

# Effectiveness of Selected Yoga Practices on the level of stress among student nurses in selected Nursing Educational Institution, Dehradun

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**Abstract:** *Background: In alternative and complementary therapies yoga is the top treatment modality, especially to maintain and promote the psychological wellbeing of human beings. studyThe study was planned to measure the effectiveness of systematically planned yoga programs on the psychological wellbeing of nursing students. Methodology: Quantitative approach with Randomized controlled trial was used to test systematically planned yoga programs on the psychological wellbeing of nursing students. Eighty-eight first-year diploma and undergraduate nursing students were selected by Simple Random (Lottery Method) technique but the study was completed with seventy-one nursing students. Physically and mentally healthy students, initial learners of Yoga, willing to give consent for the study and students who can read and understand Hindi language were included in the study. Subjects were randomly assigned to the experimental and control group. Data were collected from the participants by using standardized tools PANAS & PSS. The intervention selected for the present study was selected yoga practices. Systematically planned fifteen hours yoga training program was implemented to the experimental group. The level of practice increases progressively over the four and a half weeks. Assessment made with the tools in three times i.e Baseline, one month and two months. Besides, optional Yoga practices were facilitated and monitored in 6 days in a week within the hostel premises for the entire data collection period. This was motivated students to enhance their yoga practices. Results: In the experimental group, positive affect/ perceive mean score shows the significant improvement ( $p = 0.0001$ ) in three levels and negative affect/ perceive mean score show the significant reduction ( $p = 0.0001$ ) in three levels. The inferential statistics of the control group depicts that not statistically significant found in a decrease of negative affect/perceive mean score as well as in increasing positive affect/perceive mean score in the three levels of the control group. Conclusion: Student nurses practiced regular yoga practices shown remarkably improved positive emotions and reduced negative emotions and improve the general sense of wellbeing among student nurses. So, yoga can be included as a part of the curriculum to enhance the wellbeing of the students.*

**Keywords:** *Negative Emotion, Positive Emotion, Student Nurses, Yoga Practices.*

## Introduction

Every professional gives their best in their field. Nursing is a service-oriented profession. In the inception research studies of every profession, there is a transition that makes a person

undergo several stressors. Student nurses need a sufficient period to become custom to such stressors. Thereby, it is necessary to learn and to cope with their stress through stress management techniques. According to research McEwen et al, stress defined as a psycho-“physiological process, usually experienced as a negative emotional state”.<sup>(1)</sup>

According to Nagarathna et al, who used yoga to study, “stress is not viewed as a singular event, but as a transaction between an individual and the environment that makes a demand on all available coping resources of the body-mind complex which involves cognitive appraisal and coping processes. Their research showed that when these resources are taxed and the responses exceed the coping abilities and can result in distressful negative emotions”.<sup>(2)</sup>

The ability of students’ academic achievements or level of knowledge and skill in curricular activities will be usually measured by standardized examinations which will be expressed in grades based on preset norms and regulations.<sup>(3)</sup> Research studies reveal that not only the high degree of stress will affect academic performance also, even low & moderate levels of stress will interfere with the academic achievement of the students.<sup>(4,5)</sup> And cognitive response to these stress leads to poor in the concentration of students.<sup>(6)</sup>

Further research depicts that “Unsuccessful coping of stress may lower self-esteem, depress the quality of relationships with others and may lead to anxiety and depression that narrows the attention, facilitates withdrawal behavior in situations that threaten survival”.<sup>(7)</sup> Research done in the 1990s found that those people tend to face the life problems and challenges through humor reported higher positivity in their life i.e mood, emotions, hope and also these humor tendency will give many health benefits..<sup>(8,9)</sup> Compared with stress been induced in laboratories for the research purpose the students perceived stress during their examination will be the best naturalistic stress situation to study the effect of selected interventions.<sup>(10)</sup>

Yoga is one of the best therapy among five alternative and complementary therapies. These yoga practices have been developed ten hundred years ago but it’s now it is known as the form of treatment of many diseases. Because it covers not only the psychological aspects of the human being also it covers the physical, emotional and spiritual features of the people’s disease and health.<sup>(11)</sup>

A psychobiological study done by Singh and his team found that continuous 180 days of yoga practices i.e. relaxation, asanas and breathing exercises convey the sense of wellbeing, maintaining body weight, increase the core vital capacity, boosting the endocrinal functions and improve the memory.<sup>(12)</sup> The benefits of improvement in positive affect and reduction of negative affect can improve the quality of life among healthy and sick people resulting in improvement of immunity,<sup>(13)</sup> better respiratory function and increased lifespan.<sup>(14)</sup>

The main goal of any stress management technique is to improve the positive wellbeing and decrease the negativity in the human life. In the present study also, the researcher tested the same whereas the nursing student's positive and negative wellbeing have been examined before and after systematically planned yoga program implementation for 90 mins twice in a week for four and a half weeks.

Therefore, the practice of yoga including relaxation may be very useful in controlling the mind and keeping it in a state of peace and tranquility, even under stressful situations and thus help an individual to adequately cope with the environment. Nursing students are experiencing stress during the course because of a huge academic curriculum, educational competition and examinations. This may in turn interfere with their performance and make them more prone to

develop psychosomatic disorders. This study hypothesized that regular practice of yoga including relaxation may be useful in attenuating the increase in anxiety level and sympathetic discharge. This in turn may improve their academic performance and make them less vulnerable to psychosomatic disorders.

**Objectives**

1. To study the effectiveness of a systematically planned yoga program on the psychological wellbeing of nursing students.
2. To ensure the validity/ reliability of the mental affective measurements (PANAS & PSS).
3. Study the Adherence of the intervention.

**Hypothesis**

H<sub>1</sub>: There will be significant mean scores reduction in the level of stress of pre and post sessions of Yoga training program.

**Methodology**

A quantitative approach with a Randomized controlled trial was used to test systematically planned yoga programs on the psychological wellbeing of nursing students. Eighty-eight first-year diploma and undergraduate nursing students were selected by Simple Random (Lottery Method) technique but the study was completed with seventy-one nursing students. Physically and mentally healthy students, initial learners of Yoga, willing to give consent for the study and students who can read and understand Hindi language were included. Subjects were randomly allocated to the experimental and control group. After taking permission from the ethical committee and administrative authorities data were collected from the participants by using standardized tools PANAS & PSS. The intervention selected for the present study was selected yoga practices. Systematically planned fifteen hours yoga program was implemented to the experimental group. The level of practice increases progressively over the four and a half weeks. Assessment made with the tools in three times i.e Baseline, one month and two months. Also, optional Yoga practices were facilitated and monitored in 6 days in a week within the hostel premises for the entire data collection period. This was motivated students to enhance their yoga practices. Due to drop out of the students the sample size from 88 reduced 71.

**Results**

Demographic variables of the study participants show that most (92%) of the student nurses belong to the age between 18 – 21years & most (88%) of the student nurses were females.

**Table 1. Effect of Yoga on positive emotions by comparing the Positive PANAS & Positive PSS scores in the experimental group**

Positive PANAS				Positive PSS			
Levels	Mean ± SD	F	‘p’	Levels	Mean ± SD	F	‘p’
Baseline	33.2 ± 4.9	10.75	0.0001	Baseline	25.7 ± 4.5	22.3	0.0001
1 <sup>st</sup> Phase	37.2 ± 3.6			1 <sup>st</sup> Phase	30.15 ± 3.7		
2 <sup>nd</sup> Phase	34.0 ± 5.8			2 <sup>nd</sup> Phase	25.8 ± 4.5		

n=37

Table number 1 shows the effect of yoga on positive emotions by comparing the positive PANAS & Positive PSS scores in the experimental group. The mean positive PANAS score in baseline, first phase & second phase is  $33.2 \pm 4.9$ ,  $37.2 \pm 3.6$  &  $34.0 \pm 5.8$  respectively. From the baseline to 1<sup>st</sup> phase the mean score increased due to the effect of yoga and again it reduced in the third phase due to the non-adherence of practice. Positive PSS score also revealed the same, the baseline score is  $25.7 \pm 4.5$  and increased to  $30.15 \pm 3.7$  in the first phase & reduced to  $25.8 \pm 4.5$  in 2<sup>nd</sup> phase. Both Positive PANAS and Positive PSS show a significant difference in three levels which revealed the effectiveness of yoga on positive emotions in the experimental group.

**Table 2. Effect of Yoga on positive emotions by comparing the Positive PANAS & Positive PSS scores in the control group**

n=34

Positive PANAS				Positive PSS			
Levels	Mean $\pm$ SD	F	'p'	Levels	Mean $\pm$ SD	F	'p'
Baseline	35.2 $\pm$ 6.4	0.163	0.850	Baseline	25.7 $\pm$ 4.5	0.54	0.57
1 <sup>st</sup> Phase	35.3 $\pm$ 6.3			1 <sup>st</sup> Phase	25.8 $\pm$ 4.3		
2 <sup>nd</sup> Phase	35.8 $\pm$ 6.7			2 <sup>nd</sup> Phase	26.4 $\pm$ 3.6		

Table No: 2 shows the effect of yoga on positive emotions by comparing the positive PANAS & positive PSS scores in the control group. The mean positive PANAS score in baseline, first phase & second phase is  $35.2 \pm 6.4$ ,  $35.3 \pm 6.3$  &  $35.8 \pm 6.7$  respectively. The mean positive PSS in baseline, first phase & second phase is  $25.7 \pm 4.5$ ,  $25.8 \pm 4.3$  &  $26.4 \pm 3.6$  respectively. Both Positive PANAS and Positive PSS show no statistically significant differences in three levels of the control group.

**Table 3 Effect of yoga on negative emotions by comparing the negative PANAS & negative PSS scores in the experimental group**

n=37

Negative PANAS				Negative PSS			
Levels	Mean $\pm$ SD	F	'p'	Levels	Mean $\pm$ SD	F	'p'
Baseline	20.18 $\pm$ 6.7	7.8	0.001	Baseline	20.35 $\pm$ 4.4	7.5	0.001
1 <sup>st</sup> Phase	15.10 $\pm$ 5.9			1 <sup>st</sup> Phase	18.94 $\pm$ 4.4		
2 <sup>nd</sup> Phase	16.6 $\pm$ 6.7			2 <sup>nd</sup> Phase	22.16 $\pm$ 4.6		

Table No: 3 shows the effect of yoga on negative emotions by comparing the negative PANAS & negative PSS scores in the experimental group. The mean negative PANAS score in baseline, first phase & second phase is  $20.18 \pm 6.7$ ,  $15.10 \pm 5.9$  &  $16.6 \pm 6.7$  respectively. From the baseline to 1<sup>st</sup> phase the mean score reduced due to the effect of yoga and again it increased in the third phase due to the non-adherence of practice. Negative PSS score also revealed the same, the baseline score is  $20.35 \pm 4.4$  and reduced to  $18.94 \pm 4.4$  in the first phase & increased to  $22.16 \pm 4.6$  in 2<sup>nd</sup> phase. Both negative PANAS and negative PSS shows a significant difference in three levels which revealed the effectiveness of yoga on negative emotions in the experimental group.

**Table 4. Effect of yoga on negative emotions by comparing the negative PANAS & Negative PSS scores in the control group**

Negative PANAS				Negative PSS			
Levels	Mean ± SD	F	'P'	Levels	Mean ± SD	F	'p'
Baseline	21.3±8.5	3.5	0.38	Baseline	25.7±4.5	0.54	0.57
1 <sup>st</sup> Phase	20.2±7.1			1 <sup>st</sup> Phase	25.8±4.3		
2 <sup>nd</sup> Phase	18.3±6.3			2 <sup>nd</sup> Phase	26.9±3.6		

Table 4 shows the effect of yoga on negative emotions by comparing the negative PANAS & negative PSS scores in the control group. The mean negative PANAS score in baseline, first phase & second phase is 21.3 ± 8.5, 20.2 ± 7.17 & 18.3 ± 6.3 respectively. The mean negative PSS in baseline, first phase & second phase is 25.7 ± 4.5, 25.8 ± 4.3 & 26.9 ± 3.6 respectively. Both negative PANAS and negative PSS shows no statistically significant difference in the negative emotion score of the control group.

**Table 5. Correlational status between PANAS Vs PSS**

Levels	Experimental Group				Control Group			
	Positive Score		Negative Score		Positive Score		Negative Score	
	r	p	r	p	r	P	r	p
Baseline	.35	.04	.8	.0001	.6	.007	.5	.04
1 <sup>st</sup> Phase	.7	.003	.8	.0001	.5	.009	.7	.005
2 <sup>nd</sup> Phase	.8	.0001	.7	.006	.7	.004	.7	r0.005

Table No: 5 shows the co relational status between PANAS and PSS. Karl Pearson's rank correlation was computed to find the relation between the tools PANAS and PSS. It depicts that statistically positive relationship found between the positive affect and negative affect scores of PANAS & PSS in all three levels of both experimental and control groups. It can be interpreted that the reliability of the study variable i.e positive and negative emotions been measured in the study were consistent with each other among both the tools (PANAS & PSS)

### Discussion

The study result shows that more than one month of yoga practices i.e. systematic relaxation, diaphragmatic exercise and range of motion exercises significantly effective in improving psychological well-being and reduce the stress-related symptoms of student nurses. These findings were consistent with a study done by Montreal and his team in 2013 states that structured yoga intervention was significantly effective in reducing perceived stress from baseline to end of the intervention among female first-year medical students. <sup>(5)</sup>

In 2015 study conducted by A. Malathi and A. Damodaran reported that after the continuous formal yoga classes the study participants been observed significant improvement in relaxation, calmness, ability to concentrate and stamina. Also, the number of yoga classes and the duration of yoga practice significant relationship with the outcome of study variables ( $p < 0.01$ ).<sup>(6)</sup>

### Strengths

- Samples were randomly selected from the population.
- Two different tools were used to measure the affective domain.
- Intervention done by the field of certified experts.

### Limitations

- One setting only.
- Only first-year B.Sc. (N) students.

### Recommendations

- Implementing in nursing curriculum.
- Research study on developing adherence strategies.

### Conclusion

Student nurses practiced regular yoga practices shown remarkably improved positive emotions and reduced negative emotions and improve the general sense of well being among student nurses. So yoga can be included as a part of the curriculum to enhance the well being of the students.

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**Ethical statement:** This study was approved by the institutional ethical committee and the prior consent of the patient of the patients was taken before the collection of samples.

**Conflict of interest:** The author declares that there was no conflict of interest.

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