

A research study on the efficacy of Yoga on Memory Power and Examination marks of School Children

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Abstract

Aim of the present study is to evaluate the effect of yoga on memory power of the children of higher primary school. For this purpose, 36 higher primary school children, aged 10 to 11 years were randomly selected from the Vishwamangala higher primary school, Mangalagangothri, Konaje. 30 days Yoga practical session was conducted for a duration of one month. The study has been conducted with an Experimental group and a control group. The experimental group was progressively introduced to the selected yogic practices for one hour daily. The session included a series of Asanas, Pranayamas and relaxation technique. The control group was not exposed to any yoga practices. The initial and final Memory test score and Examination marks were collected for both the groups. The results of the parameters were analysed through student 't' test. The experimental group showed a significant result in all the parameters. But there was no significant change in Control group. The present study reveals that yoga therapy helps efficiently in improving memory power.

Keywords: yoga, memory power, school children, asanas, pranayamas

Introduction

Many students are facing the problems regarding concentration, perception and memory power. Irregular food habits, stress, sleeplessness, depression, anxiety, pressure over the mind, hormonal imbalance, sedentary lifestyle are some of the factors which affect directly to the memory power of school children. Lack of memory power effects on children's overall physical and psychological health and diminishes quality of life.

Children with lack of memory power suffer emotionally and show withdrawal symptoms such as; they are usually shy to show themselves up. They also suffer from lack of attention, distraction, forgetfulness, fear of examination, confusion, depression, difficulty in following instructions, difficulty in remembering etc.

Increasing incidents of memory lapses in modern times has triggered studies of how yoga can help in handling this problem. Various research findings have revealed remarkable improvements of yoga therapy on memory power, concentration, perception and brain functions. Regular practices of yoga can prevent and reduce the risk of memory lapses, stress levels, blood pressure, rate of progression of complications and severity as well. This study was an attempt to know the effect of selected yogic practices on memory power.

Objectives of the Study

To find out the impact of selected yogic practices on Memory power and Academic Achievements of school children.

Review of literature

"Effect of yoga on concentration and memory in relation to

stress" by Dr. Kauts Amit and Sharma Neelam showed that the students, who practiced yoga module yielded higher concentration levels and exhibited better short term memory.

Pailoor Subramanya and Shirley Telles through their study "Effect of two yoga-based relaxation techniques on memory scores and state anxiety" concluded that cyclical combination of yoga postures and supine rest in cyclic meditation improves memory scores immediately after the practice and decreases state anxiety more than rest in a classical yoga relaxation posture (shavasana).

Dina Carlin et.al directed by: Christa Schmidt, conducted a study on "Analysis of The Effect of Yoga on Selective Attention and Mental Concentration in Young Adults", aged between 18 to 25 years. This comparative study compared Yoga and aerobic exercise classes and found a statistically significant improvement between pre-test and post-test scores on attention for both groups, with a greater improvement for the aerobic group.

Dr. Ram Kalap Tiwari and K. S. Saket conducted a study on "Benefits of Yoga Practices on High school students' memory and concentration in relation to Examination stress". Results showed that experimental group produced and exhibited higher concentration of attention and memory.

49 boys of 11-13 years were selected from Modern Education System (MES) and Gurukula Education System (GES) to see the "Effect of yogic education system and modern education system on memory" by R. Rangan, G. Ramachandra Bhat and H.R. Nagendra. Between groups there was matching at start of the academic year, while after it the GES boys showed significant enhancement in both verbal and visual memory scores than MES boys ($P < 0.001$, Mann-Whitney test).

Materials and Methods

The present study entitled “A research study on the efficacy of Yoga on Memory Power and Examination marks of School Children” was conducted to assess the effect of selected yogic practices on the memory power of school children. 36 higher primary school children with the age group of 10-11 years were selected and divided into two equal groups of 18 each. The first group of 18 subjects named ‘Experimental group’ was exposed to the Yoga therapy session for 60 minutes daily for 30 days. The study was carried out at Vishwamangala higher primary school, Mangalagangothri, Konaje.

A detailed case history of each subject was taken. The case history included- main complaints, present history, past history, family background, treatment followed in the past, height, weight, blood pressure and personal details such as sleep, bowel, etc. were recorded. Second group of 18 subjects, named ‘control group’ lived their routine life after taking the case history. In this practical session; Asanas, Pranayamas and Relaxation Techniques were taught systematically and gradually. Before the start of experiment, Examination marks were collected and Memory tests were conducted and the same repeated after the completion of experiment. A paired ‘t’ test was employed in the study to analyse the significance of the result statistically.

Parameters of the study

1. Memory Test: 40 items of daily use were kept on a table and the children were allowed to see those items for 2 minutes. Then sitting in another hall they have to write the items they had seen in 3 minutes.

2. Examination Marks: The marks of examinations conducted before and after the yogic practices were considered for the study.

The following Yogic practices were given to Experimental group.

Asanas: Svastikasana, Vajrasana, Supta Vajrasana, Urdhwa Vajrasana, Tadasana I, Trikonasana, Parshvakonasana, Prasaritha Padotthanasana, Veerabhadrasana, Purvotthanasana, Pavanamuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Vrksasana, Janu Sheershasana, Vakrasana, Bharadvajasana, Viparitararani and Uttanapadasana.

Pranayamas and Dhyana: Ujjayi, Anuloma – Viloma, Bhramari, Pranava

Relaxation: Shavasana I, Shavasana II

Results

All the subjects under study were tested before and after 30 days of yoga training. The final results show an overall improvement in memory power and examination marks considerably in the Experimental group. But control group does not show any such significant improvement. Therefore, in general we can analyze the results as follows:

- Examination marks were improved in all the subjects of experimental group except in one subject.
- Memory test scores were improved in all the subjects of experimental group.

A Paired “t” test was applied for each parameter and found out the value for each group viz, Experimental and Control groups. The results of “t” test are as follows.

Table 1: Result of Statistical Analysis of Experimental Group

Sl. No.	Parameter	Mean		SD		t value	p value	Result
		Before	After	Before	After			
1	Examination Mark %	70.20389	74.05556	14.87816	15.31906	-6.30439	3.96E-06	HS
2	Memory Test Score	13.16667	17.44444	5.238433	5.933179	-6.15913	5.25E-06	HS
3	Weight	34.18333	34.61111	8.694166	8.701784	-1.99452	0.031193	S
4	BMI	16.38889	16.68333	3.338349	3.299955	-1.64453	0.059215	S

Table 2: Result of Statistical Analysis of Control Group

Sl. No.	Parameter	Mean		SD		t value	P value	Result
		Before	After	Before	After			
1	Examination Mark %	68.70333	67.35222	12.66037	11.81752	2.218872	0.020197	S
2	Memory Test Score	12.22222	11.72222	4.359649	4.308754	0.623949	0.270472	NS
3	Weight	25.44444	25.45	4.322203	4.347447	-0.05476	0.478484	NS
4	BMI	14.49444	14.52222	1.515982	1.550543	-0.43014	0.336247	NS

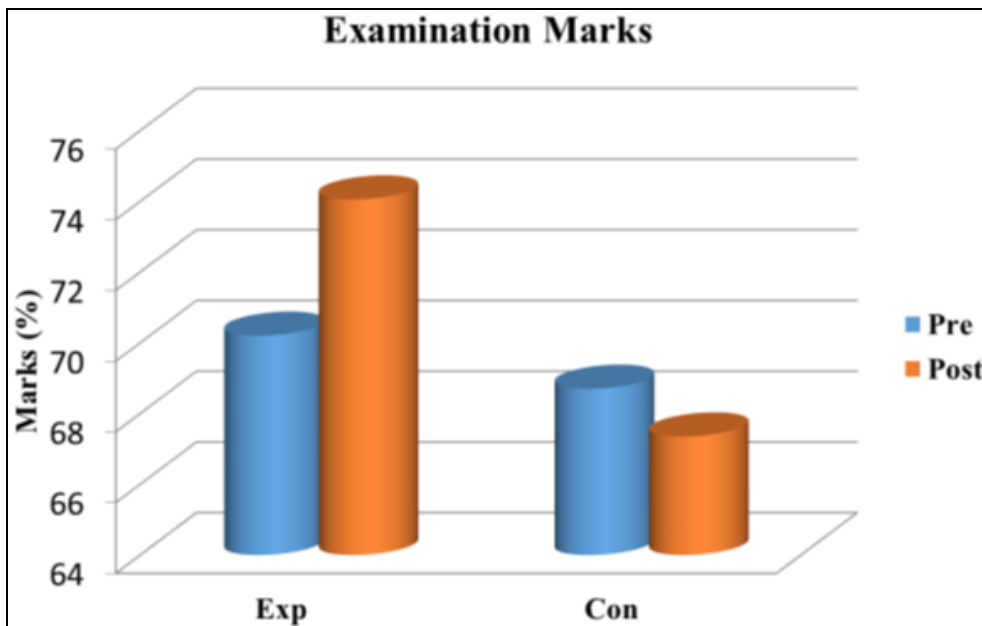


Fig 1: Representation of Mean Values of Examination Marks (%) of Experimental and Control group

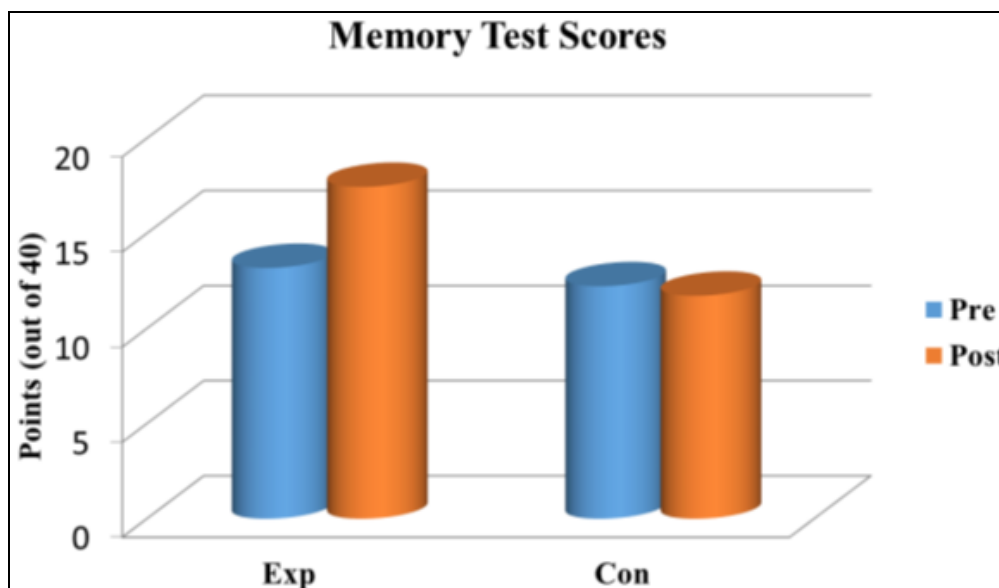


Fig 2: Representation of Mean Values of Memory Test Scores of Experimental and Control group

Discussion

The purpose of this study is to determine the role of yoga therapy on memory power of higher primary school children in terms of their performance in examination and memory test. Yoga training for 30 days resulted in a significant improvement in all Memory power measures such as performance in Exams and Memory Test. In the present study, the results of experimental group were proved to be statistically highly significant for both the parameters. But there is no significant improvement in control group.

It is evident from the above result that all the 18 subjects responded to the treatment positively. But the variation of the rate of success could be depends on the regularity of the practice. Out of 18 subjects, 4 subjects were irregular and attained satisfactory result. Who were attended the yoga

practice regularly, attained good results. Thus we can say that Yoga therapy is fully fruitful for those who adhere to the regular practice.

The study showed increased mean value for examination marks. Before yoga practice it was 70.20389% and after yoga practice marks increased to 74.05556%. The p value for examination marks was 3.96E-06. So, examination marks showed statistically highly significant improvement with the 't' value -6.30439. But the control group showed decreased mean marks from 68.70333% to 67.35222%.

The study showed increased mean value for memory test scores also. Before yoga practice it was 13.16667 and after yoga practice it increased to 17.44444. The memory test scores also shown statistically highly significant improvement with the value of t=-6.15913 and p=5.25E-06. Control group

showed decrease in memory scores from 12.22222 to 11.72222.

Therefore the significant improvement in examination marks and memory test scores shows the positive effect of Yoga. It is evident from the above results that all the subjects responded positively to the treatment. But the variation of rate of success could be dependent upon the regularity of practice, lifestyle and attitude.

Conclusion

The present study reveals that yoga therapy helps efficiently in improving memory power. Yoga therapy may be a preferable alternative therapy, among the treatment modalities to improve memory power of school children, which can be easily incorporated in their day to day life. A larger sample size with a long term follow up may be done to prove the efficacy of yoga therapy in students who has the risk for various psychological and physical illnesses with lack of memory power.

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