

Short Term Memory Status by Visual Tasks using Object Test

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ABSTRACT

The process of learning is most essential to become academically more effective, and memory status plays an important role. The Present study is an attempt to establish normal short term memory status by visual tasks in medical students. To evaluate the influence of gender and also to evaluate changes in short term memory status after application of some standard memory improvement methods. Short term memory status for object test was significant which may be due to good sight, one's relation with the world around, source of pleasure, three dimension effects etc. Females showed a significantly better memory status for object test due to better attention, involvement in task and concentration. Due to effectiveness of memory improvement methods, there was statistically significant improvement in memory status in all the subjects and more so in females.

Keywords- *memory improvement methods, Source of pleasure, Object test.*

INTRODUCTION

Robert S.Woodworth said that Human memory behaves as if organized in 3 kinds of stores, sensory stores, short term memory and long term memory. There are four stages or phases involved in memory: impression, retention, recall (or reproduction), and recognition. The first three stages correspond roughly to making a recording on a tape recorder, storing it in your file, and then playing it back at a later date¹. According to Yves Ledanseurs Weighing almost 1.5 Kg. with an astronomical number of neurons and billions of connections, the brain – the most crucial part of the CNS – controls everything. Memory forms part of identity, intelligence and emotions of an individual². It was stated by Elaine Marieb R. N that Short term memory, also called working memory, is a fleeting memory of the events that continually parade before you³. Kenneth Davis suggested that Memory is the physical system used to store information during the learning process and to retrieve it when it is needed⁴. .SM.Jhon.Walton Studied Ribot's law states that there is an inverse relationship between the strength of a memory and its recency i.e. old memories are better preserved; indeed, this is often observed at bedside⁵. So present study is an attempt to establish short term memory status in medical students, find out simple short term memory tests and evaluate

changes in short term memory status after applying some standard methods for improvement of short term memory.

MATERIAL AND METHOD

Two hundred and one (201) young adolescent healthy undergraduate boys and girls of age group of 18 to 21 years studying in M.B.B.S of Al-Ameen Medical College Bijapur (Karnataka) were volunteers for this study. In object test a tray containing 15 commonly used objects, like lock & key, flower, pen, pencil etc was shown to the subjects for 30 seconds⁶. The tray was covered with cloth and then the subjects were asked to write the names of the objects on a paper. Results were expressed in percentage.

Association or linking method used for improvement of object test. Here the Subjects were asked to link the objects with each other and try to remember, for example the following are the objects-Soap, pot, school bag, tooth brush, table, chair, apple, Tiffin carrier, school bus etc how to link each other? Early morning a child wakes up, brushes his teeth, has bath with soap and takes water from a pot in to bucket, later sits on a chair and has an apple on the table, picks up the Tiffin carrier & school bag goes to school by school bus^{2,7}.

STATISTICAL ANALYSIS

Student's paired "t" test was used to analyze the memory status in all the subjects and in males and females separately before and after application of memory improvement methods.

'Z' test was used to compare the memory status of all the subjects and males and females separately for object test. The p value of < 0.05 was considered as significant in both the tests.

RESULT AND DISCUSSION

Short Term Memory status by visual task before and after application of certain memory improvement methods by using Object test were done and analyzed (Table1, 2 and 3).

Present study is an attempt to establish short term memory status in medical students, to find out simple tests to assess short term memory and evaluate changes in short term memory status after applying some standard methods for improvement of short term memory. The mean of memory status before application of memory improvement methods was found to be more in females than males, which was significant statistically ($p < 0.05$). This better memory status for object test may be due to several factors. Sight enriches one's relation with the world around. Through sight one can register millions of facts. Memories of the faces, colors and objects around exemplify the capacity of one's visual memory. Some people are more dependents on this method of recall. This type of memory is also linked to one's own areas of interest. Some people remember the faces more easily, where as others remember colors or landscapes. Some time we prefer to look at something that is a source of pleasure, curiosity, novelty or fear. An image charged with emotion is more easily remembered than a banal and habitual ². The objects used in this test were household and commonly used. This may also be another factor for better memory status for object test than words or other tests.

A statistical gender difference i.e. females showed an increased memory status than males ($p < 0.05$) for object test in the present study.

The memory status in the present study appears to be better in females than males in all the tests which may be due to the part played by the factors influencing short term memory like better attention, involvement in task,

intention, concentration and effort.

Association method was used for improvement of object test. Here the Subjects were asked to link the objects with each other and try to remember^{2, 7}.

The memory status in all the subjects was found to be increased and was statistically highly significant ($p < 0.001$) when compared to the memory status before application of memory improvement methods.

The memory status in males was found to be increased which was statistically highly significant ($p < 0.001$) when compared to memory status before application of memory improvement methods.

The memory status in females, like in males, was found to be increased and was statistically highly significant ($p < 0.001$) when compared to memory status before application of memory improvement methods.

A statistically significant ($p < 0.001$) improvement in memory status was observed in females than males.

The observed improvement in short term memory status for object test is suggestive of effectiveness of association method^{2, 7}. Females showed statistically significant increased improvement in memory status when compared to males which may be due to effective and better utilization of association method.

Table1- Memory status before and after application of Memory improvement method

	MS	MSA
Mean	81.72	87.99
SD	12.46	11.81
SEM	0.88	0.83

(MS – Memory status, MSA - Memory status after application of Memory improvement method,

SD- Standard Deviation, SEM- Standard error of mean)

Table 2- The 'Z' and 'p' values of Male Vs Female Z-test of Memory status before application of Memory improvement method

	Z-value	p-value
Male Vs Female	3.18	$P < 0.05$

Table 3- The ‘t’ and ‘p’ values of Student’s paired ‘t’ test before and after application of Memory improvement method in all the subjects, male and female

All the Subjects		Male		Female	
t-value	p- value	t-value	p-value	t-value	p-value
8.60	P<0.001	6.68	P<0.001	5.53	P<0.001

CONCLUSION

Statistically there was a gender difference in short term memory status in which females showed better short term memory status than males which may be due to their better attention, involvement in task, intention, concentration and effort in this study.

There was a statistically significant improvement in memory status in all the tests in all the subjects, male and females after application of memory improvement method like association method which may be due to effectiveness of this method. Females showed better improvement than males after application of memory improvement method which was statistically significant which may be due to effective and better utilization of memory improvement method.

Short term memory status by visual task appears to vary with the nature of the test. Short term memory status can be thus assessed by simple tests like alphabetical, numerical, words and object tests which can also be recommended to evaluate short term memory status in diseases affecting memory as bedside tests.

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