Assessment of Pranayama on the Level of Stress among Nursing Students in Selected College of Nursing, Vellore

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Abstract

Stress is described by a susceptibility to numerous chronic health complications. As per key inhibition efforts are directed to promotion of health by reassuring patients for adapting healthy lifestyles. The design adopted for this study was quasi experimental pre-test and post- test control group design to evaluate the effectiveness of pranayama to reduce stress of nursing students. Practice of yoga techniques is power tool to keep elderly in good psychophysical condition. Pranayama is basically a series of exercises, which aims at bringing more oxygen to blood and to the brain. There was no significant association between the post-test levels of stress among Pranayama is an art and has techniques to make the respiratory organs to expand, intentionally, move, rhythmically which provides a deep relaxation to the body and mind, improves concentration, relieves stress depression, and strengthens the respiratory system nervous system.

Key words: Stress • Deep relaxation • Nervous system • Insomnia • Duodenal ulcers • Ulcerative colitis • Irritable colon • Constipation • Diarrhea

Introduction

Stress is a mutual feature in all our lives. Stress is more likely to occur in situations where the demands are high, and the amount of control is low, when there is limited support or help available for the individual. It has been suggested that the nature of the profession facilitates an inflexible response to pressure due to the culture of personal responsibility rather than delegation, and also, the need to provide best care for each patient rather than making trade-offs in a resource constrained environment. Stress is a dynamic process that changes in quality and quantity in response to internal and external factors [1,2].

Academic springs of stress are like examinations, long hours of study, assignments, grades, lack of free time, lack of timely feedback after their performance, special elements of the academic programme like arrangement and conduction of workshops [3-5]. We can assess that it has its own effect, more on the people who are studying. It has been reported that student nurses are affected with the stressors in academic, clinical, financial, due to parental expectations, competition for grades, and career choices. Cooper and others found that 80% nursing students are getting stress due to increased requirements in practical and theory. That is statistics on stress level of nursing students reveals that 10% students are poor in managing stress [6].

The lead study showed that doctors perceive their workplace climate and workload let to be high level stress, burnout and satisfaction with medicine. Stress can be managed by the support from family members, developing a positive optimism attitude, time management, counseling, vacation when needed, playing games, yoga and meditation [7,8]. Yoga is the wonderful stress reducer and Pranayama is one form of yoga. They proved that combination of yogic breathing (Pranayama), yoga postures and 5 meditation can be used as beneficial, low-risk, low-cost adjunct to the treatment of stress, anxiety, Post-Traumatic Stress Disorder (PTSD), depression, stress related medical illnesses, substance abuse, and rehabilitation of criminal offenders [9-11]. The practice of this asana

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removes the obstruction, which encumber the flow of prana. It gives poise and marvelous will power. It creates lots of courage and will power within an individual. Pranayama is an art and has techniques to make the respiratory organs to move, expand, purposely, rhythmically which provides a deep relaxation to the body and mind, improves concentration, relieves stress depression, and strengthens the nervous system and respiratory system. Pranayama techniques enhance well-being, mood, attention, mental focus, and stress acceptance [12,13].

Materials and Methods

This part deals with methodology adopted for the study the research approach, research design, the setting, the population, sampling technique developing and description of tools data collection procedure and the plan for data analysis.

Setting of the study

The study was conducted in Grace School of Nursing at Vellore district. The design adopted for this study was quasi experimental pretest and posttest control group design to evaluate the effectiveness of pranayama to reduce stress of nursing students. The quata sampling technique was used to select 50 samples for experimental group and 50 samples for control group. and non-teaching staff, class rooms, seminar hall, library with spacious sitting arrangement, reading rooms, Laboratories includes Mental health nursing lab, Anatomy, Biochemistry and Microbiology Lab, Fundamental Lab, Community Lab, Nutrition Lab, Maternity lab, Child health Lab, and Computer Lab.

Sample

Students who are studying B.Sc Nursing in selected College of Nursing and those who meet the inclusion criteria are the sample for this study.

Inclusion criteria

Nursing students between 18-25years and who scores between 20-70 in student stress scale

Exclusion criteria

Who are suffering from any other illness. Who are already in practice of Pranayama? Who scores below 15 in student stress scale?

Data collection procedure

Data collection procedure, the subjects were informed by the investigator about the nature and purpose of the study and then oral consent was obtained. On the 1st day the data was collected by using the student stress scale for the

pre-test. Student who scored between 20- 70 and based on the inclusion criteria, 70 subjects were selected. From the 5ᵗʰ day onwards pranayama was demonstrated in the evening and made the students to practice pranayama in empty stomach (between 4.30-5.30 pm) for 15 minutes for 25 days. Post-test was conducted on 25ᵗʰ day to assess the effectiveness of pranayama on stress among B.Sc. Nursing students by using student stress gauge.

Results

In the present study the obtained data was organized, tabulated, analyzed & interpreted by using descriptive & inferential statistics based on the objectives of the study. The findings were presented in tables.

The analysis of the data was mainly classified as

✓ **Section I**: Distribution of socio demographic variables of the B.Sc nursing students.

✓ **Section II**: Distribution of the level of stress among the B.Sc nursing students.

✓ **Section III**: Effectiveness of pranayama on the level of stress among the B.Sc nursing students.

✓ **Section IV**: Association between the pre and post-test level of stress with socio demographic variables of B.Sc nursing students.

Section I

In relation to religion, 15 (30%) were Hindus, 2.5 (3.3%) were Muslims, and 43 (69.4%) were Christians. In relation to the education qualification of fathers of B.Sc. nursing students 2 (5.5%) were illiterates, 9 (15%) had primary education, 52 (55.4%) had secondary education, 14 (25.5%) had higher secondary education and 5 (5%) were graduates. In relation to the education qualification of mothers of B.Sc nursing students 2 (5.5%) were illiterates, (8.4%) had primary education, 50 (50%) had secondary education, 16 (26.6%) had higher secondary education, and 7 (11.7%) were graduates. Regarding father's occupation, 4 (6.7%) were unemployed, 57 (61.7%) were coolie, 11(18.2%) were in private job, 5 (5%) were Govt employee and 5 (8.4%) were doing business. Regarding mother's occupation 65 (90%) were house wives, 7 (5%) were coolie, 3 (5.5%) were private employees, and 2 (1.7%) were Govt employee. Regarding previous experience of hostel stay, 55 (85%) were not having any hostel experience, 4 (5.5%) had less than 3 years of hostel experience, 6 (11.7%) had 3-5 years hostel experience. Pretest & post-test 15(25.25%) students had mild stress, 22(36.7%) students had moderate stress, and 25 (33.8%) students had severe stress (Figures 1 to Figure 6).
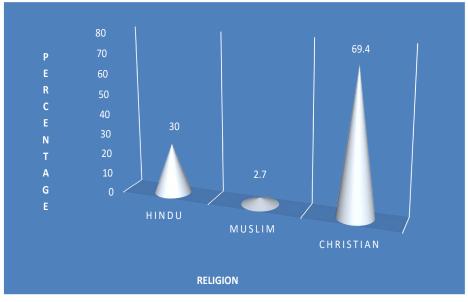

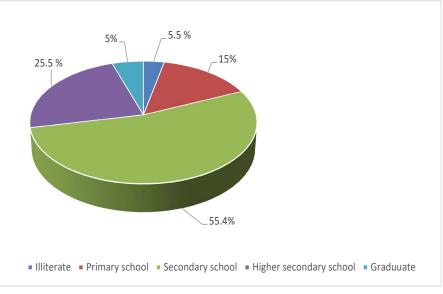**Figure 1.** Percentage distribution based on religion.

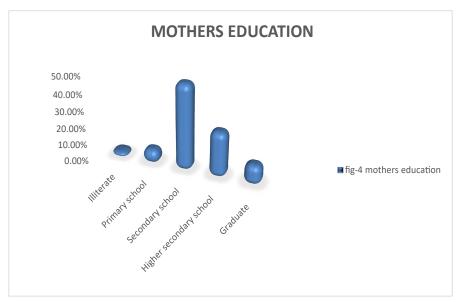**Figure 2.** Percentage distribution based father's education.

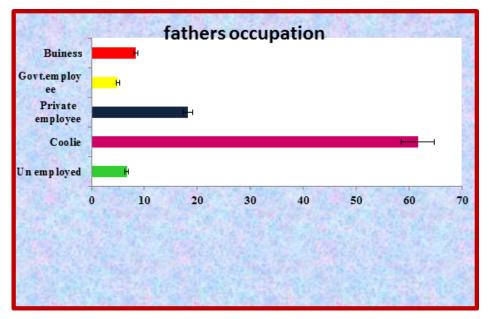**Figure 3.** Percentage distribution based on mother's education.

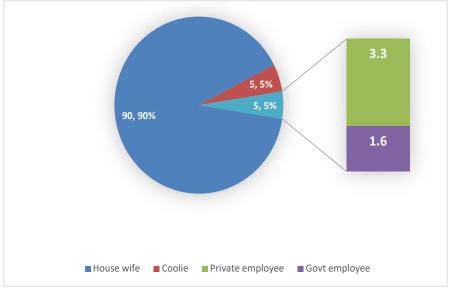**Figure 4.** Percentage distribution based on father's occupation.

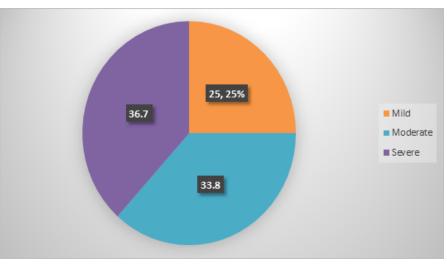**Figure 5.** Percentage distribution based on mother's occupation.

Figure 6. Indicates that in Pre-test and Post-test levels.

Discussion

The investigation of post intrusion level of stress among experimental group revealed that the majority of the nursing students were having no stress. The research design adopted for this study was pre experimental one group pretest & posttest design. The total samples were 50. Probability sampling method, simple random sampling technique was adopted for selection of samples for the study. Modified student stress scale was used to assess the level of stress. Pranayama was demonstrated and made the students to practice in the evening between 5-6 pm for 25 days for those who have fulfilled the inclusion criteria and on 30th day post-test was conducted. The data was analyzed by using the descriptive and inferential. The findings of the study were discussed with references to the objectives and hypotheses of the study. Pretest the mean level of stress is 41.1 with standard deviation of 15.4, whereas in posttest the mean level of stress is 22.9 with standard deviation of 9.6. Calculated value of 'z' test for the effectiveness of pranayama on the level of stress is 7.6 and the table value is 1.26 (P=<0.001). As the calculated value is more than the table value there is a significant impact of pranayama on the level of stress.

In physiological dimension, pretest mean level of stress is 7.5 with S.D of 1.6 and in posttest physiological mean level of stress is 1.7 with S.D of 0.6. In psychological dimension, pretest mean level of stress is 6.7 with S.D of 1.9 and in posttest mean level of stress is 4.6 with S.D of 1.2. In academic dimension, pretest mean level of stress is 19.1 with S.D of 4.7 and in post-test mean level of stress are 8.4 with S.D of 5.1. In social dimension, pretest mean level of stress is 13.5 with S.D of 5.6 and in posttest mean level of stress is 7.6 with S.D of 2.4. So pranayama is very effective in reducing the level of stress. There is a statistically significant association between the posttest level of stress and socio demographic variables such mother's education, family income per month, selection of course and previous experience of hostel stay. There is a significant association between the pretest level of stress such as mother's education, father's education, family income per month, type of family and awareness about nursing profession. Non-significant variables such as religion, father's occupation, mother's occupation, medium of study in intermediate, source of information about nursing profession [1-13].

In pretest & post-test 15(25.25%) students had mild stress, 22(36.7%) students had moderate stress, and 25 (33.8%) students had severe stress. As the calculated value exceeds tabulated value there is a significant impact of pranayama on the level of stress. The data findings revealed that there was no significant association of post-test level of stress among experimental group with their selected demographic variables except year of study.

Conclusion

Pranayama is effective of this study, nursing students was current in reducing the stress. Hence the detective felt that, more significance would be given for duty of the stress of the nursing students.

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Ethical approval

The study was approved by the Institutional Ethics Committee.

Conflict of Interest

The authors declare no conflict of interest.

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