



Physiology

“STUDY TO ASSESS THE EFFECTIVENESS OF PRANAYAMA ON STRESS AMONG ELDERLY”

Manpreet Saini	Tutor (Biochemistry Department), Government Doon Medical College(GDMC),Patel Nagar Dehradun
Mamta Kandwal*	Tutor (Physiology Deptt), Government Doon medical College(GDMC), Patel Nagar, Dehradun*Corresponding Author
Gurpreet Kaur	Associate Prof (Psychiatry Deptt), SGRR Nursing College, Patel Nagar, Dehradun.

ABSTRACT **Aim:** Aim of our study was to assess the effect of pranayama on pretest & post test stress level in elderly control & experimental group.

Study Design: An Institution based true experimental case control study was conducted on elderly people for a period of 4.2.2011 to 7.3.2011 residing in Pingalwara Amritsar. Study comprises randomly selected elderly of both sex including 30 subjects each in experimental & control group. Exclusion criteria was age below 60years, elderly residing outside pingalwara and those not willing to participate.

Methodology: Simple Random sampling technique & Standardized tool was used for method of collection of data. Pretest stress level was analyzed in both groups by Depression anxiety stress Scale & then Pranayama therapy was introduced to Experimental group & then Post test stress level was assessed in both the groups by Depression anxiety stress Scale.

Results: Paired 't' test reveals that there is significant ($p < 0.05$) difference between pretest & posttest stress scores of experimental group as during pretest 10% had extreme severe & 30% had severe further 33% had moderate & 27% of them had mild stress. However during post test only 3% had extremely severe & 10% had severe further 47% had moderate and 40% of them had mild level of stress.

Pretest and Post test level of stress among the control group reveals that in the pretest 10% had extreme severe stress & 20% of the elderly had severe stress further 40% had moderate & 30% of them had mild stress. However during post test 7% had extreme severe level of stress & 20% had severe stress further 40% of the elderly had moderate and 33% of them had mild level of stress.

KEYWORDS : Elderly, Pranayama, Pingalwara.

Introduction:

Stress is a dynamic process that changes in quality and quantity in response to internal and external factors. Experience of stress does not necessarily result in pathological changes or damages. Stress may be contained within the body's normal homeostatic limits.

The word health assembly of 24th may 2013 considered to be a vulnerable group, with a high risk of experiencing mental health problem in its report. Number of older adults is growing fast all over the world. Socioeconomic impact of such demographic changes is adding to the over all mental health consequences ⁽¹⁾. Depression among the aged is wide spread problem, but is often not recognised or treated. It may be overlooked because for some older adults who have depression, sadness is not there main symptom. They may have other, less obvious symptoms of depression or they may not be willing to talk about their feelings. Therefore mental health care professional may be less likely to recognise the patients having depression. ⁽²⁾

In this study we will discuss one extreme side i-e the elderly group. The elderly face stress from various situations, which are different from those that are faced by younger people. The Elderly are at a stage in life where they may face extended and critical health problems. They may have lost a spouse and feel lonely and alone. They may have retired and, thus, be forced to make a change in both their living and financial situations. Stress is augmented further by the fact that the ability of the elderly people to cope with stressful situations weakens over time. The process of aging wears on the brain and the mental response to Stressful situations is greatly diminished at times ⁽³⁾.

Many Stress Management relaxation techniques help us fight the battle against this stress, Pranayama is considered as best stress management technique as Pranayama is believed to relieve the stress effectively at any given point of time ⁽⁴⁾. Practice of yoga techniques(asanas, Pranayama, Meditation, relaxation) is power tool to keep elderly in good psychophysical condition ⁽⁵⁾.

Material & Methodology:

An Institution based True experimental case control study was conducted on elderly people for a period of 4th February 2011 to 7th March 2011 residing in Pingalwara Amritsar. Study comprises randomly selected elderly of both sex including 30 subjects each in experimental & control group. Exclusion criteria was age below 60years, elderly residing outside pingalwara and those not willing to

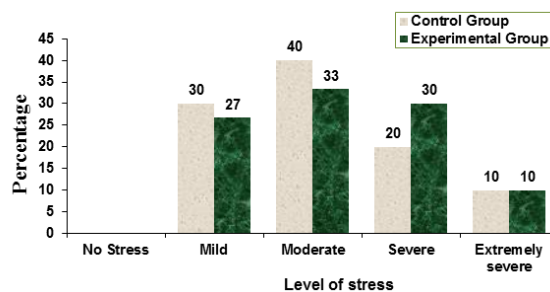
participate. Simple Random sampling technique & Standardized tool was used for method of collection of data. Pre-test was conducted among the elderly in both the groups by using Depression anxiety stress rating scale to assess the level of stress from 4.2.2011 to 6.2.2011 then Pranayama technique was Implemented by demonstrating Pranayama through compact disc to only experimental group for 25 days i.e. from 7.2.2011 to 3.3.2011 & further post test was conducted to assess the effect of Pranayama in elderly by using Depression anxiety stress rating scale to assess the level of stress in both groups from 4.3.2011-7.3.2011. Based on score attained by elderly on DASS Scale, level of stress was graded into five categories - No stress: 0 – 26, Mild stress: 27 – 52, Moderate: 53 – 79, Severe: 80 – 106, Extreme severe: above 106

Result :

A statistical analysis was done using paired 't' test to find out the difference in pretest and posttest stress score among experimental group after implementation of pranayama which reveals that there is significant ($p < 0.05$) difference between pre and posttest stress scores of the patients.

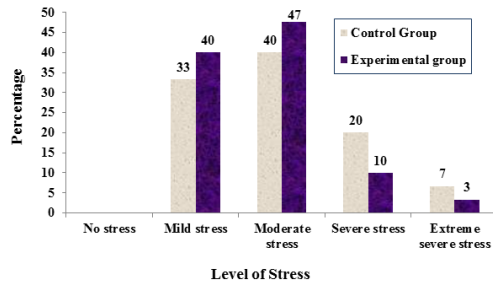
It was observed that in control group during pretest stage about 30% elderly were in mild, 40% in moderate, 20% in severe stress whereas only 10% were found in extremely severe stress. In experimental group during pretest stage 27% elderly had mild, 33% had moderate, 30% had severe and only 10% had extremely severe stress of any cause & this analysis is depicted in Figure1

Figure1 shows the comparative analysis of pretest among control & experimental group.



After implementation of Pranayama to experimental group posttest was done & observed that in control group about 33% elderly were in mild, 40% in moderate, 20% in severe stress whereas only 7% were found in extremely severe stress. In experimental group 40% elderly had mild, 47% had moderate, 10% had severe and only 3% had extremely severe stress of any cause & this analysis is depicted in Figure 2.

Figure 2 shows comparative analysis of post test among control & experimental group.



Comparative analysis of control and experimental group in both pre and post test stages reveals that majority of elderly in pretest stage of experimental group had severe & extremely severe level of stress whereas posttest stage of experimental group had mild to moderate level of stress which proves that pranayama had reduced stress among elderly patients & this analysis is depicted in Table 1.

Table.1 :Comparison of level of stress in pre & post test stage in both control & experimental group

Level of stress	Control group %of sample		Experimental group %of sample	
	Pre test	Post test	Pre test	Post test
No stress	-	-	-	-
Mild	30%	33%	27%	40%
Moderate	40%	40%	33%	47%
Severe	20%	20%	30%	10%
Extreme severe	10%	7%	10%	3%

Discussion: Stress has become endemic over recent years. Stress is an ambiguous word that is used in different occasions to denote positive or negative strain in a physical or emotional context. Yogic breathing is a unique method for balancing the autonomic nervous system and influence psychological and stress related disorders⁽⁶⁾. Various therapies have been implemented in the treatment of depression in elderly. There is mounting evidence that different forms of Pranayama work to treat symptoms of depression in elderly⁽⁷⁾. There is evidence to suggest that Pranayama is effective in late life depression^(8,9).

Our Study focuses to assess the effect of pranayama on stress in elderly & it was observed that in control group, no significant difference was found in percentage of patients in all level of stress in both pre & post test stage whereas in experimental group a significant difference was seen in all level of stress, as percentage of patients in Severe & extremely severe level of stress was decreased & was increased in mild & moderate level of stress in experimental group indicating that a significant number of patients were shifted from severe and extremely severe level to mild and moderate level of stress proving that pranayama had reduced stress among elderly patients. Studies supporting our study are-

A Study was conducted by Malathi et al. In 1999 concluded that Pranayama helps individuals grow toward a sense of self-actualization⁽¹⁰⁾.

Observations of study by Mihalko in 1997 reported similar results that pranayama showed significant increases in mental relaxation & relieve stress and improvements in measures of activities of daily living⁽¹⁰⁾.

The meta-analysis by Netz et al. In 2005, revealed benefits of pranayama for relieving stress.

Kannan K conducted a study in 2013 & concluded that pranayama helps in curing depression in elderly.

Conclusion: Contrary to popular myth, stress is not a unique problem to the 21st Century, human kind has suffered stress since the dawn of

human evolution & it is not limited to one generation only, stress can occur at any age group but it is considered to be common in the extremes. The adaptive coping strategies are awareness, relaxation, meditation, problem solving, better communication with significant others, taming of pets. In our study we observed that in control group, no significant difference was found in percentage of patients in all level of stress in both pre & post test stage whereas in experimental group a significant difference was seen in all level of stress, as percentage of patients in Severe & extremely severe level of stress was decreased & in mild & moderate level of stress percentage of patients was increased. Despite many studies being already conducted on elderly to assess the effectiveness of pranayama on stress, the research needs also to concentrate on practical interventions that are systematically implemented and evaluated, to improve the well-being of elderly⁽¹¹⁾. So this study is an effort to use PRANAYAMA as a weapon to fight stress in elderly.

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