

A Study to Evaluate the Effectiveness of Structured Cognitive Stimulation on Cognitive Functioning Among Women with Early Symptoms of Dementia in Selected Areas of Panipat, Haryana

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ABSTRACT

Background of the study: The stressful life of women is gaining more attention and has come into limelight as a prominent cause of dementia. Dementia is a concern for many women. The women in menopausal transition also seem to be most fearful of developing breast cancer, closely followed by Alzheimer's dementia. Dementia is one of the leading problems faced by the people worldwide now a days and a matter of worry too.

Objective of the Study: To evaluate the effectiveness of structured cognitive stimulation on cognitive functioning among women.

Research Methodology: True experimental research design was used in this study; sampling size was 60 mothers. Sampling technique used was simple random sampling method. Data were collected in Babarpur and Dadlana Villages in Panipat District. Haryana. Mini Mental Status Examination were used for data collection. Structured Cognitive Stimulation Program were given for 14 days to the mothers in experimental group. For the mothers in control group no special programs were administered. Data collected were analysed through descriptive and inferential statistics.

Results: In experimental group the post-test mean and standard deviation dementia score was 24.47 + 2.389. the control group post-test mean and standard deviation dementia score was 18.00 + 3.129. the mean difference value was 6.47 Paired 't' test score was 8.997 for the degree of freedom 58. The 'P' value was 0.000, it was statistically significant at the level of significance < than 0.05.

Conclusion: This research demonstrated the cognitive function score on cognitive functioning. However, the subjects with moderately cognitive score were positively benefitted and shifted towards questionably significant level of cognition. This provides a set of baseline data that can be cited for further studies. The Structured Cognitive Stimulation could be incorporated into pre-services or in-service education program in order to evaluate its effectiveness in different populations and settings.

Keywords: Effectiveness, Cognitive Stimulation, Cognitive Functioning, Women and Mini - Mental Status Examination

INTRODUCTION

"Middle age can be emotionally the mutinous transition period characterized by inner

struggle before one becomes resolved to having left the Pepsi generation forever."

— Gelein and Heiple

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Dementia is a term that describes a variety of symptoms affecting a person's cognitive functioning, including their ability to think, remember, and reason. It tends to get worse over time, so there are a few key early warning signs. Dementia occurs when nerve cells in a person's brain stop working. Although it typically happens in older people, it is not an inevitable part of ageing. The brain's natural deterioration happens to everyone as they grow older, but it occurs more quickly in people with dementia. The early symptoms of dementia are functional changes include language disturbances, difficulty carrying out motor activities, failure to recognize objects and disruptions in executive functioning. The early stages of dementia include difficulty learning, decreased ability to form new memories and significantly impaired episodic memory (personally relevant events), whereas other types of memory such as semantic memory (factual knowledge) and procedural memory (performing routines or previously acquired skills) may remain relatively intact or mildly affected. Psychomotor or behavioural functional changes are common in the moderate stages of dementia. Such changes include wandering, agitation, resisting caregiver support, decreased emotional or behavioural control, disorientation, confusion and communication difficulties.

Need for the study

The prevalence of dementia and age-related cognitive impairment is rising due to an aging population worldwide. There is currently no effective pharmacological treatment, but cognitive activity programs could contribute to prevention and risk reduction. However, the results of intervention studies are inconclusive, which may be related to methodological issues. For example, the inconsistent use of umbrella categories to describe cognitive intervention strategies, such as cognitive training or cognitive rehabilitation, has led to confusion regarding their respective contents and efficacies.⁹ The interventions studied so far draw on a pool of common basic ingredients. Therefore, rather

than focusing on a few high-level categories, it might be beneficial to examine the efficacy of more basic cognitive intervention ingredients, which form the building blocks of complex multi-strand cognitive intervention strategies. Here we suggested a novel format of collating basic cognitive intervention ingredients. Using a representative sample of review articles and treatment studies, we attempted to inventory the most commonly encountered ingredients. Finally, we discuss their suitability for individualized and group-based approaches, as well as the possibility for computerization.

Statement of problem

“A study to evaluate the effectiveness of structured cognitive stimulation on cognitive functioning among women with early symptoms of dementia in selected areas of Panipat, Haryana□

OBJECTIVES

1. To assess the level of cognitive functioning before and after structured cognitive stimulation in selected area of Panipat.
2. To evaluate the effectiveness of structured cognitive stimulation among women in experimental group.
3. To determine the association between level of cognitive functioning with selected demographic variable of women.

Hypotheses

All the Hypotheses will be tested at < 0.05 Level of Significance.

- H1: There will be a significant difference in cognitive functions before and after structured cognitive stimulation among women in experimental group.
- H2: There will be a significant difference in cognitive function among women in experimental group and control group.
- H3: There will be a significant association between post-test levels of cognitive functions will selected demographic variables in experimental and control group.

Conceptual framework

The researcher adopts modified Imogene King's goal attainment theory (1981) based on the personal & interpersonal systems including interaction, perception, judgement, communication and transaction.

The investigator adopted goal attainment as a basic theory for conceptual framework, which is aimed to effectiveness of structured cognitive stimulation on cognitive functioning. This involves interaction between the researcher and the mothers.

RESEARCH METHODOLOGY

- **Research Approach:** Quantitative research approach
- **Research Design:** True Experimental Research Design

Research Setting of the Study: Data were collected from two villages namely Babarpur and Dadlana.

Sample Technique and Sample Size

- Sampling technique: Simple random sampling technique.
- Sample size: 60 women (30- Experimental Group and 30- Control Group)

Tools for Data Collection

Researcher used Mini Mental Status Examination to measure the cognitive impairment in old aged women. Mini Mental Status Examination was used to assess cognitive skills in women with suspected dementia. It consists of 12 questions which examine orientation, memory and attention as well as the ability to name objects, follow verbal and written commands, and write a sentence spontaneously and a copy of complex shape

Procedure for Data Collection

Researcher administered structured cognitive stimulation programme for 15 days to the participants in experimental group.

Data Analysis

Descriptive and inferential statistics (SPSS-version-25.0)

Data Analysis and Interpretation

The table 1 shows the following: With regard to pre - test level of dementia among subjects during pre-test in experimental group. An overwhelming majority of the subjects 19 (63.3 %) had severe dementia, similarly in

Table 1: Frequency and Percentage Distribution of Subjects According to Pre-test Level of Dementia in Experimental Group and Control Group

(N = 60)

<i>Pre-Test Level of Dementia</i>	<i>Scores</i>	<i>Experimental Group</i>		<i>Control Group</i>	
		<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
Normal	25 - 30	0	0.0	0	0.0
Mild / Early Dementia	21 - 24	2	6.7	22	73.3
Moderate Dementia	11 - 20	9	60.0	8	26.7
Severe Dementia	0 - 10	19	63.3	0	0.0

Table 2: Frequency and Percentage Distribution of Subjects According to Post-test Level of Dementia in Experimental Group and Control Group

(N = 60)

<i>Post-Test Level of Dementia</i>	<i>Scores</i>	<i>Experimental Group</i>		<i>Control Group</i>	
		<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
Normal	25 - 30	2	6.7	0	0.0
Mild / Early Dementia	21 - 24	11	36.7	25	83.3
Moderate Dementia	11 - 20	17	56.6	5	16.7
Severe Dementia	0 - 10	0	0.0	0	0.0

Table 3: Effectiveness of structured cognitive stimulation programme on cognitive functioning among women with early symptoms of dementia in experimental and control group.

(N = 60)

Post-Test	Mean	Mean Difference	Standard Deviation	Paired 't' test	'P' value
Experimental Group	24.47	6.47	2.389	8.997 (df = 58)	0.000*
Control Group	18.00		3.129		

(*) Significant at 'P' value < than 0.05

control group 22 (73.3 %) had mild / early dementia. Very few subject in experimental group 9 (60.0%) had moderate dementia and 8(26.7%) had moderate dementia in control group. None of the subject were with normal level in both the groups,

Table 2: The post - test assessment reveals majority of the subjects 17 (56.6 %) had moderate dementia. Those who were with mild / early dementia are 11 (36.7 %). Very little subjects 2 (6.7 %) were normal. And none of the subjects were with severe dementia.

In control group the post - test assessment reveals majority of the subjects 25 (83.3 %) had moderate dementia. Those who were with mild / early dementia are 5 (16.7 %). None of the subjects were having severe dementia and normal.

From the table 3 we interpret the mean post- test scene in experimental group was 24.47 whereas in control group it was 18.00. The standard deviation value was 2.389 in experimental group and 3.129 in control group. Paired 't' test value was 8.997 for df 58. which was statistically significant at 'P' value < than 0.05. This shows the effectiveness of structured cognitive stimulation programme.

DISCUSSION

Current study findings were discussed according to the objectives. The findings of the present study were supported by the following studies.

In pre - test, an overwhelming majority of the subjects 19 (63.3 %) had severe dementia, similarly in control group 22 (73.3 %) had mild / early dementia. Very few subject in

experimental group 9 (60.0%) had moderate dementia and 8(26.7%) had moderate dementia in control group. None of the subject were with normal level in both the groups,

In the present study the mean post-test scene in experimental group was 24.47 whereas in control group it was 18.00. The standard deviation value was 2.389 in experimental group and 3.129 in control group. Paired 't' test value was 8.997 for df 58. which was statistically significant at 'P' value < than 0.05. This shows the effectiveness of structured cognitive stimulation programme. The results obtained are supported by the study conducted by Peter Shaila et al. (2016) where statistically significant improvement was observed in cognitive functioning regarding impact on dementia ($t = 22.09$, $p = 0.001$).

CONCLUSION

This research demonstrated the cognitive function score on cognitive functioning. However, the subjects with moderately cognitive score were positively benefitted and shifted towards questionably significant level of cognition. This provides a set of baseline data that can be cited for further studies. The Structured Cognitive Stimulation could be incorporated into pre- services or in-service education program in order to evaluate its effectiveness in different populations and settings.

Conflict of interest: No

Source of funding: Self

Ethical Clearance: Obtained from the ethical committee of Ved Nursing College. Panipat

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