

# Prevalence of Depressive Symptoms and Effectiveness of Yoga on Depressive Symptoms among Professional Students of selected Institutions at Mangalore, South India

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## ABSTRACT.

### Introduction:

No one is inborn immunized to emotional disturbance, each individual is prone to it. Yoga practice was adopted in the educational institutions as mandatory in the Vedic period, as a process to take care of all dimensions of health of the students to achieve their destination. Nowadays it is challenging to the student fraternity to overcome the challenges in the competitive world and to live successfully by balancing their overall health.

### Aims:

To find the prevalence of depressive symptoms among professional students, to determine the effectiveness of Yoga on depressive symptoms from the selected professional institutions. To find the association between depressive symptoms with selected demographic variables.

**Materials and methods:** Descriptive survey with evaluative research approach was adopted. The data were collected through the Beck Depression Inventory and Demographic proforma. Intervention was given for 8 consecutive weeks for the subjects who were identified with mild to moderate depressive symptoms. Posttest was done 1 week after the intervention.

**Results:** The study revealed that; the prevalence rate of depressive symptoms was 67.08%. There was a statistically significant ( $P \leq 0.001$ ) reduction in the mean scores of depressive symptoms among the subjects from the pre intervention to posttest after the 1 week of intervention. A significant association was found with living status of parents, and history of mental illness in the family and depressive symptoms and the  $\chi^2$  values are  $p \leq 0.05$ . The Yoga was very effective in reducing the depressive symptoms of the professional students.

**Key words:** Prevalence, Depressive symptoms, professional students, Yoga.

## INTRODUCTION & BACKGROUND OF THE STUDY.

Around 121 million people worldwide are affected by depression. A chance for suicide is more among people with severe depression and around 8, 50,000 commit suicide every year. The depression rate elevated to 28% compared to the previous year (20%) and was still more in developed countries. China had the lowest incidence of depression, which was around 12%, but it was 36% in India<sup>1</sup>. The depression rate is increasing amazingly in children; it is approximately 23% per annum<sup>2</sup>.

A research survey report on depression of medical professional students in Karnataka showed about 71.25%<sup>3</sup>, on the other hand, among general college going students in South India found to be 79.2%<sup>4</sup>. There are substantial facts among medical professional students about suicide and depression and it is high among medical professional students and it has been increasing<sup>5</sup> and they experience high levels of depression rate than the general population<sup>6</sup>. In India, the four southern states contribute nearly 40% of the nation's suicide statistics and Bangalore is the capital city of suicide<sup>7</sup>.

Around 16 students per day or 5,857 in a year committed suicide across India, secondary to academic stress. One of the researchers reported that; 16% of the students from Bombay were depressed, when compared with the United States of America's Boston's students, it is more than 2% and 8% of them were suicidal. It was also noted that; among every days suicidal rate, i.e. 95-100, 40% of them belong to adolescent age group<sup>8</sup>. Currently, 80% of the people with depression are not receiving any form of treatment<sup>9</sup>. The whole globe is burdened with a disease, i.e. depression; all most all people from different communities across the world are affected by depression<sup>10</sup>. Especially individuals who born in the later part of the 20<sup>th</sup> century are at a higher risk of mood disorders<sup>11-13</sup>.

Major depression was fourth in number for the highest source of Disability Adjusted Life Years (DALYs) in 1990 and it is estimated to rise to number 2 by 2020<sup>14</sup>. Among the young general population, one out of every five and one out of four young college students suffers one or the other diagnosable psychiatric illness. Suicide is considered as the second leading cause of death in young college students<sup>15</sup>. Researchers reported that; academic performance and retention of the college students have a negative impact on mental health issues<sup>16, 17</sup>.

Many research studies have reported and published regarding the sobering efficacy of psycho pharmacotherapy<sup>18</sup>. The role of psychotherapeutic strategies is very much necessary in the management of affective disorder. Psychosocial therapies (Yoga, counselling, psychotherapy CBT and others) have confirmed to be at least corresponding to antidepressant prescription in the management of mild to moderate level of depressive disorder<sup>18</sup>. Research in this area is relatively new, but psycho-social interventions are being developed and tested: Preliminary evidence, where available, indicates that these interventions are feasible, well-received by families, and associated with positive outcomes<sup>19</sup>.

**OBJECTIVES:**

1. To find the prevalence of Depressive Symptoms among professional students.
2. To find the effectiveness of Yoga on Depressive Symptoms.
3. To find the association between Depressive Symptoms with selected demographic variables.

**MATERIALS AND METHODS:**

The study adopted descriptive survey with evaluative approach and the true experimental research design. Setting of the study i.e. Two selected nursing colleges were selected conveniently. The subjects of the study were selected purposively.

**Tool:**

Modified Beck Depression Inventory (BDI). It consists of section A. Demographic Performa with 19 items. Section B. BDI scale to determine the depressive symptoms with 21 items, having maximum score 63. The reliability of the scale was established using Cronbach’s alpha method and obtained r value (r=.85).

The study was conducted in two stages. **Stage 1:** The target population was all four batches of B.Sc. Nursing students consisted of 400 respondents and the available subjects during the time of the study were 325. All the 325 subjects were screened for depressive symptoms and 218 of them were found as mild to moderate depressive symptoms. Out of 218 subjects, 16 of them did not come under inclusive criteria and two were not interested to participate in the study, hence they were not included in the study. **Stage 2:** The total 200 subjects were finally selected to participate in the study, 200 subjects were further divided into 3 intervention groups and 1 control group, each group with 50 subjects, since the investigator wanted to find out the effectiveness of different modalities ((a). Yoga, (b). Counselling and (c).Yoga with counselling in reducing the depressive symptoms of the subjects having one control group. In the present article the authors wish to discuss the effectiveness of selected asanas of Yoga in reducing the depressive symptoms of the subjects.

A lecture on selected asanas of yoga was delivered to the subjects followed by demonstration. The researcher ensured that the subjects learnt the asanas well. The selected asanas were warm up exercises, 15 asanas and pranayamas. Interventions under the direct supervision of investigator were given continuously for 8 weeks. The duration was for about 1hour. In a week 6 days the subjects were doing the interventions. Researcher had undergone a training programme in Yoga. Post-test was conducted for the intervention group as well as for the control group in the following week (7<sup>th</sup> day after the intervention). The data were analyzed by using descriptive and inferential statistics. After completion of the study control group subjects were also given similar intervention as that of the experimental group.

**ANALYSIS AND INTERPRETATION.**

**Significant demographic characteristics.**

Majority (97%) were females, 55% were aged between 17 to 20 years, majority (55.4%) subjects had an academic score between 61-70%. Majority (89.56%) were from nuclear families, 42% parents’ educational status was higher secondary, 10.8% of the subjects’ parents had some or the other diagnosed illness. 3% had a family history of mental illness; 89% subjects were staying in a hostel, 2.2% had the history of substance use.

**Table 1: Prevalence of Depressive symptoms among professional students.**

n=325		
Depressive Symptoms	f	%
Normal (0-15)	107	32.92
Mild (16-30)	174	53.54
Moderate (31- 40)	44	13.54
Total	325	100.00
Mild + Moderate Depressive Symptoms.	174+44=218	(67.08%)

Data presented in Table 1 shows that; 53.54% were with mild depressive symptoms and 13.54% were with moderate depressive symptoms. In this study, results revealed that around 67.08 % of the subjects had mild to moderate depressive symptoms.

**Table 2: Pattern of distribution of Depressive Symptoms scores among professional students in experimental and control group before and after intervention.**

Groups	Depressive Symptoms Level	n=100			
		Pre Test		Post-test	
		f	%	f	%
Experimental Group	Normal	-	-	38	76
	Mild	42	84	12	24
	Moderate	08	16	-	-
Control Group	Normal	-	-	05	10
	Mild	41	82	35	70
	Moderate	09	18	10	20

In the pretest, among the experimental group, majority (84%) were with mild depressive symptoms and 16% were with moderate symptoms and in the control group 82% were with mild depressive symptoms and 18% with moderate symptoms.

**Table 3: Effectiveness of Yoga on Depressive symptoms.**

Groups	Test	Mean	Standard Deviation	Mean Difference	't' Value	df	n=100
							P Value
Experimental	Pre	24.54	6.22	11.40	15.784	49	0.001 P<0.05*
	Post	13.14	5.15				
Control	Pre	23.16	6.39	-1.22	1.47	49	0.103 P>0.05 NS
	Post	24.38	6.93				

't'49 =2.02

\* Significant

Data presented in the table 3 shows that the mean pre-test and post-test scores of the experimental and control groups were significantly different. Experimental group ('t'=15.784, P<0.001), had significant difference, however, there was no significant difference in the pre-test and post-test scores of control group ('t'= 1.47, P>0.103). The calculated "t" value was more than the table value at 0.001 level of significance in the experimental group. Thus the intervention was found to be effective in improving the level of depressive symptoms among the subjects.

**Table 4: Association between depressive symptoms and selected demographic variables:**

Sl.No.	Area	df	Chi square Value	P Value Significance	n=100	Level of
1	Living status of parents	1	4.303	0.038, P<0.05, S.		
2	Family history of mental illness	2	6.833	0.017, P<0.05, S.		

S=Significant.

There was significant association observed between depressive symptoms and family history of mental illness and living status of parents at 0.05 level of significance.

#### DISCUSSION:

In the present study out of 325 subjects, 218 (67.08%) subjects were noticed with mild to moderate Depressive Symptoms. The present study depicts that, maximum number of the students' depressive symptoms was mild to moderate level and signifies that; family history of mental illness, living status of parents, hostel life, nuclear family system and academic performance, type of family, stay type, socioeconomic status and locality influences the depressive symptoms. The findings are consistent with the study conducted in similar settings at globally in different times and their results show that; the prevalence of depression or depressive symptoms range from 22.5% to 71.25%. And it was influenced by female gender, immigration from outside, high workload, dissatisfaction with education, low self-efficacy, in those who reported stressful events and conflicts between personal and college demands were associated with high prevalence of depression<sup>20, 21, 22-24</sup>.

In the present study the effectiveness of selected asanas of Yoga and pranayama intervention on depressive symptoms depicts that: Overall the study subjects perceived depressive symptoms significantly reduced from a mean score of 24.54 ± 6.22 to 13.14 ± 5.15 and the mean difference is 11.40 after 8 weeks of intervention. The findings were statistically associated with demographics like; family history of mental illness and living status of parents with depressive symptoms. Similar study findings are observed in many studies.

One among them was conducted by National survey of yoga practitioners Mental and physical health benefits Complementary Therapies in Medicine in 2013 and it reported a significant difference between the pretest and the posttest depressive symptoms scores of the participants after Yogic intervention and difference was found to be highly significant ( $P < 0.001$ )<sup>25-27</sup>.

#### **IMPLICATIONS:**

**Nursing service:** The findings will help the nursing professionals working in hospital or community setup; as a school health nurse to screen the students and implement psychosocial interventions as a measure of promoting emotional wellbeing.

**Nursing education:** Nurse educators can use these findings to screen their students and to utilize or adopt Yoga as a safest measure to treat the depressive symptoms among the student community.

**Nursing Research:** The study findings could be use to promote emotional well being of fresher's, students those who have low achievement, students those who have significant ups and downs. A large scale study can be conducted to standardize the procedure for reducing depressive symptoms at various levels.

#### **CONCLUSION**

The present study provides evidence regarding improvement in the depressive symptoms of the professional students. **Conflict of interest:** None. **Grant/fund:** No fund has been adopted from any source and this is a one part study of a dissertation submitted to *Nitte University* for Ph.D Nursing Program. **Ethical clearance:** The ethical clearance was obtained after the proposal. The written permission was obtained from the head and board of management colleges from Mangalore. Consent and willingness were established from all the subjects who met inclusion criteria. The findings suggest that; high levels of emotional distress exist in professional students during their course of study. This study provides factual information about the psychosocial intervention to improve depressive symptoms.

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