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Original Research Article

Effectiveness of structured teaching program (STP) on Knowledge regarding dementia among adults in selected villages at Kolar

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Abstract

Introduction: Dementia is a growing public health concern, especially with the increasing aging population. Adequate knowledge and a positive attitude towards dementia are crucial for early detection, management, and reducing stigma.

Objective: This study aimed to assess the effectiveness of a Structured Teaching Program (STP) in enhancing knowledge regarding dementia among adults in selected villages of Kolar.

Materials and Methods: A quasi-experimental one-group pretest-posttest design was used. Sixty adults were selected using a non-probability convenient sampling technique. Data was collected using a Structured Knowledge Interview Schedule (SKIS) and a Structured Attitude Interview Schedule (SAIS). Participants underwent a pretest assessment, followed by an STP intervention, and a post-test was conducted using the same tool. Descriptive and inferential statistics were used for data analysis.

Results: The mean pretest knowledge score was 12.77 (SD = 2.168), which significantly improved to 21.9 (SD = 1.591) in the post-test ($t = 24.231$, $p < 0.001$), thus indicating a statistically significant improvement.

Conclusion: The findings suggest that the Structured Teaching Program was effective in enhancing knowledge towards dementia among adults. Such educational interventions can play a crucial role in community-based dementia awareness and prevention strategies.

Keywords: Dementia, Structured Teaching Program, Knowledge, Health Education, Quasi-Experimental Study.

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1. Introduction

Aging is often associated with concerns about cognitive decline, leading many to fear losing their ability to think, reason, or remember. In the past, memory loss and confusion were commonly dismissed as a normal part of aging. However, scientific advancements have demonstrated that older adults maintain cognitive alertness, and significant personality or behavioral changes may indicate a brain disorder such as dementia.[1]

Dementia is a progressive neurodegenerative syndrome that affects memory, thinking, behavior, and emotional well-being.[2] It is one of the leading causes of disability and dependency among older adults worldwide. The condition not only impacts those diagnosed but also places a significant burden on caregivers, families, and society. The physical, psychological, social, and economic challenges associated with dementia contribute to stigmatization and barriers to early diagnosis and care.[3-4]

Globally, dementia is a growing public health concern. According to the World Health Organization (WHO, 2017), an estimated 50 million people were living with dementia, with nearly 60% residing in low- and middle-income countries. These numbers are expected to rise to 82 million by 2030 and 152 million by 2050. The annual number of new cases is approximately 9.9 million, representing a 30% increase from the estimates in 2010. Alzheimer's disease, the most common form of dementia, accounts for 60–70% of cases.[5-8]

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Despite its increasing prevalence, awareness and understanding of dementia remain limited in many communities. Given that almost every household has elderly members, community-based education and awareness programs are essential to improving knowledge and attitudes toward dementia. Structured Teaching Programs (STPs) can serve as effective interventions to enhance public understanding, reduce stigma, and promote early recognition and support for those affected by dementia.[9-12]

This study aims to assess the effectiveness of a Structured Teaching Program (STP) in improving knowledge regarding dementia among adults in selected villages of Kolar. By evaluating the impact of educational interventions, this research seeks to contribute to community-level dementia awareness and care strategies.

2. Materials and Methods

2.1. Study design and setting

A quasi-experimental one-group pretest-posttest research design was used to assess the effectiveness of a Structured Teaching Program (STP) on knowledge regarding dementia among adults in selected villages of Kolar.

2.2. Ethical considerations

Prior to conducting the study, permission was obtained from the Medical Superintendent of E.T.C.M Hospital, Kolar. The purpose and significance of the study were explained to the relevant authorities. Informed consent was obtained from all participants after providing details about the study objectives, ensuring their voluntary participation. Confidentiality and anonymity of the participants were maintained throughout the study.

2.3. Sample size

60 adults were the sample size for this study as mentioned in the inclusion criteria.
The sample size was estimated using the formula

$$n = \frac{Z2 \ X \ \sigma2}{d2}$$

$$n = \frac{(1.96)2 \ X \ (3.55)2}{(0.9)2}$$

n = 59.73

Where,
n = required sample size
Z^2 = standard table value for 95% confidence interval (1.96)
σ = Standard deviation (3.55)
d = precision (0.9)
Through this recommended sample size was 59.73; the study was conducted among 60 samples after discussion with the experts.

2.4. Sampling technique

Sampling technique used in the study is non- probability convenience sampling.

2.5. Data collection tools

The tool was prepared based on the research problem, objectives of the study stated were assessed by using Structured Knowledge Interview Schedule (SKIS), and Structured Teaching Programme (STP) were prepared toevaluate the knowledge and attitude of adults.

1. **Section I:** Proforma on Demographic Data It comprised of 12 items seeking information ondemographic data such as age, gender, educational status, occupation, family income, religion, type of family, marital status, and history of psychiatric disorder, family member having the history of mental illness, previous knowledge and sources of information regarding Dementia.
2. **Section II**: Structured Knowledge Interview Schedule (SKIS) consists of 30 knowledge items to assess the level of knowledge regarding the Dementia.
   The SKIS is a 30-item assessment tool developed to evaluate the depth and breadth of an individual's knowledge regarding dementia. It is designed for use in various settings, including clinical assessments, educational programs, and research studies.[13-15]

2.6. Domains assessed

The 30 items are distributed across several key domains to provide a comprehensive evaluation of dementia knowledge:

1. **Risk factors and health promotion:** Items in this domain assess knowledge about factors that increase the risk of dementia and strategies for prevention.
2. **Assessment and diagnosis:** This domain evaluates understanding of the processes involved in diagnosing dementia, including common diagnostic tools and criteria.
3. **Symptoms and disease course:** Items focus on the recognition of early and late-stage symptoms of dementia and the typical progression of the disease.
4. **Life impact:** This domain examines awareness of how dementia affects individuals' daily lives, including cognitive, emotional, and social aspects.
5. **Caregiving:** Items assess knowledge about the roles and challenges faced by caregivers of individuals with dementia.
6. **Treatment and management:** This domain evaluates understanding of current treatments, both pharmacological and non-pharmacological, and strategies for managing dementia symptoms.
7. **Data collection procedure:** The data collection was carried out from July 26, 2020, to August 8, 2020. The researcher introduced herself to the participants and explained the purpose of the study. The study was conducted in the following phases:
8. **Pretest:** On the first day, a baseline assessment was conducted using a Structured Knowledge Intervie

Schedule (SKIS) to evaluate participants' initial knowledge and attitudes regarding dementia.

2.7. Pretest

On **Day 1** of the study, a baseline assessment was carried out to determine the participants' existing knowledge and attitudes about dementia. This was done using a Structured Knowledge Interview Schedule (SKIS), a validated tool designed specifically for assessing awareness, understanding, and perceptions regarding dementia among community participants.

The SKIS included a combination of:

1. Closed-ended questions to evaluate factual knowledge about dementia (e.g., signs and symptoms, risk factors, progression, and prevention).
2. Attitudinal statements using a Likert scale to assess perceptions, stigma, and willingness to support individuals with dementia.

The purpose of this pretest was to:

1. Establish a baseline measure before any intervention.
2. Identify specific knowledge gaps and misconceptions held by the participants.
3. Serve as a reference for comparison with post-intervention results to determine the effectiveness of the educational program.

Participants were instructed clearly on how to respond, and responses were recorded systematically. The pretest took approximately 20–30 minutes per participant to complete.

2.8. Posttest

The posttest assessment was conducted seven days after the educational intervention using the same SKIS tool. This ensured consistency and allowed for accurate comparison of pre- and post-intervention knowledge and attitudes.

1. **Intervention:** On the second day, the Structured Teaching Program (STP) was administered to educate participants about dementia, its causes, symptoms, management, and caregiving strategies.
2. **Posttest:** After the STP, a posttest was conducted using the same SKIS and SAIS to assess the effectiveness of the intervention.

2.9. Data analysis

The collected data was analyzed using descriptive and inferential statistics to determine the impact of the Structured Teaching Program on participants' knowledge.

3. Results

Frequency and Percentage distribution of Socio demographic variables of the Older Adults

1. Frequency and Percentage distribution of adults by their age majority 19 (31.7%) of adults belongs to 40-45 years, 16 (26.7%) belongs to 46-50 years, 13 (21.7%) belongs to 51-55 years and only 12 (20%) belongs to 56-60 years respectively.
2. Majority of adults 36 (60.0%) were Males and 24 (40.0%) were Females respectively.
3. According to their education level 24 (40.0%) of adults have completed Primary education, 21 (35.0%) of adults have completed Secondary education, 8 (13.3%) of adults have completed Graduation, 3(5.0%) of adults have No formal education, 2(3.3%) of adults have completed Higher secondary education, 2(3.3%) of adults have completed Post-graduation respectively.
4. According to their occupation 23(38.3) of adults were Housewives, 21(35.0) of adults were Farmers, 11(18.3) of adults were Self-employed, 3(5.0) of adults were Businessman, 2(3.3) of adults were Professionals respectively.
5. Family income 42(70.0) of adults Less than Rs. 10000/month, 15(25.0) of adults Rs. 10001-20000/ month, 2(3.3) of adults Rs. 20001-30000/ month, 1(1.7) of adults More than Rs. 30001/ month respectively. It was found that majority of adults 60 (100.0%) belongs to Hindu religion 0(0.0%) belongs to Christian and Muslim religion. According to their type of family 44(73.3%) of adults belongs to joint family, 16(26.7) of adults belongs to Nuclear family respectively. Marital status 59(98.3%) of adults were married, 1(1.7%) adult was unmarried.
6. According to their history of psychiatric disorder, it was found that 60(100.0%) were had no history of psychiatric disorder. According to their family history of mental illness, it was found that 60(100.0%) were had no family history of mental illness. 53(88.3) of adults have no previous knowledge, 7(11.7%) of adults have previous knowledge regarding dementia.
7. According to their source of information, 53(88.3%) of adults had no source of information, 3(5.0) of adults had information from Newspapers, 2(3.3) of adults had information from T.V / Internet, 2(3.3) of adults had information from Health Professionals respectively.

Table 1: Pre-test and post-test knowledge level of adults N=60

Knowledge level	**Pretest**	**Posttest**
	f (%)	**f (%)**
a. Inadequate knowledge	53(88%)	0
b. Moderate knowledge	7(12%)	33(55%)
c. Adequate knowledge	0	27(45%)
Total	60	60

The data indicates a substantial improvement in knowledge following the Structured Teaching Program. In the pretest, 88% of participants had inadequate knowledge, whereas in the posttest, none remained in that category. Moderate

knowledge increased from 12% to 55%, and 45% attain adequate knowledge. This clearly demonstrates the effectiveness of the STP in enhancing awareness about dementia among adults.

Table 2: Association of Knowledge scores of Adults with selected demographic variables. N= 60

Variables	Below Median	Median and above	Chi square	Df	P value (0.05)	Inference
1. Age in years						
a. 40-45 years	7	12	5.731	3	0.125	NS
b. 46-50 years	6	10				
c. 51-55 years	9	4				
d. 56-60 years	3	9				
2. GENDER						
a. Male	13	23	1.143	1	0.285	NS
b. Female	12	12				
3. EDUCATION						
a. Primary education	9	15	2.278	5	0.810	NS
b. Secondary education	10	11				
c. Higher secondary education	1	1				
d. Graduation	4	4				
e. Post-graduation	0	2				
f. No formal education (Illiterate)	1	2				
4. Occupation						
a. Farmer	8	13	2.048	4	0.727	NS
b. Housewife	11	12				
c. Self employed	5	6				
d. Businessman	1	2				
e. Professionals	0	2				
5. Family income						
a. Less than Rs. 10000/month	18	24	0.813	3	0.846	NS
b. Rs. 10001-20000/ month	6	9				
c. Rs. 20001-30000/ month	1	1				
d. More than Rs. 30001/ month	0	1				
6. Religion						
a. Hindu	25	35	-	-	-	-
7. Type of family						
a. Joint family	18	26	0.039	1	0.844	NS
b. Nuclear family	7	9				
8. Marital status						
a. Married	25	34	0.726	1	0.394	NS
b. Unmarried	0	1				
9. History of Psychiatric disorders						
a. No	25	35	-	-	-	-
10. Family history of mental illness						
a. No	25	35	-	-	-	-
11. Previous Knowledge						
a. Yes	1	6	2.444	1	0.118	NS
b. No	24	29				
12. Source of information						
a. Newspaper/ Magazines	1	2	3.228	3	0.358	NS
b. T.V./ Internet	0	2				
c. Health Professionals	0	2				
d. Nil	24	29				

3.1. Data presentation

The table 02 shows that the obtained $\chi 2$ value is less than the table value at 0.05 levels of significance. Therefore there is no significant association between knowledge scores of adults with selected demographic variables such as age, gender, educational status, occupation, family income, type of family, marital status, Any Previous knowledge regarding Dementia and Sources of information regarding Dementia.

4. Discussion

The present study was conducted to assess the effectiveness of a structured teaching program (STP) on improving knowledge regarding dementia among adults in selected villages of Kolar. The findings of the study showed a significant improvement in post-test knowledge scores when compared to the pre-test scores, indicating the effectiveness of the STP. This result is consistent with the findings of Patel et al. (2018, who reported that community-based educational interventions significantly improved awareness and understanding of dementia among rural adults in Gujarat. Similarly, Mehta & Srinivasan (2020) observed a marked increase in dementia-related knowledge after health education sessions among community participants in Tamil Nadu. The study findings also support Kumar et al. (2017)**,** who concluded that structured educational interventions are more effective than unstructured or informal modes of teaching in enhancing knowledge about mental health conditions, including dementia.

In line with World Health Organization (2021) recommendations, the study reinforces the importance of early awareness and community education as key components of dementia care strategies, especially in low-resource rural settings. Hence, the structured teaching program proved to be an effective educational tool to bridge the knowledge gap and promote cognitive health literacy among rural adults**).**[16-18]

5. Conclusion

The present study concluded that the structured teaching program (STP) was effective in significantly enhancing the knowledge of adults regarding dementia in the selected villages of Kolar. A marked improvement in post-test knowledge scores confirmed the impact of the intervention. The findings suggest that lack of awareness about dementia is prevalent in rural areas, but can be addressed through targeted health education. Educating the community not only improves knowledge but also promotes early detection and timely medical consultation. The STP enabled participants to identify early signs, understand preventive measures, and reduce stigma associated with dementia. It demonstrated that structured, culturally appropriate education can be a valuable tool in rural health promotion. Thus, regular implementation of STPs can contribute to better dementia care and awareness in underserved populations. This study emphasizes the need for continued community-based interventions to build a dementia-friendly society.

5.1. Limitations and scope

This study is limited to those adults only who are readily available in the selected community area. Non probability convenient sampling was done which restrict the generalization of the study.

5.2. Implications

1. **Nursing education:** Nurse educators should emphasize dementia-related topics in their curriculum, covering its causes, effects, treatment, and preventive strategies. Incorporating dementia education into nursing training will equip future nurses with the necessary skills to provide appropriate care and support to affected individuals and their caregivers.
2. **Nursing administration:** Nurse Administrators should take the initiative in organizing continuing education programs for healthcare professionals. Regular workshops, training sessions, and seminars can enhance nurses' knowledge and skills regarding dementia care, ensuring they are updated with the latest evidence-based practices.
3. **Nursing research:** Further research is essential to assess public knowledge and attitudes toward dementia. Studies should be conducted to develop and evaluate health education packages tailored for different communities. Additionally, research on the causes, risk factors, and early detection methods for dementia can help formulate better prevention and management strategies, ultimately improving the quality of life for older adults**)**.[19-20]
4. **Recommendations for future studies:** Similar studies should be replicated with larger sample sizes across diverse settings to enhance the generalizability of findings. Longitudinal studies can be conducted to assess the long-term impact of Structured Teaching Programs on dementia awareness.

6. Source of Funding

None.

7. Conflict of Interest

None.

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