

An Exploratory Study To Assess The Level Of Stress And Associated Stressors During Covid-19 Pandemic Among Nursing Students Attending Virtual Classes From Home In A Selected College Of Nursing, Delhi, With A View To Disseminate Stress Management Techniques

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Abstract— An Exploratory study was conducted to assess the level of stress and associated stressors during Covid -19 pandemic among nursing students attending virtual classes from home in a selected college of nursing, Delhi, with a view to disseminate stress management techniques. The main objectives of the study were to assess the level of stress among nursing students attending virtual classes from home during Covid-19 pandemic, to explore the stressors associated with virtual classes during Covid-19 pandemic, to determine the association of the level of stress of nursing students with the selected demographic variables and to disseminate Stress Management techniques. A quantitative research approach with exploratory research design was used to achieve the objectives of the study. The study was conducted at St. Stephen's Hospital College of Nursing, Tis Hazari, Delhi-110054. Total enumerative sampling technique was adopted to select 200 students belonging to B.Sc. and G.N.M. 2nd and 3rd year classes. A Standardized rating scale by Sheldon Cohen and a structured rating scale was used to assess the level of stress and associated stressors, respectively, during Covid-19 pandemic among nursing students attending virtual classes. The tool was validated by 5 experts from the field of Psychiatry, Psychology, Medical –Surgical Nursing and Child health Nursing. The reliability of tool was established at 0.75 by split half method. The data gathered was analyzed and interpreted using descriptive and inferential statistics. In the present study, it was observed that majority of the nursing students 154(77%) have moderate level of stress, 37(18.5%) have high level of stress and remaining 9(4.5%) have low level of stress. The study showed that the maximum amount of stress was due to academic factors while they had minimal stress due to financial factors. The results of the analysis showed that there was an unreasonable academic overload, insufficient time to study due to the vast content of courses covered, high family expectations and low levels of motivation were some of the reasons for the stress. Fear of failure was the primary cause of stress. Findings related to association of level of stress with

demographic variables reveals that there was significant association between level of stress and family monthly income and father's employment at 0.05 level of significance. There was no significant association between level of stress and the year of course, type of family, no. of sibling, father's education, mother's education and mother's employment at 0.05 level of significance. As the academic stress was the most experienced stress among nursing students studying in selected College of Nursing, Delhi, so framing the academic curriculum, examination patterns and establishment of counselling cells about coping and adapting strategies to cope up with stress and associated stressor experienced during Covid -19 pandemic is needed.

Index Terms— Stress, Stressors, Virtual Classes, Stress Management Techniques.

I. INTRODUCTION

Stress is a common feature in all our lives. It is often seen as a negative emotion, but stress plays an important role in the survival. It helps to face threats and dangerous situations, makes the individual to get motivated and can even make the performance better. Covid-19 is a newly discovered infectious corona virus that spreads from one person to another through droplets. The stress level of students are augmented by many of the factors pertaining to Covid-19 Pandemic. Due to Covid-19 outbreak, in a short period of time, college students' lives had dramatically changed as they had been asked to leave campus, adjust to new living circumstances, and adapt to online learning platforms. Courses designed to include high levels of interaction and hands-on experiences such as practicum, labs, and/or artistic performance had a clear disadvantage in regards to evaluation of students. Some students had difficulties with access to computers and the internet at home. Additional challenges included concerns about their health, health of family members, and worry about finances, particularly among those who supported themselves by working in industries severely impacted by prolonged closures such as retail or the service industry. [1]

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A. Problem statement

An Exploratory Study to Assess the Level of Stress and Associated Stressors during Covid-19 Pandemic among Nursing Students attending Virtual Classes from Home in a Selected College of Nursing, Delhi, with a view to disseminate Stress Management Techniques.

B. Objectives

- To assess the level of stress among nursing students attending virtual classes from home during Covid-19 pandemic.
- To explore the stressors associated with virtual classes during Covid-19 pandemic.
- To determine the association of the level of stress of nursing students with the selected demographic variables.
- To develop and disseminate Stress Management Techniques.

C. Assumptions

- Nursing students attending online classes from home will be experiencing stress.
- Nursing students with stress have poor knowledge regarding Stress Management Techniques.
- Stress Management Techniques will help to improve coping strategies against Stress and associated Stressors.

D. Delimitations

- The study is limited to Nursing Students in a selected College of Nursing.
- Nursing Students who are interested and willing to participate in the study.
- The study includes students who are attending virtual classes from home.

E. Operational Definitions

- Assess: It refers to evaluating the level of stress and the associated stressors among nursing students.
- Stress: It refers to nursing student's response to an adverse change in external circumstances while attending virtual classes from home during Covid-19 pandemic as evidenced by Perceived level of Stress ranging from 0-40, categorized as (0-13) : low stress, (14-26) : moderate stress, & (27-40) : high perceived stress as assessed by Perceived Stress Scale by Sheldon Cohen.

Stressors: Any academic, intrapersonal, interpersonal and financial factor that disturb the normal functioning of a nursing student attending virtual classes from home during Covid-19 pandemic as assessed by Structured Stressor Assessment Scale.

• Virtual Classes: It is an online medium of instruction that allows the exchange of knowledge and information between teachers and nursing students during Covid-19 pandemic.

• Stress Management Techniques: It is a set of techniques and programs intended to help nursing students to deal more effectively with stress by analyzing the specific stressors due to virtual classes during Covid-19 pandemic.

F. Conceptual Framework

Conceptual framework of the present study is based on **Stuart Stress Adaptation Model**. Stuart Stress Adaptation Model is a model of psychiatric nursing care, which integrates biological, psychological, socio-cultural, environmental and legal-ethical aspects of patient care into a unified framework for practice. The Stuart Stress Adaptation Model of health and wellness provides a consistent nursing-oriented Framework.[2]

II. RESEARCH METHODOLOGY

A. Research Approach

Quantitative approach was considered to be appropriate to accomplish the objectives of the present study

B. Research design

For the present study, an exploratory research design was used to assess the level of stress and the underlying factors of it.

C. Variables under study

- Socio-demographic variables- Year of nursing program, Type of family, Number of siblings, Family monthly income, Father's education, Mother's education, Father's pattern of employment, Mother's pattern of employment
- Research variables - Level of stress and associated stressors while attending virtual classes during Covid-19 Pandemic.

D. Setting of the study

- The study was conducted in St. Stephen's Hospital College of Nursing, Delhi.

Population

The target population in the present study consisted of nursing students of St. Stephen's Hospital College of Nursing.

E. Sample & Sampling Technique

For the present study, sample consisted of second- and third-year nursing students studying in St. Stephen's Hospital College of Nursing. Sampling technique adopted for the present study was total enumerative sampling technique.

F. Sample Size

Sample size for the study was 200 Second and Third year Nursing students studying in St. Stephen's Hospital College of Nursing.

G. Criteria for sample selection

Inclusion criteria

- Students of College of Nursing.
- Second and Third year nursing students .
- Students who were willing to participate in the study.

Exclusion criteria

- Students who were included in the pilot study.
- Students who were not available at the time of data collection.

H. DESCRIPTION OF THE TOOL

Tool 1

Section A: Socio- Demographic Data

It consists of socio-demographic details of the subjects such as year of nursing program, type of family, number of siblings, monthly family income, father’s education, mother’s education, father’s pattern of employment and mother’s pattern of employment.

Section B: Perceived Stress Scale by Sheldon Cohen

The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one’s life are appraised as stressful. In each case, respondents are asked how often they felt a certain way.[3]

TOOL 2

Structured Stressor Assessment Scale

It consists of items to explore factors causing stress i.e., stressors among nursing students attending virtual classes from home during Covid -19 pandemic.

The self-structured rating scale is divided into 4 domains with 7 items each, namely academic factors, social and interpersonal factors, intrapersonal factors and financial factors.

I.CONTENT VALIDITY AND RELIABILITY OF TOOL

Content validity was determined by 5 experts from the field of Psychiatry, Psychology, Medical Surgical Nursing and Child health Nursing. The reliability of the Structured Stressor Assessment Scale was computed by Split Half method and Reliability Coefficient was found to be 0.75. Hence, the tool was reliable.

J. Ethical Consideration

The study was conducted after receiving approval from the ethical committee of St. Stephen’s Hospital College of Nursing. Before conducting the study, the students were explained about the purpose of the study and a written consent was obtained from them for their participation. Anonymity and confidentiality of subjects were assured. They were also informed about their rights to refuse their participation in the study.

K. Pilot Study

After obtaining the ethical clearance from the ethical committee and formal administrative approval from St. Stephen’s Hospital College of Nursing, the pilot study was

conducted on 8th February, 2021 among 20 Fourth year Nursing students of St. Stephen’s Hospital College of Nursing, who were selected using Simple Random Sampling technique. The pilot study was conducted to determine the feasibility of conducting the final study and to decide the appropriate plan for statistical analysis. The duration for administration of tool was 20-30 minutes. The findings of the pilot study revealed that it was feasible to conduct the study.

L. Final Data Collection Procedure

After obtaining ethical clearance from ethical committee of St. Stephen’s Hospital College of Nursing, the final study was conducted from 1st February, 2021 to 6th February, 2021 on 200 Second and Third year nursing students of St. Stephen’s Hospital College of Nursing. Subjects were selected using Total Enumerative Sampling technique. The investigators introduced themselves to the respondents and the purpose of study was explained to them. Confidentiality of their response was assured. Formal informed consent was obtained from the sample who met the inclusion criteria. Good rapport was established with the respondents.

III. ORGANIZATION AND INTERPRETATION OF DATA

The obtained data and findings have been organized and presented under the following sections:

Section I: Findings related to socio-demographic data obtained from nursing students.

Frequency and percentage distribution of socio-demographic data of the nursing students.

Section II: Findings related to level of stress among nursing students.

Section III: Findings related to stressors associated with virtual classes during covid-19 pandemic among nursing students.

Section IV: Findings related to association of the level of stress with the selected demographic variables among nursing students.

SECTION I

Findings related to Socio Demographic Data of Nursing Students

TABLE 1 : Frequency and Percentage distribution of Socio Demographic Data of Nursing Students
N=200

S.No.	Demographic characteristics	Frequency	%
1	Year of nursing programme:		
	a)Second year	100	50%
	b)Third year	100	50%
2	Type of family:		
	a)Nuclear	156	78%
	b)Joint	40	20%
	c)Extended	4	2%

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3	Family monthly income:		
	a) ≥199,862		8.5%
	b) 99,931-199,861	17	9%
	c) 74,755-99,930	18	12%
	d) 49,962-74,754	24	18.5%
	e) 29,973-49,961	37	15.5%
	f) 10,002-29,972	31	23%
g) ≤10,001	46	13.5%	
		27	
4	Number of siblings:		
	a) None	12	6%
	b) One sibling	90	45%
	c) Two siblings	67	33.5%
d) Three siblings or more	31	15.5%	

Chi-square test to establish the association between the level of stress with the selected demographic variables among nursing students.

5	Father's education:		
	a) No formal education	13	6.5%
	b) Up to 10 th standard	48	24%
	c) Higher Secondary education	42	21%
	d) Diploma		11%
e) Graduation and above	22	37.5%	
		75	
6	Mother's education:		
	a) No formal education	19	9.5%
	b) Up to 10 th standard	48	24%
	c) Higher Secondary education	52	26%
	d) Diploma		
e) Graduation and above	21	10.5%	
		60	30%
7	Father's pattern of employment:		
	a) Covid warriors (healthcare professionals and policemen)	27	13.5%
	b) Professionals working from home		
	c) Self employed and working	30	15%
d) Self employed and not working			
		120	60%
		23	11.5%
8	Mother's pattern of employment:		
	a) Covid warriors (healthcare professionals and policemen)	30	15%
	b) Professionals working from home		
	c) Self employed and working	24	12%
d) Self employed and not working			
		70	35%
		76	38%

SECTION II

Findings related to Perceived Level of Stress among Nursing Students

The data was obtained through Perceived Stress Scale by Sheldon Cohen, in which the nursing students had to mark according to their feelings and thoughts while attending virtual classes during Covid-19 Pandemic.

TABLE2: Frequency and Percentage distribution of the Nursing students according to Level of Stress.

N=200

S. No.	Level of Stress	Frequency (%)
1	Low Stress (0-13)	9(4.5%)
2	Moderate Stress (14-26)	154(77%)
3	High Perceived Stress (27-40)	37(18.5%)

SECTION III

Findings related to Stressors associated with Virtual Classes during Covid-19 Pandemic among Nursing Students.

The structured stressor assessment rating scale consisted of items to explore factors causing stress among nursing students attending virtual classes from home during Covid – 19 pandemic

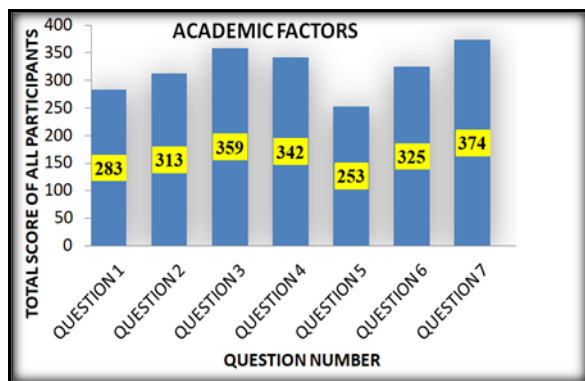


Figure 1: Bar Graph depicting Total Score of Nursing Students according to academic factors.

- MAXIMUM SCORE: 374 (QUESTION 7)
 - How often have you felt anxious that you have missed the practical attendance and bedside nursing skills?
- MINIMUM SCORE:253 (QUESTION 5)
 - How often have you missed the classes because of network issues?

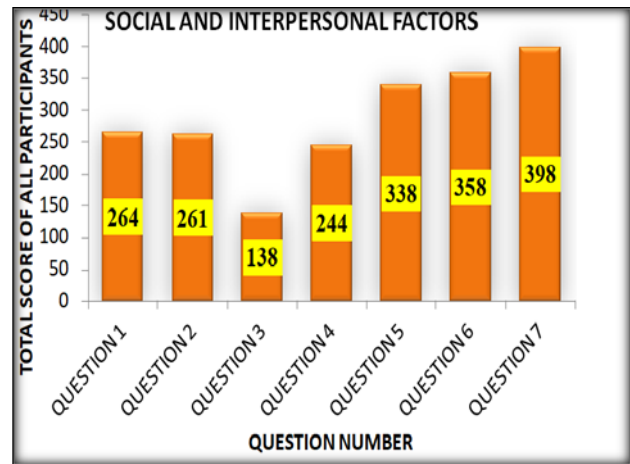


Figure 2: Bar Graph depicting Total Score of Nursing Students according to Social and Interpersonal factors.

- MAXIMUM SCORE:398 (QUESTION7)
 - How often have you felt anxious and scared after listening to incidence rates and death toll pertaining to Covid-19, from mass media?
- MINIMUM SCORE:138 (QUESTION 3)
 - How often have you felt that your family members are not supporting you in your studies during the Covid-19 pandemic?

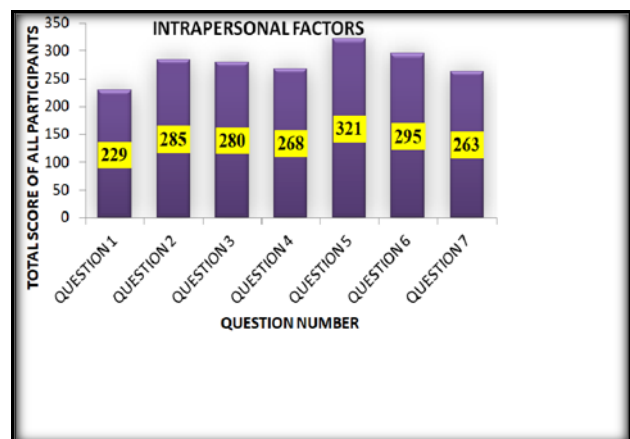


Figure 3: Bar Graph depicting Total Score of Nursing Students according to Intrapersonal factors.

- MAXIMUM SCORE:321 (QUESTION 5)
 - How often have you experienced the fear of your family members getting infected with Covid-19 infection?
- MINIMUM SCORE:229 (QUESTION 1)
 - How often have you experienced periods of low self- esteem during Covid-19 pandemic?

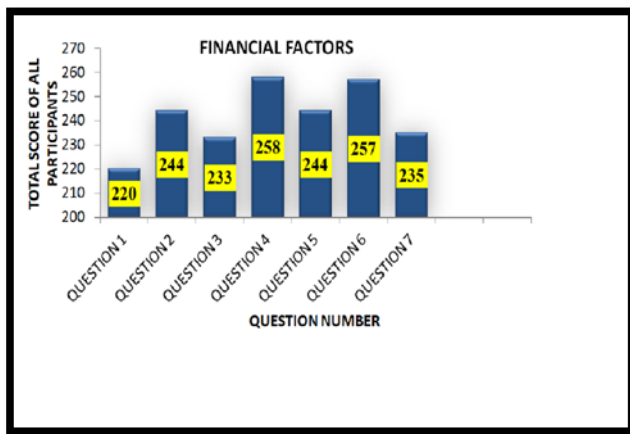


Figure 4: Bar Graph depicting Total Score of Nursing Students according to Financial Factors.

SECTION IV

Chi-square test was used to determine the association of the level of stress among nursing students with selected demographic variables.

There is a significant association between the level of stress of nursing students with fathers' pattern of employment and family monthly income as calculated Chi-square test value, 40.059 and 25.575 respectively, were higher than the table value, 12.59 and 21.03 respectively at $p < 0.05$.

No significant association exists between the level of stress of nursing students and year of course, no. of siblings, type of family, father's education, mother's education and mother's pattern of employment as calculated. Chi-square test value was found non-significant at $p < 0.05$.

IV. IMPLICATIONS OF THE STUDY

A. Nursing Education

- Nurse educator should have responsibility in updating coping and adapting strategies to cope up with stress and associated stressors, its prevention and control.
- Regular updation of stress management techniques can be done in order to disseminate them among nursing students studying in a selected College of Nursing, Delhi so that they are updated about social and mental problems due to stress which requires preventive interventions.

B. Nursing Practice

- The study helps the nurses to identify the level of stress and associated stressors experienced by nursing students while attending virtual classes and thereby providing effective stress management techniques to cope up with stress.

C. Nursing administration

- The administrator should plan nursing education programmes for nursing students which can include topics such as, adaptive techniques to stress and stress management.
 - MAXIMUM SCORE: 258 (QUESTION 4)
 - How often have you felt the shortage in getting your educational needs fulfilled during Covid-19 pandemic?
 - MINIMUM SCORE: 220 (QUESTION 1)
 - How often have you feared that the earning member of your family will loose their job due to Covid-19 pandemic?

The administrator can plan counselling sessions to identify the level of stress and associated stressors experienced by nursing students while attending virtual classes.

D. Nursing research

- More research studies can be planned to explore and identify the associated stressors and level of stress among nursing students while attending virtual classes from home.
- The study will be a pathway for further researches.

V. CONCLUSION

The main aim of this study was to assess the level of stress among nursing students attending virtual classes, to explore the stressors associated with virtual classes and to determine the association of level of stress with selected demographic variables. Among the 200 selected samples 154 (77%) had moderate level of stress, 37 (18.5%) had high level of stress and remaining 9 (4.5%) had low level of stress. There was significant association between the level of stress of nursing students with fathers' pattern of employment and family monthly income.

VI. RESEARCH EVIDENCE

Sheroun D, Wankhar DD, Devrani A, Lissamma PV, Chatterjee K. [4] conducted a cross – sectional online study in Pune using Perceived Stress Scale and Coping Strategies Scale. The objectives of the study were to assess the perceived level of stress and coping strategies amidst Covid-19 lockdown among the B.Sc. nursing students and to determine the association of stress and coping with selected demographic variables. 427 B.Sc. nursing students were selected by random sampling technique. The study revealed that the maximum perceived stress score (22.56) was among fourth year students and low level of perceived stress score (20.20) was among second year students. On the whole, the maximum mean coping score (78.45) was found among first years and least coping score (71.23) was found among fourth year B.Sc. nursing students. The fourth-year nursing students had the highest stress score with a mean of 22.56 ± 4.207 . The study concluded that there is a need to take appropriate measures by the authorities to reduce the level of stress among the nursing students

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