Original Research Article

Assessment of the psychological impact of vaccination on COVID-19 pandemic stress among B. Sc nursing students

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ABSTRACT

Background: In January 2020 the world health organisation (WHO) declared the outbreak of a new coronavirus disease, COVID-19, to be a public health emergency of international concern. WHO stated that there is a high risk of COVID-19 spreading to other countries around the world. In March 2020, WHO made the assessment that COVID-19 can be characterized as a pandemic. WHO and public health authorities around the world are acting to contain the COVID-19 outbreak. To assess the level of COVID-19 pandemic stress before and after vaccination and to find out the association of COVID-19 pandemic stress scores with selected demographic variables of B. Sc nursing students.
Methods: A pre-experimental study was done on 150 Nursing students in selected various nursing colleges at Meerut. The convenience sampling technique was used. Nursing Students stress were assessed by using standardized Sheldon Cohen modified stress scale.
Results: The result showed that mean score before and after vaccination of stress with SD for was (0.237) nursing students was 13.20±2.202, 6.20±1.202 and correlation of patient with COVID-19 suggesting a negative significant correlation between the stress 'r' value was less than table value (0.273) with df 149. At (0.05) level of significance.
Conclusions: there was no significant association between level of stress and demographic variables among Nursing students. It is inferred that there is moderate to severe level of stress before and moderate to mild level of stress after vaccination.

Keywords: COVID-19, Stress, Vaccination

INTRODUCTION

We all live with troubles, the tension we feel when facing with a new accost or threatening situation. Nursing undergraduates are not dissimilar than anyone else, as they too, sophisticate the stresses of living in today's world. They are repeatedly facing new challenges where the sequels are often unpredictable. COVID-19 emerged as a distressing challenge for whole world especially for medical undergraduates such as MBBS students, nursing students, pharmacy students etc during previous year.[1,2] COVID-19 is the infectious disease caused by the most recently discovered corona virus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019 (MoHFW).[3]

Review of literature

Bhowmick et al conducted study during COVID-19 lockdown among general population of West Bengal, India in order to assess stress and anxiety level. A total of 355 responses were received 15.49% responders were observed to have anxiety and 37.74% participants have low well-being. Chhetri et al conducted to explore the stress and psychological problems faced during COVID-

19 by Indian students. Using a snowball sampling method, the results depicted that the students were generally stressed during lockdown and the pandemic. Females (mean=3.03) were more stressed than males (mean=2.61).[4]

Son et al studied, a semi-structured interview survey was designed with the purpose of assessing the mental health status of college students both quantitatively and qualitatively. The result showed that out of 195 students, 138 (71%) indicated increased stress and anxiety due to COVID-19 outbreak.[3]

Problem statement

A study to assess the psychological impact of vaccination on COVID-19 pandemic stress among B. Sc nursing students in selected nursing colleges at Meerut.

Objectives

The objectives of the study were to assess the level of COVID-19 pandemic stress before COVID-19 vaccination among BSc nursing students, to assess the level of COVID-19 pandemic stress after COVID-19 vaccination among B. Sc nursing students and to find out the association of COVID-19 pandemic stress scores with selected demographic variables of B. Sc nursing students.

Hypothesis

H_0- The mean post-test level of COVID-19 pandemic stress score will be significantly lower than the mean pre-test level of COVID-19 pandemic stress scores at 0.05 level of significance.

H_a-There will be significantly association between COVID-19 pandemic stress scores and selected demographic variables.

Operational definitions

Stress: It refers to the outcome of burden experienced by nursing students due to the outbreak of COVID-19, seeing their loved ones suffering, gap from their colleges and friends made students stressed.

Vaccination: In this study vaccination means inoculation of COVID-19 vaccines given to students that is intended to relieve their stress psychologically.

METHODS

Study type

In this study the researcher adopted pre-experimental one group pre-test and post-test research design.

Pre-experimental one group pre-test and post-test research design: O1 ------- X ----- O2

O_1=Pre test, O_2=Post test and X=COVID-19 vaccination

Study place

This study was conducted in various selected nursing colleges at Meerut Uttar Pradesh India.

Period of the study

The study conducted from March 2021 to October 2021.

Variables

Independent variables: COVID-19 vaccination.

Dependent variables: COVID-19 pandemic stress.

Influencing variables: Age, gender, education, locality, marital status, religion, hospital exposure.

Extraneous variables: Influences of mass media, healthcare professionals.

Population

The target population consisted of the B. Sc nursing students.

Sample

In this study the samples are the B.Sc. nursing students of various nursing colleges at Meerut.

Sample size

The sample size consists of 150 nursing students.

Selection criteria technique

In this study the non-probability convenience sampling technique was used.

Sampling procedure

Two-stage sampling technique was used to select students for the study as follows:

Stage 1: The whole data was collected in 15 days, we collected data from 15 students per day. The amount of time for data collection was 15 minutes per student. The whole data was collected in 15 days.

Stage 2: After vaccination we followed strategy of stage 1.

Ethical approval

Ethical approval with reference: *CON/IEC/2021/922/6672* was obtained from the

institutional ethical committees. A written informed consents was obtained from each of the study participants after detailed explanation of the study purpose, procedures, and voluntariness of participation.

Data for statistical analysis

Descriptive statistics

Frequency and percentage distribution was used to analyse the demographic variables students with COVID-19 pandemic stress.

Mean and standard deviation was used to assess the pre-test and Post-test score of COVID-19 pandemic stress.

Criteria for sample selection

Inclusion criteria

The students of nursing specialization, those who were not vaccinated with COVID-19 vaccine before study, both male and female students and students who are able to understand Hindi and English language were included in the study.

Exclusion criteria

The students who are pursuing other courses than nursing, those who were vaccinated with COVID-19 vaccine before study and the students who were on a psychiatric medication were excluded from the study.

Description of tools

The tool consists of 2 sections.
Section A: Demographic profile comprised of 9 variables such as age, gender, family members infected by COVID-19, any family member from medical background, current residence, marital status, religion, hospital exposure and locality.

Section B: This section deals with standardized Sheldon Cohen modified stress scale to assess the level of stress.

RESULTS

This chapter deals with the analysis and interpretation of data obtained from 150 B. Sc nursing students.

Findings of study

Frequency and percentage distribution of psychological impact of vaccination on COVID-19 pandemic stress among B. Sc nursing students in various nursing colleges at Meerut.

In Table 2 depicted that 4.6 % were having mild stress, 76 % moderate stress and 19.3% having severe stress among B. Sc nursing students before COVID-19 vaccination.

Table 1: Socio-demographic variables, (n=150).

Socio-demographic variables	F	Percentage (%)
Age (years)		
17-25	68	45
Above 25	82	55
Sex		
Male	14	9
Female	136	91
Family member infected by COVID-19.		
Yes	8	5.33
No	142	94.6
Any family member from medical background		
Yes	62	41.33
No	88	58.66
Currently residing in		
Hostel	90	60
Home	60	40
Marital status		
Married	2	1
Unmarried	148	99
Religion		
Hindu	123	82
Muslim	17	11.33
Christian	10	6.66
Others	0	0
Sikh	0	0
Hospital exposure (Clinical duties)		
Yes	8	5
No	142	95
Locality		
Urban	97	64
Rural	53	36

Table 2: Pre-test COVID-19 pandemic stress score, mean and standard deviation, (n=150).

Level of stress	F	Percentage (%)	Mean ± SD
Mild	7	4.6	
Moderate	114	76	13.20±2.202
Severe	29	19.3	

Table 3: Post-test COVID-19 pandemic stress score, mean and standard deviation (SD), (n=150).

Level of stress	F	Percentage (%)	Mean ± SD
Mild	76	50.66	
Moderate	68	45.33	6.20±1.202
Severe	6	4	

Data presented in Table 3 depicted that 50.66% of mild level of stress, 45.3% moderate and 4% of severe level was present after COVID-19 vaccination among B. Sc nursing students.

Table 4: Chi-square value of association between demographic variables and of COVID-19 pandemic stress score, (n=150).

Demographic variables	Level of stress			χ^2	Df	P value
	Mild	Moderate	Severe			
Age (years)						
17-25	4	90	20	2.213	2	1.976 NS
Above 25	3	24	9			
Sex						
Male	2	12	21	3.0009	2	1.976 NS
Female	5	102	8	1.107		
Family member infected by COVID-19.						
Yes	3	45	21	0.237	2	1.976 S
No	4	69	8			
Any family member from medical background						
Yes	2	91	4	3.876	2	1.976 NS
No	5	23	25			
Currently residing in						
Hostel	3	76	13	2.786	2	1.976 NS
Home	4	47	7			
Marital status						
Married	0	98	11	1.987	2	1.976 NS
Unmarried	7	16	18			
Religion						
Hindu	5	90	21			
Muslim	1	10	3			1.976 NS
Christian	1	14	5			
Others	0	0	0	4.40	3	
Sikh	0	0	0			
Hospital exposure (Clinical duties)						
Yes	6	105	21	3.442	2	1.976 NS
No	1	9	8			
Locality						
Urban	5	90	19	4.008	2	1.976 NS
Rural	2	24	10			

NB: χ^2=Chi-square, df= degree of freedom, NS=non-significant at 0.05, The data presented in Table shows that it is evident there was only one significant association between level of stress and demographic variables vaccination of COVID 19. Hence the research hypothesis has accepted.

DISCUSSION

Our study revealed that majority of the females were having moderate stress and previous study Chhetri et al revealed the same results.[4] Son et al study showed that out of 195 students 71% showed increased stress while as our study also depicted that out of 150 students 76% showed moderate stress.[3]

CONCLUSION

The study is an attempt to understand the level of COVID-19 pandemic stress among B. Sc nursing students at various nursing colleges at Meerut. All the nursing students experienced mild to moderate stress, moderate to severe stress. There was no significant association between level of stress and coping strategies among B. Sc nursing students. The above findings would help in planning interventions for B. Sc Nursing students with

pandemic stress, which would in turn reduce burden, stress and improve coping skills.

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