A STUDY TO ASSESS THE EFFECTIVENESS OF SELECTED YOGIC BREATHING TECHNIQUES (PRANAYAMA) IN REDUCING STRESS AMONG SENIOR CITIZENS IN SELECTED OLD AGE HOMES

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Abstract :

This paper on the effectiveness of selected yogic breathing techniques (pranayama) in reducing stress among senior citizens in selected old age homes at Mangalore worked on the objectives assessing the existing level of stress in both experimental and control group using modified stress rating scale, demonstrate the selected yogic breathing techniques (pranayama) for experimental group, find out the effectiveness of selected yogic breathing techniques (pranayama) using same modified stress rating scale, find out the association between pre level stress in senior citizens with selected demographic variables. Results reveals after implementation of Yoga the study revealed that there is a significant in the stress scores of experimental and control group.

Key Words : yogic breathing techniques, stress, senior citizens, old age homes .

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INTRODUCTION

Ageing, which is a reality of the human existence on the planet earth, plays a major role in the global demographic transition. Aged is generally defined as population above 60 years of age. A man's life is normally divided into five main stages namely infancy, childhood, adolescence, adulthood and old age. In each of these stages an individual has to find himself in different situations and face different problems. The old age is not without problems. In old age physical strength deteriorates, mental stability diminishes; money power becomes bleak coupled with negligence from the younger generation.[1]

According to demographers categories of the old age are; young old [60- 69years], old [70-79years], oldest old [80-89years], and the extreme old [above 90years]. According to the 2001 census, (7.4 %) of total population was above the age of sixty years and in 2011 the population of senior citizen was (8. 4%). The elderly population in Karnataka in 2001 was (7.7%).[2] Between the years 2000 and 2050, the world wide proportion of persons over 65years of age is expected to be more than double from the current 8.4 percentage - 16.4percentage.According to the United Nation Population Division report there will be two elderly persons for every child in the world by 2050.[3] There are 81million older people in India-11 lakh in Delhi itself.[4]

As per the estimate nearly (40%) of senior citizens living with their families are reportedly facing abuse of one kind or another, but only one in six cases actually comes to light. Although the President has given assent to the Maintenance and Welfare of Parents and Senior Citizens Act

which punishes children who abandon parents with a prison term of three months or a fine, situation is grim for elderly people in India. The proportion of population of the elderly in most countries is increasing and which is inversely proportional to young population including India. Due to diminishing accepting of family responsibilities towards one's elders, old age homes are becoming a need of today's lifestyles, particularly in urban India. After retirement elderly lose their status in the society, often feel lonely, useless and helpless. Loneliness is the reason for (34%) admission in old age homes. Major portion of elderly inmates of old age home are neglected, living alone and suffering from various healthproblems.[1]

Many older people face stressful situations such as the death of the friends and family, deterioration of health and physical ability, loneliness or depression. Retirement sometimes creates feelings of not being a productive part of society and stress due to reduced income. Relocating after retirement adds other problems such as difficulty in making new friends, depression and loneliness due to separation from family and friends.[5] Old age has its delights, which, though different, are not less than the ecstasies of youth. All these contribute to the development of stress. People with narrow range of coping skills are more prone for impaired and they shows physiological, psychological, emotional, behavioral symptoms of stress. These should be treated before it goes to serious problems and can be obtained through various alternative therapies.[6]

With stress, the body's response takes place and all the negative, chemical reactions occur inside the body. The effects of stress also vary with time, with alarm being the first stage. This is when the stressor is first detected and the body's subsequent response is a state of alarm. It is during this stage that the fight or flight reflex is activated. Both cortisol and adrenaline are produced at this time. The second stage of the response, if the stressor persists, is resistance. It is here that the body begins to adapt to the strains of the environment, though this state is not sustainable as the body's resources are used up. The third and last stage is exhaustion, where all of the body's resources are gone and normal bodily function ceases. If this stage is extended, long term damage may result to the body, especially the immune system.[7]

Need for the study : Old age is considered as second childhood. Every individual has to follow transitional changes of life from neonate to old age, and old age is the last stage of life span. The aging process is a biological reality which has its own dynamic, largely beyond human control.[8] Old age is not an accident, it is an unavoidable incident of life. As age increases physiological and psychological functions also get aged.[10] Aging affects the physiological functioning of all body systems. In the cardiovascular system, as blood vessels get thickened the ability of heart to pump blood decreases. As elasticity of the lung decreases, lung's ability to utilize oxygen reduces. Aging also decreases muscle tone and bone strength. Endocrine function decreases with age as hormone receptors are less effective. Brain function declines, including short term memory loss and intellectual problems.[11]

Psychological problems arise as old age people are not able to respond to stimuli as they could earlier. The psychological problems arise when people realize their loneliness. The problems can be developed from role changes, modernization, disintegration of joint family system, physical disability, retirement from physical activity, insecurity, social isolation, death of spouse, lack of support from family members, abuse from caregivers, when social life is disrupted, or when they feel a sense of loss. This leads to slow build-up of stress and discomfort. The psychological effects of stress include anxiety, depression, loneliness, low self-esteem, and feelingof powerlessness.[12]

Old age and stress go hand in hand. In modern usage stress refers to being under a great deal of emotional, mental, and social pressure for prolonged period of time. Stress is a major issue for senior people and most of the health problems originate from stress.[13]When stress occurs, the hypothalamus signals the adrenal glands to produce more of the hormones

adrenaline and cortisol, and release them into the bloodstream. These hormones speed up heart rate, breathing rate, and blood pressure.[15]

Hence, the above findings are more supportive to the fact that the elderly people need relaxation techniques to reduce stress. Slow, deep yogic breathing helps to control the mind. So the researcher being in nursing profession felt the need of teaching pranayama to the senior citizens who feel isolated, bored, and suffer from stress.

The objectives of the study are :

1. To assess the existing level of stress in both experimental and control group using modified stress rating scale.
2. To demonstrate the selected yogic breathing techniques (pranayama) for experimental group.
3. To find out the effectiveness of selected yogic breathing techniques (pranayama) using same modified stress rating scale.
4. To find out the association between pre level stress in senior citizens with selecteddemographic variables.

Assumptions of the Study :

In this study investigator assumes that:

1. old age people have higher level of stress.
2. stress can be measured using modified stress rating scale.
3. selected yogic breathing techniques (pranayama) will help to reduce stress among senior citizens.

Hypotheses

The hypothesis will be tested at 0.05 level of significance.

$H_1$1: The mean post-test stress score will be significantly lower than the mean pre-test score in the experimental group.

$H_1$2: There will be significant difference between the mean stress scores of experimental group and control group after practicing selected breathing techniques (pranayama).

$H_1$3: There will be a significant association between pre level stress scores and selected demographic variables**.**

Delimitations of the study

The study is delimited to:

1. Selected 60 senior citizens living with stress.
2. Selected old age homes at Mangalore.
3. Selected yogic breathing techniques (pranayama).
4. Assessing only those items included in modified stress rating scale.

Methodology of the Study:

Research approach - In view of the nature of the problem under study and to accomplish the objectives of the study, evaluative approach was found to be appropriate to describe the effectiveness of selected yogic breathing techniques (pranayama) in reducing stress among senior citizens in selected old age homes, Mangalore.

Research design - quantitative research method with two group pretest- posttest quasi experimental design to evaluate the effectiveness of selected yogic breathing techniques (pranayama) in reducing stress among senior citizens.

Variables:

❖ **Independent variable:** In this study, it refers to selected yogic breathing techniques.

❖ **Dependent variable:** In this study, it refers to the stress among senior citizens.

❖ **Demographic Variables:** age, gender, marital status, religion, education, food habits, reason for joining to oldage home.

Setting - The study was conducted at Little Sisters of the poor and St. Antony's old age home, Mangalore. Little Sisters of the poor is an old age home which was selected for experimental group is with a strength of 80 inmates and St. Antony's old age home selected for control group has 102 inmates.

Population - The target population selected for the study comprised of all senior citizens who lives in old age homes at Mangalore. There are nine registered old age homes at Mangalore. The accessible population consists of senior citizens who met the

inclusion criteria.

Sampling Procedure Sample and sample size

The sample for the present study consists of 60 senior citizens with moderate to severe level of stress living in selected old age homes, at Mangalore.

Sampling technique

In this study non-probability purposive sampling technique is found appropriate to select 60 senior citizens living with moderate to severe level of stress intwo old age homes.

Sampling criteria Inclusion criteria

Senior citizen who are:

- In the age group of 65-80 years who are having moderate to severe level ofstress as per the modified stress rating scale.
- willing to participate.
- experiencing moderate to severe level of stress.

Exclusion criteria

Senior citizens who:

- cannot sit on bed or chair.
- are already exposed to yogic breathing techniques.
- are unable to follow instructions(unconscious, memory impairments).
- are chronically ill.

Description of the tool

The modified stress rating scale was designed to assess the stress level of senior citizen living in selected old age homes. The tool was divided into two parts,

Part I: It was designed t o elicit general information of the respondents and it consisted of seven items related to demographic characteristics of thesamples.

Part II: It consisted of thirty two items to assess the stress level of seniorcitizens.

Modified stress rating scale: The investigator asks the respondents to place a tick (√)mark against the corresponding places according to their stress level**.** The modified stress rating scale is a four point scale with minimum score of zero and maximum score of 96.

Sl. No.	Score	Stress level
1.	0 – 32	Mild
2.	33 – 64	Moderate
3.	65 – 96	Severe

Reliability - To establish the reliability, the modified stress rating scale was administered to six samples other than the study samples. Split half technique was used to find out the reliability of the present study. The test result was divided into two equivalent halves (as odd and even groups) and correlation for the half test is calculated using Karl Pearson Correlation Coefficient formula(r), and significance of correlation was tested using Spearman Brown prophecy formula (r). The 'r' value is 0.83 and r is 0.90, the tool is found to be reliable.

RESULTS :

Table 1 : Frequency and Percentage distribution of sample according to the post-test stress scores in experimental and control group.

N= 60

Level of Stress	Experimental Group Post - Test		Control Group Post - Test	
	f	%	f	%
Mild Stress	25	83	-	-
Moderate Stress	5	17	28	93
Severe Stress	-	-	2	7

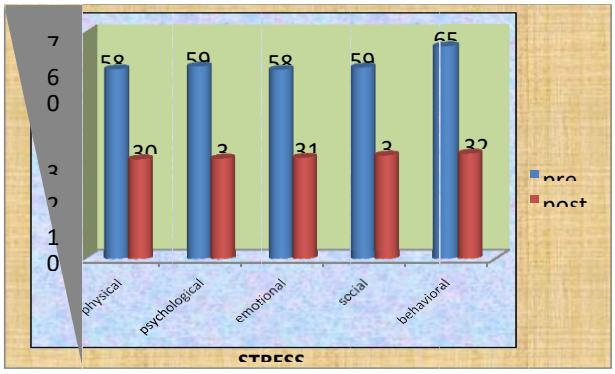
The experimental group 83% of samples had mild stress and 17% had moderate stress in

The post test where as in control group93% of the sample had moderate stress and

seven percentage of them had severe stress in the post test.

Graph 1: Area wise mean, standard deviation, mean percentage of pre-test and

Post- test scores in experimental group



The mean post-test stress score in all areas were lower than the mean pre-test stress score. The total mean stress score is decreased by (28.8%) with mean ± SD of 27.5 ±1.19 after administration of selected yogic breathing techniques. Comparison of the area wise mean and SD of the stress scores showed that, the effectiveness of selected yogic breathing techniques in the area of physical manifestations had (27.9%) decrease in the mean percentage stress score with the mean and SD of 6.7± 1.37. In the area of psychological manifestation, there was (28.6) decrease in the mean percentage with a mean and SD of percentage of pre test was (59.6%) and (31%) in post test. In the area of emotional manifestations and social manifestations, a decrease of (27.3%) was observed with a mean and SD of 4.1± 0.62 and 4.1± 0.71 respectively. In the area of behavioural manifestations a decrease of (33.3%) was found in mean percentage with a mean and SD of 4± 0.5 where the mean percentage of pre- test was (65.5%) and that of post-test was (32.5%). The highest effect was shown in the area of behavioral manifestations.

Major findings of the study

Demographic characteristics of the study

- **It was observed that 53.33 percentage of senior citizen are in the age group of70-80years which was supported by 2011 statistics.**
- **Among senior citizen majority (57%) of them were males.**
- **Majority (55%) of them were married.**
- **As the old age homes are run by Christian charity institutions, major portion of35% inmates were Christians.**
- **Majority (50%) of senior citizen had no formal education.**
- **The food habits for 77% of inmates were mixed type as major portion of inmates belongs to Christianity.**

Effectiveness of yogic breathing techniques

In the experimental group majority (93%) of senior citizen had moderate stress and remaining seven percentage of sample had severe stress before practicing yogic breathing techniques. After practicing yogic breathing techniques it was found 17 percentage of them had moderate stress and (83%) of them had mild stress. In the control group (93%) of sample had moderate stress and 7% of them had severe stress in the pre-test as well as in the post-test also. The mean post- test score (30.3±2.01) was less than the mean pre-test score (57.7±3.2) in experimental group. In the control group, the mean post- test score (59.4±2.9) was almost similar to mean pre-test score (59.8±2.6). It is also observed that mean post- test score of the experimental group was less than mean post-test score of control group. The findings of the study revealed that there is a significant difference in the experimental group (n=30) before and after practicing selected yogic breathing techniques (t_{29}=28.3,p>0.05) There was a significant difference in the stress scores of experimental and control group.(t_{58}=48.1,p>0.05).

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