Original Research Article

Study of stress, anxiety, depression and coping strategies among nursing students in a tertiary care teaching hospital, South India

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ABSTRACT

Background: Nursing students are at extremely high risk for experiencing stress, anxiety, and depression due to their varied circumstances. Indian studies has revealed, moderate stress among 77-82% of nursing students. The better the nursing students can manage their stress and anxiety and adopt healthy coping strategy, the more successful they can be in their clinical training and academic performance. Objective of the current study was to estimate the prevalence of depression, anxiety, and stress among the BSc nursing students and its association with socio-demographic and academic factors and to find the coping strategies adopted by them.
Methods: A cross sectional study was conducted among 149BSc nursing students in a teaching hospital in Hyderabad. The data was collected by pre-validated questionnaire with 3 parts. Part I: socio-demographic and academic parameters, part II: psychological information (DASS-21) and part III: coping strategies (brief COPE). Data was analysed using SPSS version 24.The percentages of stress, anxiety and depression was found and categorised to mild, moderate, severe and extremely severe and associations analyzed with Chi-square test. The mean score and percentages were calculated for coping strategies.
Results: The mean age of nursing students was 20±1.6 years. The proportion having depression, anxiety and stress were 67.7%, 85.3% and 46.9% respectively. The coping strategies 'used a lot' were spirituality (43.6%), Information support (30.9%) and active coping (28.2%). The study showed depression (p=0.05) and stress (p=0.002) to be higher among 2nd and 4th year students. Lack of leisure time (p=0.036) and difficulty in academics (p= 0.017) were identified as stressors.
Conclusions: This study noted high levels of psychological disturbances among nursing students. There is urgent need to plan stress management programmes with peer instructors, mentorship, more leisure and outdoor learning activities.

Keywords: Depression, Anxiety, Stress, Coping strategy, Nursing students

INTRODUCTION

Nursing students are at extremely high risk for experiencing increased levels of stress, anxiety, and depression due to their varied circumstances.[1-3] The transition from adolescent to adult life, away from home support system, adjusting to new environment, academic expectations, obligation to succeed, dealing with patients and their relatives, uncertainties regarding future, financial pressure, perceived Low self-esteem, etc are found to be the contributing factors.[4-10] Stress during the academic years is the major factor of anxiety and depression among nursing students. Indian studies conducted in Delhi and Rajasthan had revealed moderate degree of stress present among 77% and 82% of nursing students respectively.[11,12] Stress is the negative feelings and beliefs that occur whenever people feel unable to cope with demands from their environment. Anxiety is an

emotion characterized by feelings of tension, worried thoughts, and physical changes in the body. Depression is a common mental disorder, characterized by sadness, loss of interest, feelings of guilt, low self-worth, disturbed sleep, and poor concentration. It substantially impairs an individual's ability to function or cope with daily life.[13,14]

Three main groups of stressors have been identified among nursing students such as academic stressors, clinical stressors, and personal stressors. The academic stressors include testing and evaluation, fear of failure in training, problems with workload, etc. The clinical stressors include hospital work, fear of making mistakes, negative responses to the death or suffering of patients, dealing with patient's relatives etc. whereas personal stressors include economic problems, imbalance between housework, schoolwork, etc.[15] Coping strategies are the specific efforts that people employ to reduce or minimize stressful events. Two general coping strategies have been distinguished: problem-solving strategies which include efforts to do something active to alleviate stressful circumstances, whereas emotion-focused coping strategies which involve efforts to regulate the emotional consequences of stressful events. Active coping, emotional support, positive reframing, behavioural disengagement, etc. are few coping strategies adopted by nursing students.[16-17] The better the nursing students can manage their stress and anxiety and adopt healthy coping strategy, the more successful they can be in their clinical training and academic performance.

Aim and objectives

Objectives of current study were to estimate the prevalence of depression, anxiety, and stress among the BSc nursing students in a tertiary teaching hospital in Hyderabad and also to find out its association with socio-demographic factors and academic factors. It was also aimed to find the coping strategies adopted by them in dealing with the stress.

METHODS

A cross sectional study was conducted among the students of BSc nursing (4 years course) in a nursing college affiliated to a tertiary teaching hospital in Hyderabad from December 2017 to July 2018. All nursing students who gave consent for study were included and those students with history of psychiatric disorder were excluded from the study. Total students participated were 149, which included 32, 46, 34, 37 students from 1st, 2nd, 3rd, and 4th year respectively. The study participants were explained about the purpose of the study. Informed written consent was taken prior to administering the questionnaire.

Study tools and data collection

The data were collected by a pre validated and self-administered questionnaire. The questionnaire included 3

parts. Part I comprise Socio-demographic and other academic parameters, part II consisted the three domains of psychological information such as the stress, anxiety and depression (DASS-21) and part III comprised the coping strategies adopted by the nursing students for management of stress (brief COPE).[18,19] The information on mental status over the last week was collected by using depression, anxiety, and stress scale (DASS-21) on a Likert scale of 0 to 3 (0=never applied, 1=applied sometimes, 2=applied often, 3=applied almost always). The scores ≥10, ≥8, ≥15were considered as depressed, anxious, having symptoms of stress, respectively. The total scores in each category were added to categorise the severity of each symptoms as normal, mild, moderate, and severe. Brief COPE was used to collect the information on coping strategies adopted by the nursing students during last week in the Likert scale of 1 to 4 (1= not doing this at all, 2=doing little bit, 3=doing medium amount, 4=doing a lot). The mean score of each mode of coping strategies were calculated to find out the main coping strategies.

Statistical analysis

Data was entered in MS Excel and analysed using SPSS version 24.0 for the windows platform (SPSS Inc., Chicago II, USA). Descriptive analysis was done to find out the socio-demographic and other academic parameters. The frequencies and percentages of outcome variables such as stress, anxiety and depression were found out. Each domain was categorised to mild, moderate, severe and extremely severe and any significant associations of outcome variables with socio-demographic factors and other academic variables were analysed by applying chi-square test, $p<0.05$ was considered as significant. According to brief COPE questionnaire the coping strategies are categorised under 2 broader categories as approach and avoidance strategies. Coping strategies like spirituality (religion) and humour are kept as separate as they cannot be categorised under the broader categories.

RESULTS

The study participants included 149 BSC nursing students. The mean age of participants is 20±1.6 years and ranged from 17 to 25 years. Majority of nursing students belonged to nuclear family (83.9%). Self-motivation was the reason for joining the course in 78.5% of students while 21.5% opted the course due to family pressure. 57.7% students were from management quota. The study revealed the proportion of nursing students having depression, anxiety and stress as 67.7%, 85.3% and 46.9% respectively. The distribution of severity of depression, anxiety and stress from mild to extreme severe had been shown in (Figure 1). Chi- Square was applied to find out any association between depression, anxiety and stress and socio-demographic and other variables (Table 1).

Table 1: Various factors significantly associated with depression, anxiety and stress among nursing students.

Variables		Observation		Chi-square	P value
		Yes	No		
Depression (N%)					
Academic year	1st	19 (59.4)	13 (40.6)	7.834	0.050
	2nd	36 (78.3)	10 (1.7)		
	3rd	18 (52.9)	16 (47.1)		
	4th	28 (75.7)	9 (24.3)		
Admission	Merit	37 (58.7)	26 (41.3)	4.098	0.043
	Management	64 (74.4)	22 (25.6)		
Stress	Yes	61 (87.1)	9 (12.9)	22.655	<0.0001
	No	40 (50.6)	39 (49.4)		
Anxiety	Yes	93 (73.2)	34 (26.8)	11.670	0.001
	No	8 (36.4)	14 (63.6)		
Stress N (%)					
Academic year	1st	10 (31.3)	22 (68.8)	15.111	0.002
	2nd	21 (45.7)	25 (54.3)		
	3rd	12 (35.3)	22 (64.7)		
	4th	27 (73)	10 (27)		
Main stressor	Academic	58 (53.2)	51 (46.8)	6.329	0.012
	Personal	12 (30)	28 (70)		
Leisure activities	Yes	37 (40.2)	55 (59.8)	4.415	0.036
	No	33 (57.9)	24 (42.1)		
Academic teaching	Easy	27 (37)	46 (63)	5.3	0.017
	Difficult	43 (56.6)	33 (43.4)		
Anxiety N (%)					
Main stressor	Academic	98 (89.9)	11 (10.1)	7.046	0.008
	Personal	29 (72.5)	11 (27.5)		

Depression

There were 67.7% nursing students who were depressed with varied level of severity among our study participants. Depression was found to be significantly associated with the academic year of students (χ^2=7.834, p=*0.5*). The study showed depression is seen more in 2nd and 4th year students in comparison to 1st and 3rd year. Students admitted under management quota revealed to be depressed more than students admitted under merit quota, ($\chi2$=4.098, p=0.043). Students undergoing anxiety (x^2=11.670, p=0.001) and stress (x^2= 22.655, p≤0.0001) were also found to be significantly associated with depression.

Stress

Majority of nursing students (85.3%) were found to be stressed. Stress was also found to be associated with the academic year of the students. Stress was more seen in the students of 4th yr and 2nd year in comparison to 1st and 3rd year (x^2=15.111, p=0.002). Academic pressure was found to be the main stressor among the nurses of all the years (x^2=6.329, p=0.012) in comparison to the personal issues. Lack of time for leisure activities was one of the correlates of stress among students (x^2= 4.415, p=0.036).

Difficulty in following academic teaching was found to be a factor ((x^2= 5.7, p=0.017) for causation of stress.

Anxiety

Almost 47% of nursing students in our study were found to have anxiety with majority (30.9%) having moderate level of intensity. Academic pressure was also found to be the main stressor associated with anxiety (x^2= 7.046, p<0.0001). The study participants followed many positive coping strategies such as spirituality, planning, positive reframing, emotional support, information support, active coping, acceptance etc. The extent to which various coping strategies were used by the nursing students is depicted in (Table 3). The coping strategies 'used a lot' by majority of the study were spirituality/meditation , Information support from others and active coping, the proportions being 43.6%, 30.9% and 28.2% respectively (Table 2). The mean scores of all coping strategies are depicted in (Table 3).

DISCUSSION

The present study revealed the percentage of depression, anxiety and stress were 67.7%, 85.3% and 46.9% respectively. The findings are higher in comparison to the study carried out among nursing students by Cheung et al in Hongkong, and Maharaj et al, among a cohort of Australian working nurses.[20,21]

Table 2: The Likert scale wise proportion of coping strategies followed by nursing students.

Coping strategies	I haven't been doing this at all N (%)	A little bit N (%)	A medium amount N (%)	I have been doing this a lot N (%)
Self distraction	12 (8.1)	49 (32.9)	6 (44.3)	22 (14.8)
Active coping	5 (3.4)	35 (23.5)	67 (45.0)	42 (28.2)
Denial	16 (10.7)	70 (47.0)	49 (32.9)	14 (9.4)
Substance use	93 (62.4)	30 (20.1)	18 (12.1)	8 (5.4)
Emotional support	10 (6.7)	49 (32.9)	66 (44.3)	24 (16.1)
Informational support	5 (3.4)	44 (29.5)	54 (36.2)	46 (30.9)
Behavioral disengagement	20 (13.4)	64 (43.0)	50 (33.6)	15 (10.1)
Venting	17 (11.4)	63 (42.3)	56 (37.6)	13 (8.7)
Positive framing	11 (7.4)	43 (28.9)	54 (36.2)	41(27.5)
Planning	7 (4.7)	52 (34.9)	59 (39.6)	31 (20.8)
Humor	30 (20.1)	51 (34.2)	44 (29.5)	24 (16.1)
Acceptance	9 (6.1)	50 (33.6)	61 (40.9)	29 (19.5)
Spiritual/meditation	7 (4.7)	26 (17.4)	51 (34.2)	65 (43.6)
Self blame	23 (15.4)	73 (49.0)	37 (24.8)	16 (10.7)
Approach[2,5,6,9,10,12]	13 (8.7)	101 (67.8)	35 (23.5)	0
Avoidance[1,3,4,7,8,14]	6 (4.0)	55 (36.9)	79 (53.0)	9 (6.0)

Table 3: Mean scores of the coping strategies practiced by nursing students.

Broad Category of Coping Strategy	Coping strategies	Mean score±SD
Approach (2.6±0.60)	Spiritual/meditation*	3.0±0.93
	Active coping	2.74±0.78
	Informational support	2.69±0.85
	Positive framing	2.62±0.88
	Planning	2.53±0.81
	Acceptance	2.52±0.83
	Emotional support	2.49±0.82
Avoidance (2.1±0.48)	Self distraction	2.41±0.79
	Humor*	2.23±0.92
	Venting	2.20±0.79
	Denial	2.19±0.80
	Behavioral disengagement	2.18±0.79
	Self blame	2.1±0.48
	Substance use	1.5±0.77

*Spiritual/Meditation & Humor is separate categories and can not be considered as an approach or avoidance coping strategy.

This may be due to strict discipline enforced during professional course (even in hostels) in India compared to other nations. In India, due to the strong family bonding and relationship with which children are brought up can be a contributing factor to their vulnerability at the time of separation from the family and initiating hostel life. In our study population 46.9% nurses were under various levels of stress. The levels were mild (17.4%), moderate (19.5%), Severe (10%) and extreme severe (1.3%). The findings were much lower in comparison to study conducted by Singh, Nebhinani, Dhar, Kumar.[11,12,22,23] The percentage of stress finding was higher than the findings of the study carried out by Cheung (20.0%) in undergraduate nursing students, Maharaj (41.2%) among working nurses.[20,21] The study also revealed academic year of the student as one of the correlates of depression. More number of 2nd year students (78.3%) was found to be depressed in comparison to students of other years. This finding was consistent with the findings of study carried out by Cheung and Abhishek.[20,24] The possible explanation may be due to starting of clinical subjects in addition to para-clinical subjects and the patient care in the 2nd year. Jimenez et al and Sharif et al had also found that nursing students experience clinical training stressors more intensely than academic or external stressors because they were not satisfied with the clinical component of their education and they feel inadequacy in their training of nursing skills to take care of patients.[10,25] In our study population there were many migrant students from different states of India who acquired education in vernacular language (not English), who find difficulty in academic leaning as well as communicating with the patients and their relatives. Kumar et al in his study found more depression in 1st year students in comparison to other years due to adjustment problem to the new surroundings and starting of professional career.[23]

The study revealed the depression was found to be higher among students admitted under management quota in comparison to students from merit quota. It might be due to their less proficiency in the academics or less struggle attitude during the study as they are financially sound. The academic years was also found to be an associated factor for stress among nursing students. Majority of students (73%) of 4th year were found to be stressed in comparison to other three years. This finding is consistent with the findings of Singh et al conducted in Delhi.[11] This

may be due to the burden of preparation for final examination and self-perceived doubt about making grade in examination. The academic pressure was also found to be the major cause of stress and anxiety in the present study in comparison to personal and social causes. The study agrees with findings of the author Singh, Dhar, Pulido.[5,11,22] Nicholl et al in his study conducted in Ireland showed that factors related to writing assignment, academic demands were perceived as major stressors by the students.[8] Dhar et al in her study found academic stress was ranked as highest and financial problem is the lowest causing stress.[22] Non availability of adequate leisure activities or not having social life were found to be one of the correlates of stress among our study participants. This is consistent with study by Dhar et al.[22] The present study did not find any association between lack of adequate sleep and the psychological symptoms. It also did not find any relation with socio-demographic characteristics such as religion, parents' education, financial status, living in the hostel, etc. with stress or anxiety.
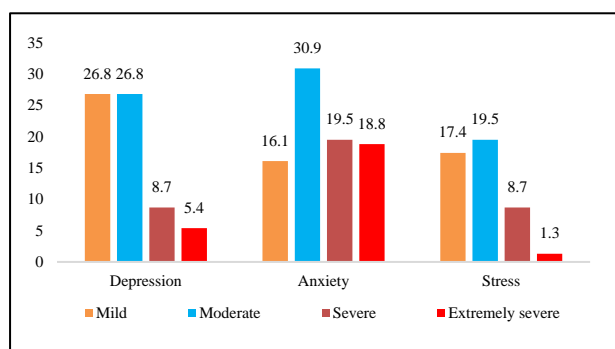

Figure 1: The distribution of severity of depression, anxiety and stress among nursing students.

The study participants adopted mostly positive coping strategies such as prayer/meditation, active coping, help from others, positive reframing, etc and the least, the negative strategies such as self-blame, venting, drug abuse, etc. This finding corroborates with the findings of Singh, Nebhiani, Dhar and Kumar et al.[11,12,22,23]

Limitations

Present study had got limitations such as being cross-sectional study and of small sample size. Further research may benefit from a longitudinal study designs so that the trend in the depression, anxiety and stress scores over 4 years of professional course can be correlated.

CONCLUSION

The present study indicated high levels of psychological disturbances among nursing undergraduate students in the 2nd and 4th academic year. Academic pressure was found the main stressor compounded with lack of leisure activities and poor social life.

Recommendations

There is an urgent need for the nursing educators to plan and implement the stress management programmes with components of peer instructors, mentorship programs and feedback mechanisms in the institute to reduce stress and make the nursing students better trained to face various challenges of the professional life. More leisure activities such as sports, other extracurricular activities and outdoor learning activities should be planned to prevent stress and burn out.

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