

Effect of Psychological program on cognitive functions in elderly women with hypertension

Neetha Kundoor^{1*}, Ayana Joy², Mukkadan J K³

¹Department of Biochemistry, Apollo Institute of Medical Sciences and Research, Hyderabad, Telangana, India

²Department of Physiology, LIMSAR, Angamaly, India

³Department of Research, Little Flower Medical Research Centre, Angamaly, Kerala, India

ABSTRACT

Background: Neurolinguistics is the study of the neural mechanisms in the human brain that control the comprehension, production and acquisition of language. Objectives: The present study was undertaken to observe effect of psychological program on cognitive functions in elderly women with hypertension. **Materials and methods:** The study included 8 elderly women with in the age group of 52-60 years, with stage 2 hypertension after obtaining written informed consent. The participants acted as self-controls. NLP programme was conducted with the help of an expert from our hospital. Spatial and verbal memory test was used to record spatial and verbal memory scores. **Results:** There was significant increase in the spatial and verbal memory scores followed by the intervention. **Conclusion:** The present study provides further evidence for beneficial effects of psychological program on cognitive functions. We recommend studies in large scale and with more parameters and in both genders to understand and to support adaption of this program as a cognition enhancement tool.

Key words: Neurolinguistics, memory, gender

INTRODUCTION

Neurolinguistics is the study of the neural mechanisms in the human brain that control the comprehension, production and acquisition of language. Neurolinguistic programming (NLP) is the art and science of excellence, derived for learning the brains and intellectual skills of people in various fields who achieved outstanding results and stood successfully in the field of their interest. One such strong skills might be communication. These communications can be learned by anyone to improve their effectiveness in executing their job and achieve success both personally and professionally.[1] Neuro-linguistic programming works includes modelling, action, and effective communication. That is if an individual can understand how another person accomplishes a task, the process may be copied and communicated to others enabling them to can accomplish the given task.

*Correspondence

Dr. Neetha Kundoor,

Assistant Professor, Department of Biochemistry, Apollo Institute of Medical Sciences and Research, Hyderabad, Telangana, India.

E-mail: neethareddy22@yahoo.com

NLP is based on a theory that everyone has a personal map of reality. NLP therapists analyze their own and other perspectives to create a systematic overview of one situation. In NLP it is considered that the senses are important for processing information and that the body and mind influence each other. Since it's an experimental approach NLP therapist must perform a particular action in a similar fashion as before to understand that action and to learn from the experience. [2] Stress affects all systems including central nervous system.[3] Long term effects of psychological stress include permanent changes in emotion, physiological parameters and behaviour that influence progress of the disease through hypothalamic-pituitary-adrenocortical axis (HPA) and sympathetic-adrenal-medullary system(SAM). Prolonged activation of these systems can cause physical and psychiatric diseases. These include cardiovascular diseases, infections, autoimmune disorders and some cancers.[4] It's well evident that stress should be managed as soon as possible since the morbidities are high and such co-morbidities with other diseases may increase the mortality. The present study was undertaken to observe effect of psychological program on cognitive functions in elderly women with hypertension

MATERIALS AND METHODS**Participants**

The study included 8 elderly women with in the age group of 52-60 years, with stage 2 hypertension after obtaining written informed consent. The participants acted as self-controls. Willing participants were included in the study. Those with any severe complications were excluded from the study.

Study setting

The current study was conducted at Little Flower Medical research Centre, Angamaly.

Intervention: NLP programme was conducted with the help of an expert from our hospital. The program protocol was as per the standard protocol in the literature.[11-13]

Outcome measures

Spatial and verbal memory scores was used to assess cognitive functions. Values were recorded before and after intervention.

Ethical approval

The study was approved by institutional ethical committee. Informed consent was obtained from all the participants after ensuring the confidentiality.

Statistical analysis: data was analyzed using SPSS

Student t test was used to assess the significance of difference between the pre and post intervention values. P value less than 0.05 was considered significant.

RESULTS

Results are presented in table no 1. There was significant increase in the spatial and verbal memory scores followed by the intervention.

**Table no 1: Spatial and verbal memory scores before and after (data was presented as mean \pm SD)
*P<0.01 was significant**

Parameter	Pre-intervention score	Post-intervention score	P value
Spatial memory	4 \pm 2.16	7.33 \pm 1.73	0.0043
Verbal memory	3 \pm 1.83	5.3 \pm 0.68	0.0049

DISCUSSION

NLP program emphasises the link between language and human behavior. It is a collection of skills based on psychological characteristics of the human beings through which the individuals obtain the ability to use their personal capabilities to the maximum.[5] It is well evident that, neuro-linguistic therapy can be used in psychological conditions like phobia.[6]

Neurolinguistic Psychotherapy (NLPt) could help to improve psychological wellbeing.[7] A study proved the efficacy of NLP on students' general health and educational motivation.[8] Another study reported that anxiety is one of the destructive factors of students' mental health in every level and can reduce educational function. This method makes the participants to feel, think, speak, and thus are capable of self-management and influencing others.[10] Interestingly, it was reported that this program improved performance in athletes.[13] In the present study, we have observed similar effects followed by the psychological program. There was significant improvement in both spatial and verbal memory scores followed by the intervention.

CONCLUSION

The present study provides further evidence for beneficial effects of psychological program on cognitive functions. We recommend studies in large scale and with more parameters and in both genders to understand and to support adaption of this program as a cognition enhancement tool.

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