

# Prevalence Of Stressor Experience Among Bachelor Nursing Students

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## Abstract

**Background:** Stressors are internal or external stimuli that produce tension and result in a degree of instability. Student nurses are subjected to various stressors due to the demanding nature of nursing profession. The objective of the study was to estimate the prevalence of stressor experience among first year bachelor nursing students in Kerala.

**Methods:** Descriptive cross-sectional design using quantitative approach was used for the study. Data was analyzed by descriptive and inferential statistics.

**Results:** The present study revealed that 49.03% of students had stressor experience with 95% CI 45.62 – 52.44. Chi-square testing revealed that stressor experience had significant association with variables like perception regarding stressful nature of nursing profession, syllabus studied for plus two, own choice to join nursing, joining nursing with proper awareness and history of mental illness.

**Conclusion:** The present study confirms the prevalence of stressor experience among first year bachelor nursing students and highlights the need to implement strategies in reducing the magnitude of the problem.

**Key words:** prevalence, stressor, bachelor nursing, stressor experience, Chi-square

## Background

Any stimulus which evokes a stress response is called a stressor<sup>1</sup>. Stress can be defined as the physical and emotional strain caused by our responses to the pressure from the world outside<sup>2</sup>. Nursing students are likely to experience more stress than their friends and colleagues enrolled in other programs. Nursing students reported high stress related to clinical experience and interpersonal reasons<sup>3</sup>. Student nurses are subjected to various stressors due to the demanding nature of nursing profession<sup>4</sup>.

Studies from India and United Kingdom have reported increasing levels of stress among nursing students<sup>5</sup>. A cross-sectional survey conducted at Christian Medical College Vellore, India revealed that 20.7% of students reported high scores on General Health Questionnaire<sup>6</sup>. The result of a study done to assess the prevalence of psychological distress among college students in Kerala revealed that 34.8% of students have psychological distress<sup>7</sup>.

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Excessive stress can be harmful to a student's performance and depression can occur in students who perceive their stress levels as very high<sup>8</sup>. Many stressors with negative health consequences are present among nursing professionals<sup>9</sup>. Nurses in their daily work confront emotional and professional demands that are unimaginable to the wider community<sup>10</sup>. A longitudinal study conducted in UK among student nurses noted that levels of self-reported stress are significantly different at different stages of training program<sup>11</sup>. Stress has a negative effect on health, memory, problem-solving, ability to cope and all of which can lead to decreased academic performance<sup>12</sup>. The stress levels of nursing students should be monitored to facilitate their ability to cope with stressful situations during their training, and components for coping with stress should be included in the curricula of nursing departments. The objective of the present study was to estimate the prevalence of stressor experience among first year bachelor nursing students of Kerala and to determine the association of stressor experience with selected sociopersonal variables.

## Methodology

### Research Approach

Quantitative approach

### Research Design

Cross sectional design was used as it's the commonly used design for prevalence studies.

### Study Setting

Fourteen private, two government self financing and one government nursing college in Kerala.

### Study Period

August 2017 – December 2017

### Target Population

All first year bachelor nursing students in Kerala

### Inclusion Criteria

- Students who are willing to participate in the study
- Students who are present on the day of data collection

### Source Population

First year bachelor nursing students of the academic year 2016 – 2017 from selected nursing colleges in Kerala.

### Sample

824 first year bachelor nursing students

### Sample Size

Sample size calculated as 414 based on the formula  $4PQ/d^2$ , where P was taken as 21%. To minimize design effect sample size was doubled.

### Sampling Technique

The sampling technique adopted for the study was Stratified Proportionate Cluster Sampling. Based on this technique, nursing colleges in Kerala were divided into three stratum (Private, Government and Government self-financing). With proportionate stratification, the sample size of each stratum is proportionate to the population size of the stratum. As per KNMC list 2014-2015 there were 104 private, 6 government and 13 government self financing nursing colleges in Kerala. Clusters were selected randomly from each stratum to meet the sample size. In the present study 49 students from government, 687 students from private and 88 students from government self financing nursing colleges who met study criteria was selected as sample.

### Data Collection Tools and technique

#### Tool 1

This tool consisted of 16 questions to elicit Socio – personal Variables. Content validity of the tool was done by 6 experts including Psychiatrist, Epidemiologist, Sociologist, Mental health nurse specialist, Nurse Educators and Nurse Administrators.

#### Tool 2: Nursing Students Stressor Questionnaire (NSSQ)

NSSQ was developed in the first phase of the study by the investigator due to the non-availability of a valid and reliable instrument for identifying stressors of the first-year bachelor nursing students in Kerala. The tool has acceptable reliability and validity. It consist of 22 items to capture the stressor experience of students. Average time for completion of NSSQ was 5 minutes. NSSQ is a likert scale with options very frequently, frequently, occasionally, rarely and never. The option very frequently was given a score of 4 and never a score of 0. Total score ranges between 0 and 88 and more the score more is the stressor experience. The cut off scores taken in the present study is as follows:

**Table1: Prevalence of Stressor Experience**

Score	Stressor Experience
0 – 46	No
47 – 88	Yes

To estimate the prevalence mean cut off was taken.

**Table2 : Levels of Stressor Experience**

Score	Stressor Experience
0 – 39	No to mild stressor experience
40 – 53	Moderate stressor experience
54 – 88	Severe stressor experience

To categorize levels of stressor experience percentile cut off score was taken by dividing the total stressor score in to tertiles.

The technique used for data collection was self reporting.

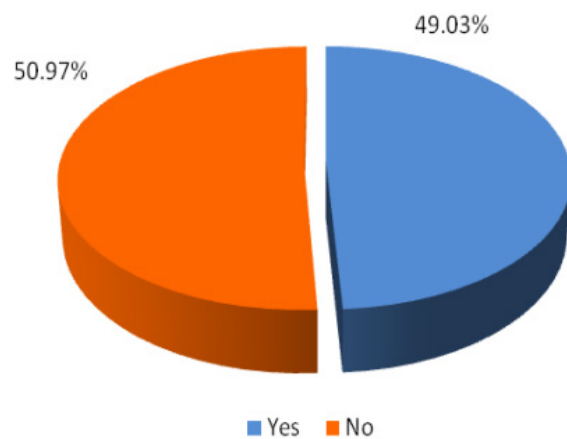
## RESULTS

**Table 3: Distribution of subjects based on sociopersonal variables**

(n=824)

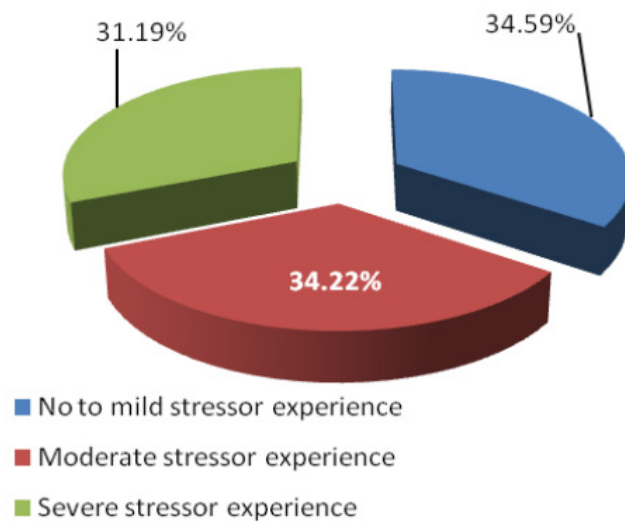
S.No	Variables		Frequency	Percentage (%)
1	Age	17 – 19 yrs	742	90.05
		20 and above	82	9.95
2	Gender	Male	33	4
		Female	791	96
3	Religion	Hindu	285	34.6
		Christian	486	59
		Muslim	53	6.4
4	Marital Status	Single	816	99
		Married	8	1
5	Type of family	Nuclear family	736	89.3
		Joint family	74	9.0
		Extended nuclear family	14	1.7
6	Area of domicile	Rural	600	72.8
		Urban	224	27.2
7	Dietary habits	Vegetarian	24	2.9
		Non-Vegetarian	800	97.1
8	Monthly family income	<RS 1500	90	10.9
		Rs 1501 – Rs 5000	140	17.0
		Rs 5001 – Rs 10,000	180	21.8
		Rs 10,001 – RS 20,000	196	23.8
		Rs > 20,001	218	26.5
9	Staying in college hostel	Yes	592	71.8
		No	232	28.2
10	Do you consider nursing as a stressful profession ?	Yes	682	82.8
		No	142	17.2
11	Percentage of marks got for higher secondary exam	60 – 70 %	31	3.76
		71 – 80 %	207	25.12
		81 – 90%	417	50.61
		91 – 100%	169	20.51

12	Syllabus studied for plus two	State	772	93.69
		CBSE / ISE	52	6.31
13	Have you sought counselling of any type to deal with stress of first year BSc nursing Program?	Yes	253	30.7
		No	571	69.3
14	Was it your choice to join the profession of nursing?	Yes	620	75.2
		No	204	24.8
15	Have you joined nursing with proper awareness regarding the profession?	Yes	476	57.8
		No	348	42.2
16	Do you have history of any mental illness/treatment?	Yes	5	0.6
		No	819	99.4



**Fig 1: Distribution of subjects based on prevalence of Stressor experience (n=824)**

From the above figure it's clear that 49.03% of students had stressor experience with 95% CI 45.62 – 52.44. Cut off score was taken based on the mean (45.62) which was equal to the median (46).



**Fig 2 : Distribution of subjects based on levels of Stressor experience (n=824)**

**Table 4 : Distribution of subjects based on Stressors experienced**

(n=824)

SI No	Item	Frequency	Percentage(%)
1	Large volume of syllabus	698	84.7
2	Lack of lab exposure in subjects like Anatomy and Microbiology	272	33.0
3	Covering topics very fast	351	42.59
4	Conducting sessional exams without gap	383	46.48
5	Long hours of classes	547	66.38
6	Forced to do non nursing activities in the clinical area	182	22.08
7	Compelled to do certain outdated traditional nursing procedures	96	11.65
8	Long duration of standing in clinical area	546	66.26
9	Not getting proper recognition in clinical area	240	29.12
10	Teachers giving correction differently for procedures	445	54.0
11	Lack of common procedure manual	232	28.15
12	Habit of postponing routine work	310	37.62
13	Lack of multitasking skills	214	25.97
14	Strict college environment	504	61.16
15	Poor teacher student relationship	201	24.39
16	Lack of free time	537	65.16
17	Joining the course without much awareness about nursing profession	307	37.25
18	Inferiority feeling when compared with other profession	260	31.55
19	Lack of guidance and counselling services in the college	194	23.54
20	Not giving proper vacation	505	61.28
21	College campus facility not up to expectations	434	52.66
22	Self centeredness among students	258	31.31

From the above table, it's clear that the first three commonly experienced stressors are large volume of syllabus, long hours of classes and long duration of standing in clinical area

**Table5 ; Association of stressor experience with selected socio personal variables**

(n=824)

Socio personal variables		Stressor experience				Total (n=824)		chi	df	p
		Yes (n=404)		No (n=420)		f	%			
		f	%	f	%					
Gender	Male	18	54.55	15	45.45	33	100	0.419	1	0.518
	Female	386	48.80	405	51.20	791	100			
Religion	Hindu	133	46.67	152	53.33	285	100	1.914	2	0.384
	Christian	241	49.59	245	50.41	486	100			
	Muslim	30	56.60	23	43.40	53	100			
Marital Status	Single	400	49.02	416	50.98	816	100	0.003	1	0.956
	Married	4	50	4	50	8	100			

Type of family	Nuclear family	360	48.91	376	51.09	736	0.037	2	0.982
	Joint family	37	50	37	50	74			
	Extended nuclear family	7	50	7	50	14			
Area of domicile	Rural area	295	49.17	305	50.83	600	0.017	1	0.897
	Urban area	109	48.66	115	51.34	224			
Dietary habits	Vegetarian	11	45.83	13	54.17	24	0.101	1	0.751
	Non Vegetarian	393	49.13	407	50.87	800			
Monthly family income	< Rs 1500	42	46.67	48	53.33	90	2.752	4	0.600
	Rs 1501 – Rs 5000	62	44.29	78	55.71	140			
	Rs 5001 – Rs 10,000	94	52.22	86	47.78	180			
	Rs 10001 – Rs 20,000	101	51.53	95	48.47	196			
	Rs >20,001	105	48.17	113	51.83	218			
Staying in college hostel	Yes	280	47.30	312	52.70	592	2.523	1	0.112
	No	124	53.45	108	46.55	232			
Nursing as a stressful profession	Yes	370	54.25	312	45.75	682	43.202	1	0.001
	No	34	23.94	108	76.06	142			
Syllabus studied	State	368	47.67	404	52.33	772	9.064	1	0.003
	CBSE/ISE	36	69.23	16	30.77	52			
Counselling sought	Yes	135	53.36	118	46.64	253	2.740	1	0.098
	No	269	47.11	302	52.89	571			
Own choice to join nursing	Yes	281	45.32	339	54.68	620	13.767	1	0.001
	No	123	60.29	81	39.71	204			
Joined nursing with proper awareness	Yes	193	40.55	283	59.45	476	32.454	1	0.001
	No	211	60.63	137	39.37	348			
History of mental illness	Yes	5	100	0	0	5	5.230	1	0.022
	No	399	48.72	420	51.28	819			

Significant  $P < 0.05$

The above table shows stressor experience is having significant association with variables like perception regarding stressor nature of nursing profession, syllabus studied for higher secondary, own choice to join nursing, joining nursing with proper awareness and history of mental illness.

**Table6: Association of stressor experience with age**

(n=824)

Mean age & SD		Mean difference	Levene's test of equality of variances		t test for equality of means		
Group 1	Group 2		F	Sig	t	df	Sig 2(tailed)
18.86	18.80	- 0.06	8.335	0.004	-0.944	822	0.345
SD	SD	95% CI -0.167 to -0.058					
0.612	0.984						

It's clear from the above table that there is no significant difference in the mean age of students with and without stressor experience

**Table7 :Association of stressor experience with percentage of marks got for plus two**

(n=824)

Mean marks & SD		Mean difference	Levene's test for equality of variances		t test for equality of means		
Group 1	Group 2		F	Sig	t	df	Sig 2 (tailed)
84.45	84.69	0.245	0.331	0.565	0.488	822	0.626
SD	SD	95% CI -0.740 to 1.230					
7.008	7.385						

The above table shows there is no significant difference in the mean marks of students with and without stressor experience

## Discussion

The analysis of the sociopersonal variables of the present study showed that 96% of the study participants were females. Studies conducted by Ross, Bartfay et al and many other studies reports women outnumber males in nursing profession<sup>13,14</sup>. The present study showed that 59% of the study participants were Christians. Mohan reports that the Christian community of Kerala provides the state with 90% of it's nurses and supplies the majority of nurses throughout India<sup>15</sup>. A study by Mariet conducted among BSc nursing students of Kerala showed that 98.4% of study subjects were females and 63.6% of students were Christians<sup>16</sup>. The present study proves that nursing is no longer exclusively dominated by Christians as 34.6% of the study samples were Hindus.

The present study reported that 49.03% of students had stressor experience with 95% CI 45.62 – 52.44. Shiferaw et al reported that the prevalence of perceived stress level among nursing students was 47.7%<sup>17</sup>. As per the present study 34.59% of students had no to mild stressor experience, 34.22% moderate stressor experience and

31.19% had severe stressor experience. Studies by Indira et al and Yankey et al support this findings<sup>18,19</sup>. However, studies by Singh et al, Kumari and many others reported higher prevalence of stress than reported in the present study<sup>20,21</sup>.

The findings of the present study revealed that stressor experience is having significant association with variables like perception regarding stressful nature of nursing profession, syllabus studied for plus two, own choice to join nursing, joining nursing with proper awareness and history of mental illness. A study conducted by Indira et al also revealed a statistically significant association between level of stress among nursing students and awareness about profession<sup>18</sup>. Singh et al and Albaqawi reported more perceived stress score among female students than male students<sup>22,23</sup>. In the present study no association was found between stressor experience and gender.

Multivariate logistic regression analysis showed that students who consider nursing as a stressful profession are 3 times more likely to have stress as compared to those who do not. Joining nursing with proper awareness regarding

**Table8 : Logistic regression of significant socio-personal variables with stressor experience**

Variables	B	S.E	Wald	df	sig	Exp(B)/AOR	95% CI for Exp B	
							Lower	Upper
Stressful profession Yes	1.167	0.219	28.444	1	0.000	3.213	2.092	4.933
Syllabus kerala	-0.844	1.457	0.336	1	0.562	0.430	0.025	7.469
Counselling sought Yes	0.260	0.159	2.672	1	0.102	1.297	0.950	1.772
Choice Yes	-0.384	0.175	4.816	1	0.028	0.681	0.484	0.960
Awareness Yes	-0.673	0.152	19.571	1	0.000	0.510	0.379	0.687
Mental illness Yes	21.073	17740.251	0.000	1	0.999	1418603588.212	0.000	
Constant	0.343	1.473	0.054	1	0.816	1.409		

Significant  $P < 0.05$

Nagelkerke R square 0.142

As seen from the above tables, students who consider nursing as a stressful profession are three times more likely to have stress as compared to those who do not. Joining nursing with proper awareness regarding the profession and nursing as one's own choice came out as protective factors.

the profession and nursing as one's own choice came out as protective factors. Only about 15% of the probability of the event was explained by the logistic model because the association was done with the sociopersonal variables and not with the factors contributing the stressor experience.

### Conclusion

Nurse educators should implement strategies to reduce stressor experience. Clinical environments should be made more student friendly. Nursing administrators should take a leading role in implementing necessary curriculum changes. Measures should be taken to strengthen guidance and counselling services in nursing colleges. Campus facilities and extracurricular activities should be improved. Studies can be conducted to develop and test interventions to reduce stressor experience.

### Conflict of interest

None

### Source of funding

Self

### Ethical Clearance

Obtained (CNT/IEC/15/03/14)

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