difference between pre and posttest at  $p < 0.01$  level. H2 is accepted. This result is consistent with the study done by Pierce C et al (2009) on raising stroke awareness among rural dwellers with a Fact for Action to Stroke Treatment-based educational program. The study concluded that the FAST-based program was an effective tool to use when teaching recognition of stroke symptoms and the need for immediate medical intervention to rural adults.

**Conclusion:**

The result of this study suggested that self-instructional module on stroke was an effective method to teach samples and also to improve their knowledge. In addition, the findings of this study revealed the level of knowledge regarding stroke of the participants were moderately adequate. Hence, health education by mass media such as TV, Radio or printed media such as newspaper, magazine etc can also be helpful to improve the knowledge of community towards stroke, and thereby reduce the incidence of stroke in our country. The participation of non – governmental and charitable organizations in creating awareness about stroke will also be helpful in solving this problem.

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