

A Study to Assess the Effectiveness of Pranayama on Stress among the Bsc.Nursing 1st Year Students in Selected Nursing Colleges of Jabalpur City

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Abstract:-

➤ Background:

Pranayama is one practice that is equally effective for physical and mental health. Aims of the study: To assess the pre and post level of stress among B.Sc Nursing students and effectiveness of pranayama on stress. Methods and Materials: A Pre -experimental design one group pre test and post test design was carried out to assess the effectiveness of Pranayama on level of stress in selected colleges of Nursing in Jabalpur city. Non-Probability- Purposive sampling technique was used for study. Subjects divided into one groups Pre-test and Post-test. In each group 40 sample were selected. Data collection tool included Self Structured Likert Stress Scale Questionnaire. Results: Findings shows that the mean Pre-test score was 50.22 and mean Post-test score was 43.22 and mean difference was 7 and Pre-test Sd score was 17.165, Post-test Sd score was 14.784, Sd differences was 2.381 and the calculated paired t-test value was 6.224, which is greater than the table value (2.02). Conclusion: After detailed analysis findings concluded that there is a significant reduction in level of stress after providing Pranayama among 1st year Bsc. Nursing students at Jabalpur city.

Keywords: Pranayam, Stress, Effectiveness, Nursing Students.

I. INTRODUCTION

Pranayama is one practice that is equally effective for physical and mental health. The Sanskrit word Pranayama contains two segments namely Prana (means vital force) and

Yama (means control). Pranayama consists of three phases: Purak (inhalation), Kumbhak (retention) and Rechak (exhalation). These can be practiced either alone or with combination which depends upon the type of pranayama. In human beings, the breath is an active connection between the body and mind while the Pranayama is considered as manipulation of one's own breathing. Different types of pranayama produce specific physiological responses and they greatly depend on type and duration of the practice. Nadisuddhi, Savitri, Kapalbhathi, Bhasrika, Bhramari Pranayama, and so on are well known among them.

Student nurses are suffering much stress in their academic life. The sources of stresses are academic, financials, parental expectations, grades, interpersonal relationships etc. Academic sources of stress like examinations, long hours of study, assignments and grades, lack of free time. And clinical sources of stress like while taking care of critically ill patients, insecurity about personal clinical competence, fear related to complete their clinical requirements, work overload, prolonged standing, develops high levels of stress.

In addition, stress leads to psychological morbidity which may have profound adverse consequences for individual nursing students. Nursing student's experiences of their clinical practice provide greater insight to develop an effective clinical teaching strategy in nursing education. They experienced stress as a result of feeling incompetent and lack of professional nursing skills and knowledge to take care of various patients in the clinical setting. There are numerous stressors for the students to develop stress in nursing education like, using critical thinking skills during their written examination. When compared with general

student population the nursing students perceive more stress. Time management can be a pressure as they have many tasks that must be accomplished in a short period of time. Students may face hostility or rejection from patients and their families. Many times the atmosphere on the nursing unit may be unfriendly or aloof, which adds to the student’s sense of self-doubt and insecurity. One major source of stress for nursing students is having various types of information to support critical thinking and decision-making while learning the nursing role. So many relaxation techniques are there to reduce the level of stress. So Pranayam is very much useful to reduce the level of stress. Naiemeh Seyedfatemi et.al.(2007) This study indicated that specific coping strategies (positive coping) not only reduces stress levels in nursing students but also moderates the effects of stress on their physiological and psychological well-being. West.J et.al. (2004) This study done in everyday life –in addition to the stressors mentioned above –nursing students may also be exposed to many other stressful situations which they may have never been previously exposed. Nursing students have to cope with the challenges of nursing education, examinations, assessment, placements and being worried about employment prospects. Lindop, E. (1999) This study conducted as Studies in nurses indicate that their physical, emotional, social and spiritual health is impaired by cumulative stress.

II. METHODOLOGY

This study conducted in a Jabalpur Institute of Health Science, Jabalpur among 1st year B.Sc Nursing students in selected Nursing College.

- *Dependent Variables:* Level of stress.
 - *Independent Variables:* Effectiveness of Pranayama.
 - *Socio-Demographic Variables :* Age, sex, Types of family, Fathers-Mother education, Fathers-Mothers occupation, Medium of instruction in school level, Family income per month, No. of siblings.
- *Objectives of the Study:*
- Assess the pre-test level of stress among 1st year B.Sc. Nursing students.
 - Assess the post-test level of stress among 1st year B.Sc. Nursing students.
 - Determine the effectiveness of Pranayama by comparing Pre-test and post-test stress level.
 - Find an association between pre-test stress levels with selected demographic variables.
- *Hypothesis:*
- *H₁:* There will be significant differences in mean Pre-test and mean Post test level of stress among the 1st year B.Sc. Nursing student.
 - *H₂:* There will be a significant association between the levels of stress and their demographic variables.
 - *Sample:* Those sample who are meeting the inclusion criteria for this study. It was Non-Probability- Purposive sampling technique and sample size was 40.

- *Inclusion Criteria:*
- The students belonging to first year B.Sc. Nursing.
 - Consented students who are willing to participate in the study.
 - The students who can listen and follow the instructions.
- *Exclusion Criteria:*
- Students who have prior knowledge & practicing Pranayama.

➤ *Tools:*
The Tools Consists of two Sections:

- *Socio-Demographic Data Sheet.*
 - *Self Structured Likert Stress Scale Questionnaire.*
- *Socio-Demographic Data Sheet:* Socio-Demographic datasheet Consists of Age, Sex, Religion, Medium of instruction, Types of family, Fathers occupation, Mothers occupation, Family income per month, No. of siblings.
 - *Self Structured Likert Stress Scale Questionnaire:* Self Structured Likert Stress Scale Questionnaires related to assess stress level among first year B.Sc. Nursing students. This scale is consisting of 21 items and tools divided in three domains e.g. psychological problems, Physical problems and Academic problems. Its four points rating scale and maximum score will be 84 and minimum 21. Divided the respondents stress level in four categories e.g. Never-1, Sometimes-2, Most of Time-3, Always-4.

LEVEL OF STRESS	SCORING
➤ No Stress	21
➤ Mild Stress	22-42
➤ Moderate Stress	42-63
➤ Sever Stress	64-84.

- *Procedure:*
Written permission to the Institutes prior to the data collection. 40 samples were selected for the study. The actual data was collected in April 11/04/18 to 24/04/18. Before data collection, informed consent was obtained from each respondent and confidentiality was assured to the subjects.
- *Statistical Analysis:*
- Data regarding sample socio-demographic characteristics was planned to analyzed using frequency and percentage.
 - The stress level assessed after giving intervention (Pranayama) among 1st year Bsc. Nursing 1st students. One group Pre-test and Post-test was planned to analyzed by frequency and percentage distribution.
 - The effectiveness of the Pranayama on stress was tested with the help of paired,tst- test.
 - Find out the association between pre-test level of stress with demographic variables.

III. RESULTS

Table 1 Description of Sample According to Socio-Demographic Variables (N=40)

Age in Years	Frequency	Percentage (%)
17-18 Years	25	62.5%
19-20 Years	14	35%
21-22Years	1	2.5%
23-24 Years	0	0%
TOTAL	40	100%
Sex	Frequency	Percentage (%)
Male	2	5%
Female	38	95%
TOTAL	40	100%
Medium of Instruction in school level	Frequency (N)	Percentage (%)
Hindi	33	82.5%
English	7	17.5%
TOTAL	40	100%
Education of Children's	Frequency(N)	Percentage (%)
After 12th	38	95%
After Graduation	2	5%
Others	0	0%
TOTAL	40	100%
Occupation of Mothers	Frequency(N)	Percentage (%)
House Wife	37	92.5%
Govt. Emp.	2	5%
Private Emp.	0	0%
Others	1	2.5%
TOTAL	40	100%
Occupation of Fathers	Frequency(N)	Percentage (%)
Labour	7	17.5%
Govt. Emp.	13	32.5%
Private Emp.	6	15%
Others	14	35%
TOTAL	40	100%
Types Of Family	Frequency(N)	Percentage (%)
Nuclear	24	60%
Joint	16	40%
Extended	0	0%
TOTAL	40	100%
Family Income Per Month	Frequency(N)	Percentage (%)
Less than Rs. 10000/-	19	47.5%
More than Rs.10001/-	21	52.5%
TOTAL	40	100%
No. of Siblings including Students	Frequency(N)	Percentage (%)
Single	5	12.5%
Two	11	27.5%
Three	13	32.5%
More than Three	11	27.5%
TOTAL	40	100%

Table no.1 shows out of 40 samples, the majority of samples belonged to age group of 17-18 years (25) that is 62.5% and 14 were between 19-20 years (14) that is 35% and only 1 was between 21- 22years 2.5% and none of them were between 23-24 years that is 0%. Gender of 40 samples, the majority of samples belonged to females (38) that is 95 % and 2 were from male that is 5%. In about medium of instruction of school majority of samples belonged to Hindi medium (33) that is 82.5 % and 7 were from English

medium that is 17.5%. In respect of education of children majority of samples joined nursing after 12th (38) that is 95 % and 2 were from joined after graduation level 5%. Regarding occupation of mother (37) that is 92.5 % were housewives and 2 were from Govt. Employee that is 5%, and only 1 from others that is 2.5% and about occupation of Fathers shows out of 40 samples the majority of samples belonged to others (14) that is 35 % and 13 were from Govt. Employee that is 32.5%,7 were from Labour that is 17.5%

and 6 were Private Employee that is 15%. In respect of the family type (24) that is 60 % belonged to Nuclear family and 16 were from Joint family that is 40%. In respect of family income majority of samples belongs to more than 10000/-Rs.(21) that is 52.5 % and 19 were from less than

Rs.10000/- that is 47.5%. Regarding sibling status of the sample majority of samples belonged to three siblings (13) that is 32.5 % and 11 were from More than three siblings that is 27.5%,11were from Two siblings that is 27.5% and 5 were from single that is 12.5%.

Table No 2 Frequency and Percentage distribution of Samples According to Level of Stress in Pre-test (N=40)

Stress Scale	Frequency (N)	Percentage (%)	Mean	Sd
No Stress	0	0%	50.22	17.165
Mild Stress	11	27.5%		
Moderate Stress	20	50%		
Sever Stress	9	22.5%		
Total	40	100%		

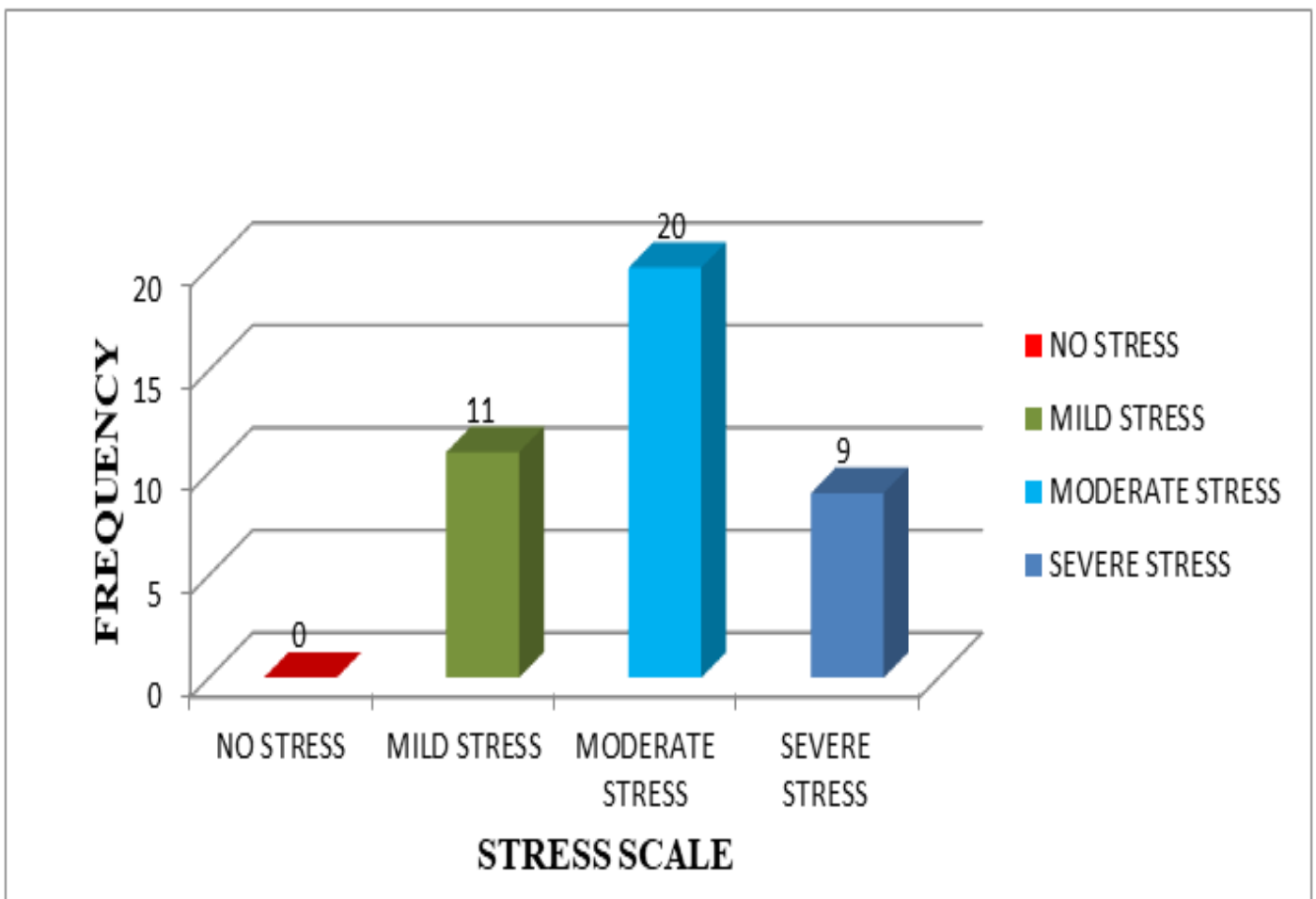


Fig 1 Bar Diagram showing the Level of Stress in Pre-test

Table No.2 and Figure No.1 Indicate that majority in level of stress had moderate stress which is 20 that is 50% and mild stress is 11 that is 27.5% and severe stress is 9 that is 22.5%, no stress was 0 that is 0% in Pre-test. Hence, objective no.1 is fulfilled.

Table 3 Shows Frequency and Percentage distribution of Sample According to Level of Stress in Post-Test (N=40)

Stress Scale	Frequency (N)	Percentage (%)	Mean	Sd
No Stress	6	15%	43.22	14.784
Mild Stress	17	42.5%		
Moderate Stress	15	37.5%		
Sever Stress	2	5%		
TOTAL	40	100%		

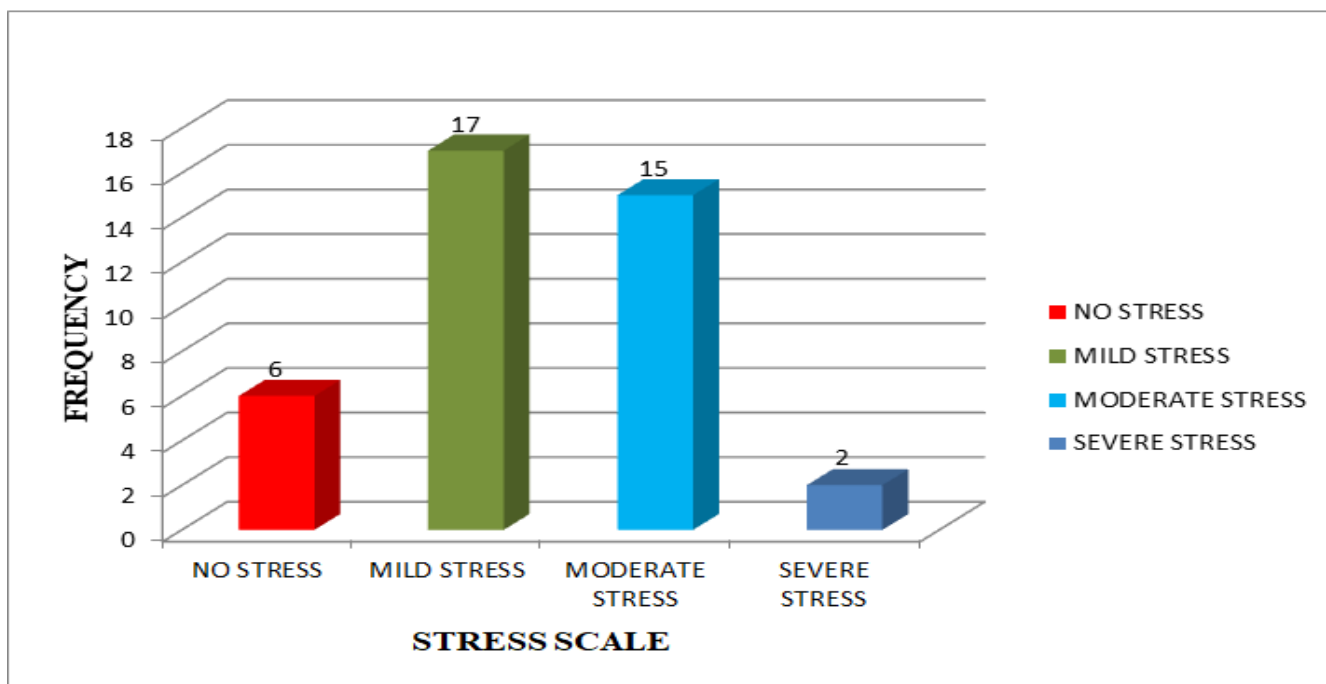


Fig 2 Bar Diagram showing the Level of Stress in Post-Test (N=40)

Table no.-3 and Figure no.-2 indicate that majority in level of stress had mild stress which is 17 that is 42.5 % and moderate stress is 15 that is 37.5% and no stress is 6 that is 15%, severe stress were 2 that is 5% in one group Post-test. Hence, objective no. 2 is fulfilled.

Table 4 Comparison of Sample According to Level of Stress in One Group Pre-test and Post-test (N=40)

Categories	Mean	Sd	Mean Diff.	Sd Diff..	t-test
Pre-Test	50.22	17.165	7	2.381	6.224
Post-Test	43.22	14.784			

(Result significant at 0.05* level)

Table no.4 shows Pre-test mean value is (50.22) and Post-test value is (43.22),Mean differences is 7.Sd1 value is (17.165),Sd2 value is (14.784) and SD differences is 2.381,paired t-test is 6.224. In this case the calculated value of “t” is higher than the table value. The t -value is 6.224, and table value is >2.02 .the result is significant at the level of 0.05.Hence H1 hypothesis is accepted.

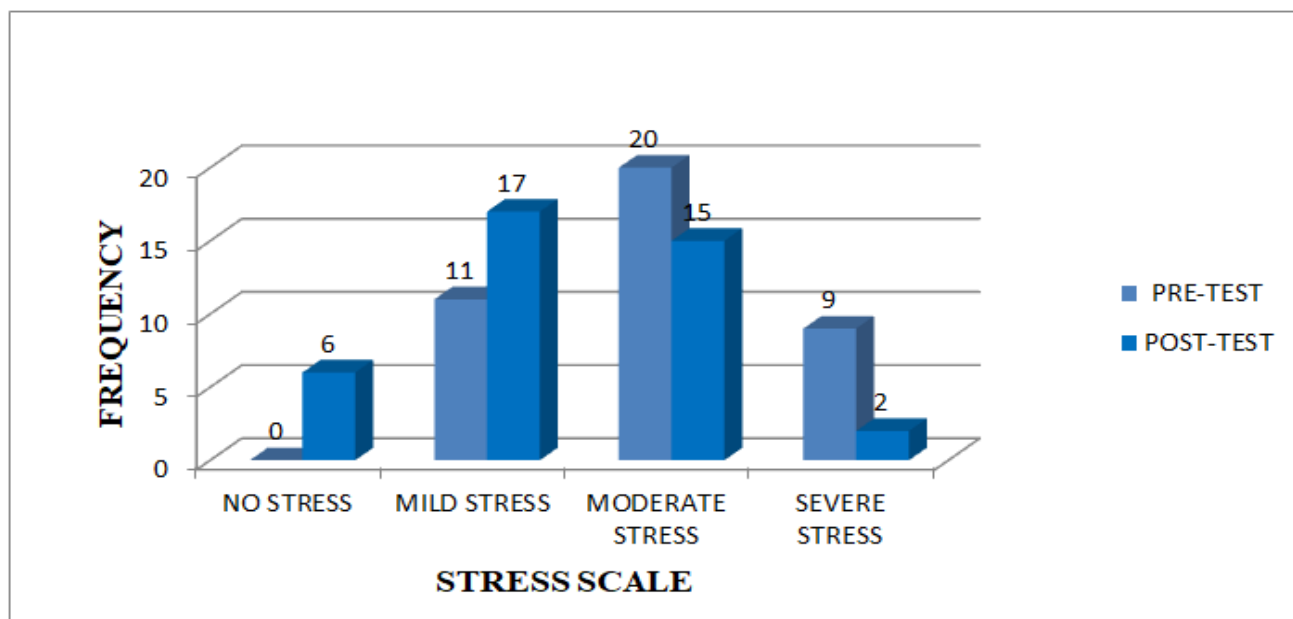


Fig 3 Bar Diagram showing the Comparison between the Level of Stress in One Group Pre-test and Post-test

IV. DISCUSSION

➤ *Description of Level of Stress in One Group Pre-test and Post-test among 1st year B.Sc Nursing Students:*

• *In Pre-test:*

The data presented in (Table no.2 and Figure no.1) level of stress in one group pre-test among 1st year Bsc. Nursing students Indicate that majority in Self Structured Likert Stress Scale had moderate stress which is 20 that is 50 % and mild stress is 11 that is 27.5% and severe stress is 9 that is 22.5%, no stress was 0 that is 0% .

• *In Post-test:*

The data presented in (Table no.3 and Figure no.2) indicate that majority in Self Structured Likert Stress Scale had mild stress which is 17 that is 42.5 % and moderate stress is 15 that is 37.5% and No stress is 6 that is 15%, severe stress were 2 that is 5% in one group Post-test. After the Post-test, stress level had reduced in the nursing students. So Pranayam is effective to reduce the stress as per the finding of this study.

➤ *Analysis of Data to Assess the Effectiveness of Pranayam on Stress among 1st Year Nursing Students:*

The findings shows that mean Pre-test stress level (50.22) was higher than the mean Post-test (43.22),The Pre-test score (Sd=17.165) was more than Post-test score (Sd=14.784) and Sd difference was(2.381).After applying the paired 't' test the 't'-value calculated (t=6.224), greater than table value:'t'₃₉=2.02p<0.05) computed with mean difference (7) in pre-test stress scores and post-test stress scores ,this reveals that on the conventional criteria, this difference was considered to be statistically significant. Pranayama was effective for reducing stress among 1st year Bsc. Nursing students. Hence H₁ hypothesis was accepted.

Gupta N et.al. (2006) evaluated the effect of Hatha Yoga on Stress and Recovery of Female Collegiate Athletes and findings suggested that Hatha yoga practice appears to decrease stress in collegiate female athletes. Thus, appropriate incorporation in the training program may reduce negative effects of overtraining.

Kumar Kamakhya (2008) examine the efficaciousness of yoga and exercise in acutely improving mood in non-depressed participants. Both yoga and exercise improved these mood states. Exercise and yoga reduce depression, tension, confusion, anxiety and anger. Both are invigorating to participants and provide an uplifting effect and increase in feelings of positivity; they would be a viable method of self-treatment for people experiencing low mood.

Naiemesh et.al (2006) A study about experienced stressors and coping strategies among Iranian nursing students. Most students reported finding new friends (76.2%), working with people they did not know (63.4%) as

interpersonal sources of stress, new responsibilities (72.1%), started college (65.8%) as intrapersonal sources of stress more than others. The most frequent academic source of stress was increased class workload (66.9%) and the most frequent environmental sources of stress were being placed in unfamiliar situations (64.2%) and waiting in long lines (60.4%). Interpersonal and environmental sources of stress were reported more frequently than intrapersonal and academic sources.

V. CONCLUSION

As a student you face many challenges and stressors. However, as a “nursing” student you are likely to experience even “more stress”. Clinical practice, difficult patients, discomfort at being evaluated by faculty members, worrying about giving patients the wrong information or medications and concern about possibly harming a patient are just a few of the stressors for the beginning student nurse. Breathing exercises, regularly practice of Pranayam are very much effective to reduces stress in this study.

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