"Depression, Anxiety & Stress (DAS) among Nursing Students: A Cross-sectional Design".

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ABSTRACT:

Background: A Cross-sectional study was conducted to assess the level of Depression, Anxiety and Stress experienced among Nursing students in selected Nursing College(s), Kollam district, Kerala. The objectives of the study were to assess the level of Depression, Anxiety and Stress among Nursing students and to compare the level of Depression, Anxiety and Stress among first year, second year, third year and final year B.Sc. Nursing students. The final objective was to find out the association between level of Depression, Anxiety and Stress among Nursing students with selected Socio-demographic variables. Materials and Methods: The study adopted a Descriptive-Cross-sectional design. 320 B.Sc. Nursing students from selected Nursing Colleges were enrolled using Proportionate Stratified-Random Sampling, technique. The conceptual framework of the study was based on Rosenstock and Becker's Heath Belief Model, 1974. Tools used for data collection were Socio-Demographic Questionnaire and Modified Depression, Anxiety and Stress scale. [DASS-21]. Results: Findings of the study revealed that the Mean Depression score among final year B.Sc. Nursing students was higher [5.73±2.60] as compared to the first year, second year and third-year B.Sc. Nursing students. ANOVA [F test value 14.77**, (df=03, 316)] calculated was significant at 0.01 level. Also, the Mean Anxiety score [6.18±1.99] as well as the stress score [11.36±3.04] was found to be higher among the final year students, statistically significant at 0.01level. The first year BSc. Nursing students presented with the lowest Mean Depression [2.95±2.90], Anxiety [4.40±2.26] and Stress scores [8.21±3.67] on comparison with other student groups. Significant association was observed between the level of Depression and demographic variables such as Gender, Type of family and Area of residence. (p<0.01). Significant association was observed between level of Anxiety and Gender, Type of family, Type of stay and Education loan (p<0.01). Also, association was observed between level of Stress and Gender(p<0.05), Type of family(P<0.01). Conclusion: The findings of the study confirmed that the level of Depression, Anxiety and Stress scores were significantly higher among the Final year B.Sc. Nursing students than others.

Key Words: Cross-Sectional Study, Depression, Anxiety, Stress, DASS-21, Nursing Students.

INTRODUCTION

"Stress, Anxiety & Depression are caused when we are living to please others" -Paulo Coelho.

Stress is an inevitable part of modern life. Having the blues, feeling a little anxious or getting stressed from time to time are a part of life. Chronic stress can lead to anxiety and depression.[1,2] Nursing is a profession requiring nursing students to have comprehensive knowledge and practical skill for application in a variety of clinical settings. All of the changes experienced in college can be very stressful. When these things start to interfere with daily life and the ability to function normally, it could be more serious.[3] The mental and physical challenges of nursing, even under normal conditions, are exceptional. Nurses work long hours doing physically demanding work, all while maintaining constant vigilance in making decisions and performing duties with potentially life-or-death consequences. Surrounded by sickness and death, nurses care not only for patients but also for patients' families, providing comfort to people who are often experiencing fear, anger, or grief. [4] Clinical placements are an important part of nursing education, but nursing students are often under greater stress during clinical placements due to their dynamic and challenging nature. Studies have shown that, negative clinical experiences can reduce nursing students' self-confidence, professional satisfaction, and sense of professional benefit.[3] Modern man is living in anxious anticipation of destruction. Such anxiety can easily result in self -destruction.[4] It is not uncommon for someone with an anxiety disorder to also suffer from depression or vice versa. Nearly one-half of those diagnosed with depression are also diagnosed with an anxiety disorder. [5] Depression is the oldest and most common psychiatric disorder. Depression is a mental state of low mood and aversion to activity. It affects more than 280 million people of all ages (about 3.5% of the global population). Depression affects a person's thoughts, behaviour, feelings, and sense of well-being.[6] Nursing students are valuable human resources, but there is a paucity of comprehensive research in the area of nursing student's psychological distress and depressive symptoms. Detection of these symptoms is crucial since anxiety and depression can lead to low productivity, minimized quality of life and suicidal thoughts. In a systematic umbrella review of global evidence, it was found that in the group of health care workers, the incidence of anxiety among nurses ranged from 22.8% to 27% while the incidence of depression among nurses was 28%.[7] A study conducted in Kerala reports prevalence of moderate level of depression (53.6%), anxiety in (37.9%), and stress (46.4%) among Nursing students.[8] Nursing students experience psychosocial stress, anxiety and

depression in their clinical settings but the available statistics are at variance/scarce [3] and hence, this study was conducted with the need to know the prevalence levels of Stress, Anxiety and Depression experienced among Nursing students.

OBJECTIVES OF THE STUDY

1. To assess the level of Depression, Anxiety and Stress among Nursing students.
2. To Compare the level of Depression, Anxiety and Stress among First year, Second year, Third year and Final year Nursing students.
3. To find out the association between the level of Depression, Anxiety and Stress among Nursing students and selected Socio-Demographic variables.

HYPOTHESES

- H_1-There is significant difference in the mean Depression, Anxiety and Stress scores among First year, Second year, Third year and Final year Nursing students.
- H_2- There is significant association between the level of Depression, Anxiety and Stress among Nursing students with selected Socio-Demographic variables.

METHODOLOGY

Research Approach: Quantitative research approach.
Research Design: Descriptive-Cross-sectional research design.
Population: BSc. Nursing students; Kollam District.
Settings: Selected Nursing College(s), Kollam district, Kerala.
Sample Size: 320 Nursing students [80 First, 80 Second, 80Third and 80 Final year BSc. Nursing students] from selected Nursing Colleges, Kollam, Kerala.
Sampling Technique: Proportionate Stratified Random Sampling method.

TOOLS AND TECHNIQUE

Tool-A: Socio-Demographic Questionnaire was used to assess the variables such Age, Gender, Religion, Type of family, Family Income/Month, Dietary pattern, Area of residence, Type of Stay, Education Loan and Hobbies.

Tool-B: Modified Depression, Anxiety, Stress scale [Dass-21] with an excellent reliability of 0.94 was used to assess the level of Depression, Anxiety and Stress among Nursing students.

Method of Data collection: Data was collected for a period of one month [10/05/2015 to 10/06/2015] from 02 Selected Nursing College(s) in Kollam district, Kerala using a Stratified random sampling method. After acquiring formal permission from the concerned authorities, the investigator(s) then obtained informed consent from the samples. Both Socio-Demographic Questionnaire and Modified DASS-21 were used to collect data from Nursing students.

Inclusion criteria: All year B.Sc. Nursing students who were willing to participate in the study and available during the period of data collection.
Students who can understand English/Malayalam.

Exclusion criteria: Students who were not willing to participate in the study and unavailable during the period of data collection.
Students undergoing treatment/taking Psychiatric medications for Depression/Anxiety/Stress.
General Nursing & Midwifery and other Auxiliary Nursing students were excluded from this study.

Statistical analysis: Both Descriptive and Inferential statistics were used to analyse the data [using SPSS version 20 (SPSS Inc., Chicago, IL)]. Descriptive statistics such as Frequency distribution and Percentage were used to describe Demographic data and Inferential statistics such as 'F test'[ANOVA] was used to compare the mean Depression, Anxiety and Stress scores among Nursing students. Chi Square was performed to find out the association between level of Depression, Anxiety and Stress with selected Socio-Demographic variables. The level $P < 0.05$ was ascertained as the minimum acceptable level of significance.
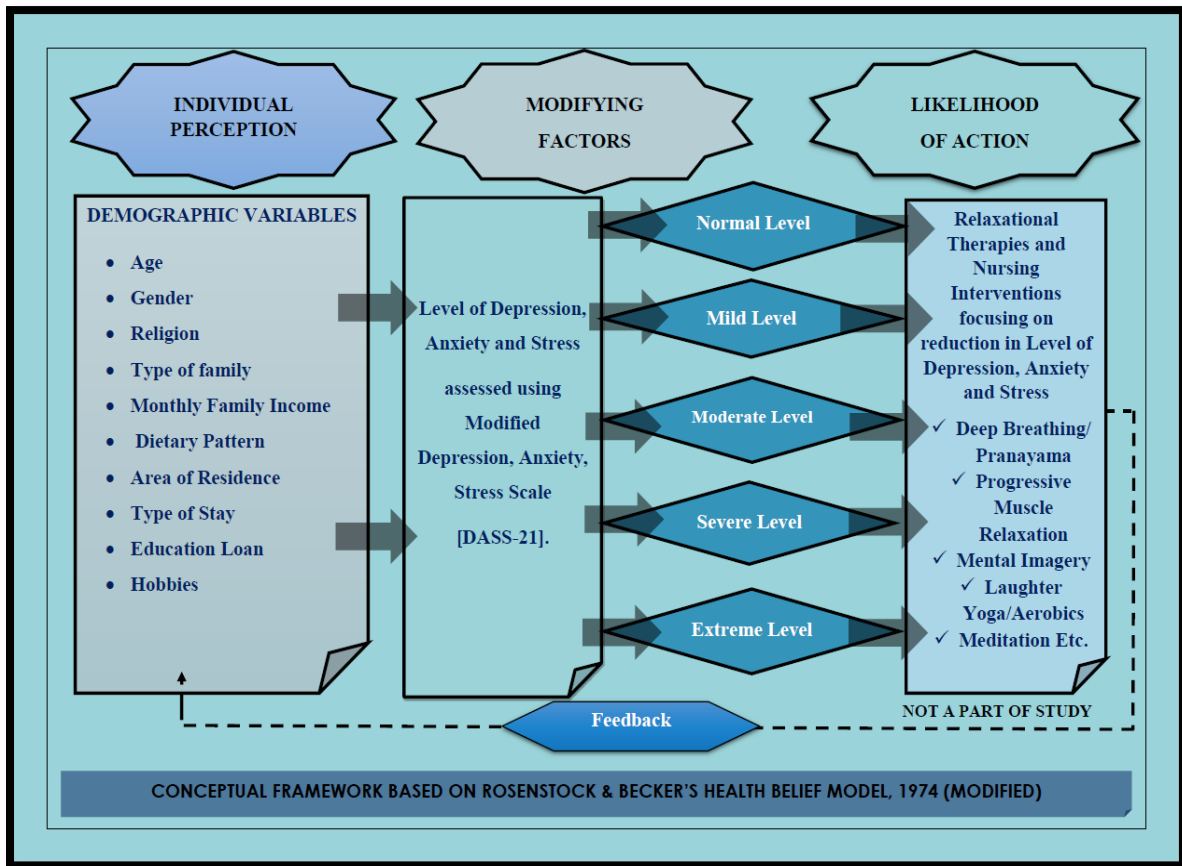
Figure 1: Conceptual framework based on Rosenstock and Becker's Heath Belief Model

RESULTS

Section-I: Description of Sample characteristics of Nursing Students.

Table 1: Frequency distribution and Percentage of Nursing Students.   **[N=320]**

SL NO.	DEMOGRAPHIC VARIABLES		
01	Age (In years)	f	%
	Up to 19 yrs.	82	25.63%
	20-21 yrs.	212	66.25%
	Above 21 yrs.	26	08.12%
02	Gender	f	%
	Male	67	20.94%
	Female	253	79.06%
03	Religion	f	%
	Hindu	164	51.25%
	Muslim	102	31.88%
	Christian	54	16.87%
04	Type of family	f	%
	Nuclear	215	67.19%
	Joint/Extended	105	32.81%
05	Family Income/Month	(f)	(%)

	Up to 10000 ₹	24	7.5%
	10001-20000 ₹	74	23.13%
	20001-30000 ₹	131	40.94%
	More than 30000 ₹	91	28.43%
06	Dietary Pattern	(f)	(%)
	Vegetarian	32	10%
	Non-Vegetarian	288	90%
07	Area of Residence	(f)	(%)
	Rural	75	76.56%
	Urban	245	23.44%
08	Type of Stay	(f)	(%)
	Hosteler	167	52.19%
	Day Scholar	153	47.81%
09	Education Loan	(f)	(%)
	Taken	172	53.75%
	Not Taken	148	46.25%
10	Hobbies	(f)	(%)
	Internet/social media	122	38.13%
	TV/Radio/Newspaper	74	23.12%
	Books/Magazines	76	23.75%
	Outdoor Games	48	15%

Section-II: Level of Depression among Nursing Students

Table 2: Frequency distribution and Percentage of level of Depression among Nursing students. (N=320)

SL. NO:	LEVEL OF DEPRESSION	I YEAR [n=80]		II YEAR [n=80]		III YEAR [n=80]		FINAL YEAR [n=80]	
		f	%	f	%	f	%	f	%
01	Normal Level	61	76.25%	54	67.50%	48	60.00%	22	27.50%
02	Mild Level	09	11.25%	17	21.25%	20	25.00%	36	45.00%
03	Moderate Level	08	10.00%	05	06.25%	12	15.00%	18	22.50%
04	Severe Level	02	02.50%	04	05.00%	00	00.00%	04	05.00%
05	Extreme Level	00	00.00%	00	00.00%	00	00.00%	00	00.00%

Section-III: Level of Anxiety among Nursing Students

Table 3: Frequency distribution and Percentage of level of Anxiety among Nursing students. (N=320)

SL. NO:	LEVEL OF ANXIETY	I YEAR [n=80]		II YEAR [n=80]		III YEAR [n=80]		FINAL YEAR [n=80]	
		f	%	f	%	f	%	f	%
01	Normal Level	24	30.00%	18	22.50%	12	15.00%	08	10.00%
02	Mild Level	36	45.00%	24	30.00%	19	23.75%	18	22.50%
03	Moderate Level	12	15.00%	28	35.00%	32	40.00%	32	40.00%
04	Severe Level	08	10.00%	10	12.50%	17	21.25%	22	27.50%
05	Extreme Level	00	00.00%	00	00.00%	00	00.00%	00	00.00%

Section-IV: Level of Stress among Nursing Students

Table 4: Frequency distribution and Percentage of level of Stress among Nursing students.

(N=320)

SL. NO:	LEVEL OF STRESS	I YEAR [n=80]		II YEAR [n=80]		III YEAR [n=80]		FINAL YEAR [n=80]	
		f	%	f	%	f	%	f	%
01	Normal Level	32	40.00%	08	10.00%	12	15.00%	06	07.50%
02	Mild Level	16	20.00%	42	52.50%	34	42.50%	13	16.25%
03	Moderate Level	28	35.00%	18	22.50%	26	32.50%	34	42.50%
04	Severe Level	04	05.00%	12	15.00%	08	10.00%	27	33.75%
05	Extreme Level	00	00.00%	00	00.00%	00	00.00%	00	00.00%

Section-V: Comparison of Level of Depression, Anxiety & Stress among Nursing Students.

Table 5: ANOVA table showing the Mean, Standard deviation and 'F' test value of level of Depression among Nursing students. (N=320)

Parameter	Group	n	Mean ± SD	df	F value	P
DEPRESSION	I YEAR	80	2.95±2.90	(03, 316)	14.77**	0.000
	II YEAR	80	3.88±2.81			
	III YEAR	80	3.93±2.48			
	FINAL YEAR	80	5.73±2.60			

**Significant at 0.01 level.

Figure 2: Mean Plot showing the Mean level of Depression among I year, II-year, III year & Final year Nursing students
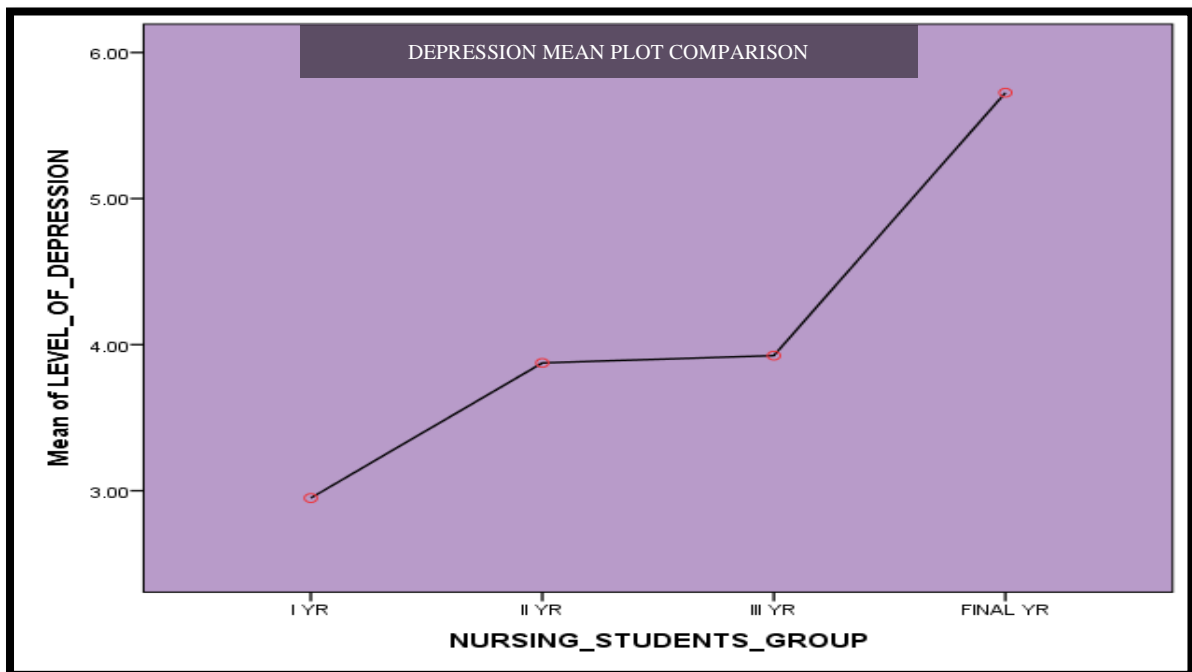
Table 6: ANOVA table showing the Mean, Standard deviation and 'F' test value of level of Anxiety among Nursing students.
(N=320)

Parameter	Group	n	Mean ± SD	df	F value	P
ANXIETY	I YEAR	80	4.40±2.26	(03, 316)	10.80**	0.000
	II YEAR	80	5.06±2.14			
	III YEAR	80	5.76±2.11			
	FINAL YEAR	80	6.18±1.99			

**Significant at 0.01 level.

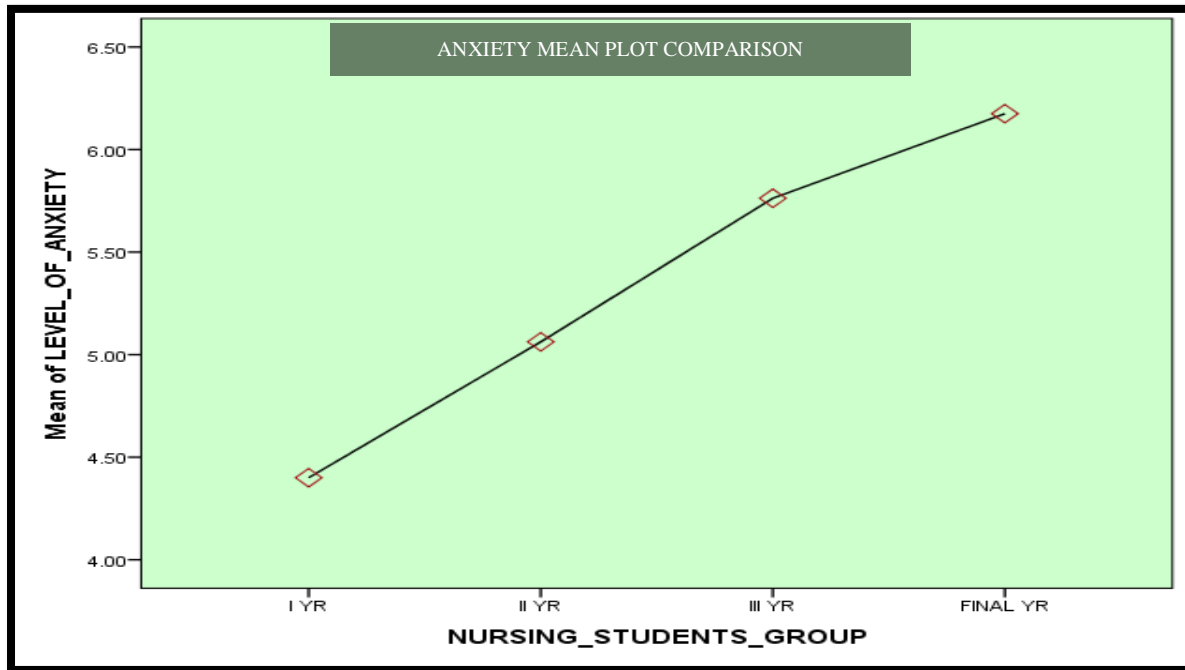**Figure-3: Mean Plot showing the Mean level of Anxiety among I year, II-year, III year & Final year Nursing students.**

Table 7: ANOVA table showing the Mean, Standard deviation and 'F' test value of level of Stress among Nursing students.
(N=320)

Parameter	Group	n	Mean ± SD	df	F value	P
STRESS	I YEAR	80	8.21±3.67	(03, 316)	13.43**	0.000
	II YEAR	80	9.60±2.84			
	III YEAR	80	9.40±3.08			
	FINAL YEAR	80	11.36±3.04			

**Significant at 0.01 level.

Figure-4: Mean Plot showing the Mean level of Stress among I year, II-year, III year & Final year Nursing students.
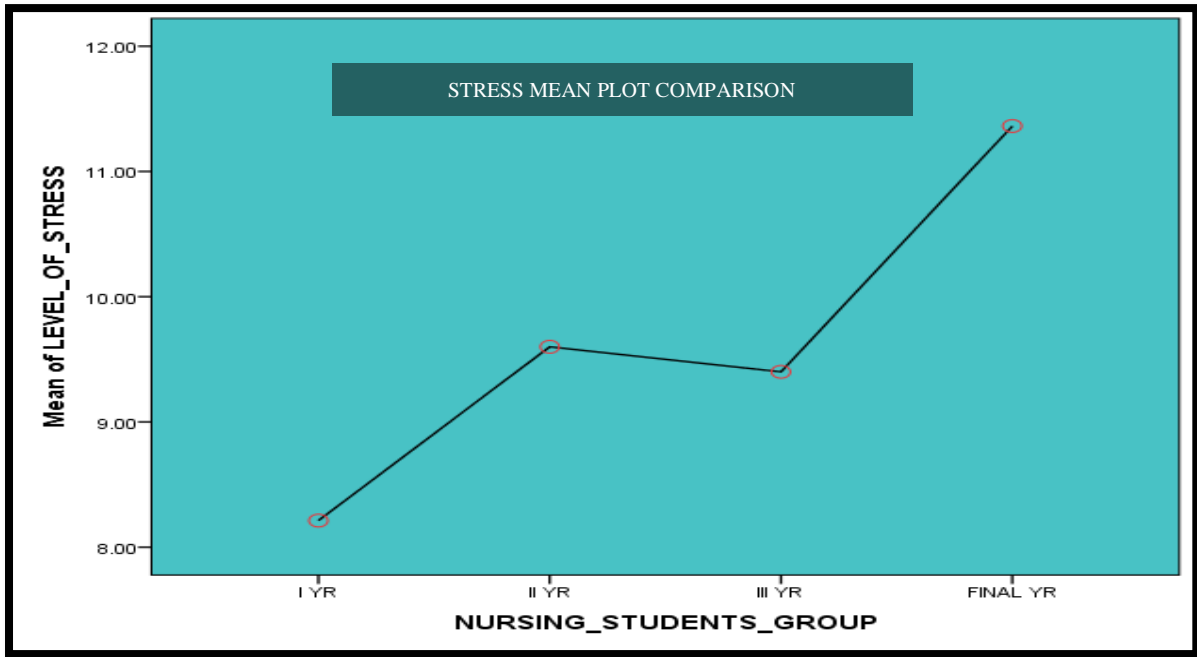
Section-VI: Association between Level of Depression, Anxiety, Stress and selected   Socio-Demographic variables.

Table-8: Association between Level of Depression among Nursing students and selected Socio-Demographic variables.
[N=320]

Demographic Variables	Level of Depression										
	Normal		Mild		Moderate		Severe		df	χ2	p
Gender	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)			
Male	29	43.3%	21	31.3%	12	17.9%	05	7.5%	03	10.54*	0.014
Female	156	61.7%	61	24.1%	31	12.3%	05	1.9%			
Type of Family											
Nuclear	124	57.7%	50	23.3%	37	17.2%	04	1.8%	03	11.73**	0.008
Joint	61	58.1%	32	30.5%	06	5.7%	06	5.7%			
Area of Residence											
Rural	46	61.3%	14	18.7%	08	10.7%	07	9.3%	03	14.70**	0.002
Urban	139	56.7%	68	27.8%	35	14.3%	03	1.2%			

**Significant at 0.01 level.

Table-9: Association between Level of Anxiety among Nursing students and selected   Socio-Demographic variables.
[N=320]

Demographic Variables	Level of Anxiety										
	Normal		Mild		Moderate		Severe		df	χ2	p
Gender	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)			
Male	21	31.4%	23	34.3%	12	17.9%	11	16.4%	03	12.36**	0.006
Female	41	16.2%	74	29.2%	92	36.4	46	18.2%			
Type of Family											
Nuclear	54	25.1%	61	28.4%	63	29.3%	37	17.2%			

Joint/Extended	08	7.6%	36	34.4%	41	39%	20	19%	03	14.16**	0.003
Type of Stay										
Hosteler	48	21.8%	75	34.1%	54	24.6%	43	19.5%	03	20.38**	0.000
Day Scholar	14	14%	22	22%	50	50%	14	14%			
Education Loan										
Taken	36	20.9%	58	33.7%	60	34.9%	18	10.5%	03	13.81**	0.003
Not Taken	26	17.6%	39	26.4%	44	29.7%	39	26.3%			

**Significant at 0.01 level.

Table-10: Association between Level of Stress among Nursing students and selected   **Socio-Demographic variables. [N=320]**

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Demographic Variables	Level of Stress								df	χ2	p
	Normal		**Mild**		**Moderate**		**Severe**				
Gender	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	df	χ2	p
Male	20	29.9%	22	32.9%	18	26.8%	07	10.4%	03	09.03*	0.029
Female	38	15%	83	32.8%	88	34.8%	44	17.4%			
Type of Family											
Nuclear	45	20.9%	68	31.6%	78	36.3%	24	11.2%	03	14.47**	0.002
Joint/Extended	13	12.4%	37	35.2%	28	26.7%	27	25.7%			

Significant at 0.05 level. **Significant at 0.01 level.

DISCUSSION

The current study reveals mild to moderate prevalence of Depression, Anxiety and Stress among B.Sc. Nursing Degree students. The study findings also revealed that the final year students had significant higher levels of Depression, Anxiety and Stress compared to other groups. The findings are in partial agreement with a cross sectional study conducted by Verma Et al. in Central India, which reveals the prevalence of moderate to very severe depressive symptoms (34.1%), moderate to very severe anxiety (61.9%) and stress symptoms (17.7%) respectively. Binomial logistic regression analysis depicts family relationship to be significantly associated with depression [P = 0.00, odds ratio 0.638] and stress [P = 0.002, OR 0.582], whereas in the present study, Gender and type of family were significantly associated with Depression, Anxiety and Stress. The Current study also agree partially with another Cross sectional survey conducted among Nursing students in Hong Kong, revealing that the overall estimated prevalence of moderate, extreme to severe levels of depression, anxiety and symptoms of stress among nursing students were in figures of 24.3%, 39.9% and 20.0%, respectively. The findings are in contradiction in terms of females having more stress and anxiety compared to male students and final year students reporting more levels of depression, anxiety and stress compared to other groups.[9] Additionally, the present study observed significant Association between gender, type of family, area of residence, type of stay, education loan (P<0.05, P<0.01 levels). There is a need to conduct more mental health surveys as data pertaining to nursing students remains scarce and more diligent remedial measures to be introduced, such as a stress Management and Resiliency Training (SMART) program, which teaches participants to reduce the harmful impacts of stress by eliciting the relaxation response, building stress awareness and developing adaptive coping strategies in order to control the psychosocial Stress, Anxiety and Depression experienced among student nurses.[10]

CONCLUSION

The study was conducted to assess the level of Depression, Anxiety and Stress among Nursing students and to compare between first year, second year, third year and final year B.Sc. Nursing students. The results confirm that the mean Examination Depression, Anxiety and Stress scores among final year students are significantly higher than other groups [p<0.01 level]. Therefore, it is concluded that the Final year Nursing students have significantly higher levels of depression, anxiety and stress compared to other Nursing students.

LIMITATIONS

- ❖ This study was limited to B.Sc. Nursing students enrolled in selected Colleges of Nursing.
- ❖ The effect of Confounding variables could not be ascertained.

RECOMMENDATIONS

- ❖ An interventional study can be conducted to reduce the levels of Depression, Anxiety & Stress among Nursing students.
- ❖ A similar study can be replicated among other settings/college students

❖ A comparative study can be performed among GNM and B.Sc. Nursing students.

ETHICAL CONSIDERATIONS

After obtaining the Ethical clearance from the Institutional Committee, the researchers also obtained formal permissions from the concerned authorities. An informed consent was obtained from the samples after explaining the purpose of the study. Confidentiality was ensured throughout the conduct of the research.

BUDGET

Self-Funding

CONFLICTS OF INTEREST

There are no conflicts of interest related to the study, authorship and/or publication of the article.

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