Original Article

Psychological distress and coping styles among baccalaureate nursing students: Promoting mental health of future nurses in COVID-19 pandemic

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Abstract:

BACKGROUND: Coronavirus disease (COVID-19) causes significant psychological distress among nursing students. College-bound nursing students might have preferred different types of coping strategies to deal with psychological distress. This study aims to measure the psychological distress and role of coping styles to mediate the stress level among the baccalaureate nursing students amid the COVID-19 pandemic.

MATERIAL AND METHODS: A cross-sectional online survey was conducted in December 2020 at a nursing college attached to a tertiary care teaching hospital, North India. Nearly 251 baccalaureate nursing students completed the Impact of Event Scale-Revised (IES-R) and Coping Orientation to Problems Experienced Inventory (Brief-COPE) scale to report their psychological distress and coping styles, respectively. Chi-square test, independent sample t-test followed by binary and multivariable regression were used to identify the factors associated with distress in students during the pandemic.

RESULTS: Students' mean age was 22.22 ± 1.24 years. The mean IES-R was 19.59 ± 12.45 in nursing students. Psychological distress found a significant association with age ($P = 0.022$), academic class ($P = 0.016$), travel history ($P = 0.034$), and being positive reverse transcription–polymerase chain reaction (RT-PCR) for COVID-19 status of self ($P = 0.018$) and family members in the medical profession ($P = 0.013$). In binary logistic regression, stress level found a significant association with first-year academic level (OR: 3.250, 95% CI: 1.429–7.390, $P = 0.005$) and family members in the medical profession (OR: 4.44, 95% CI: 1.019–19.382, $P = 0.047$). Adaptive coping styles were more frequently preferred than maladaptive coping styles (54% vs 41%). Adaptive ($r = 0.295$, $P < 0.001$) and maladaptive coping ($r = 0.403$, $P < 0.001$) shows a significant positive relationship with stress in students, respectively.

CONCLUSIONS: Coronavirus pandemic causes significant distress among nursing students. Students were able to manage stress using acceptance and religious/spiritual coping strategies. During the pandemic, stress management to support mental health is highly recommended.

Keywords:
Coping, COVID-19, distress, nursing, students

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Introduction

The coronavirus disease (COVID-19) pandemic begins in Wuhan, Hubei Province, China, in December 2019 and soon engulfed the whole world in its hold.[1] An epidemiological inquiry revealed a rapid human-to-human transmission, which was later confirmed to be caused by a severe acute respiratory syndrome-2 (SARS-CoV-2; earlier known as 2019-nCoV).[2,3] The World Health Organization (WHO) later renamed it coronavirus disease 2019 (COVID-19) in February 2020.[4]

How to cite this article: Sharma A, Kumar R. Psychological distress and coping styles among baccalaureate nursing students: Promoting mental health of future nurses in COVID-19 pandemic. J Edu Health Promot 2022;11:331.

Health-care workers are facing unprecedented amounts of COVID-19-related psychological stress across professional and personal domains.[5] Frontline health-care workers involved in collecting samples, diagnosis, treatment, and care of patients during an outbreak was at a higher risk of developing psychological distress and mental health symptom.[6]

The nursing students are prone to stress,[7,8] where it facilitates the different transitions from school life to the nursing course and another additional adjustment in life.[9] The nursing course will help a student use her think tank to apply theoretical knowledge to clinical settings to gain the necessary set of skills and competencies before graduation.[9] Students have to undergo training in different clinical areas to complete the course requirement.[10]

The COVID-19 outbreak shocks the whole medical fraternity and poses a significant challenge and threat to control the pandemic. Coronavirus pandemic has affected different age groups, including nursing students deployed in clinical areas to meet the trained medical fraternity's shortfalls.[11] Meeting the requirement of condensed clinical training further augments nursing students' challenges in the COVID-19 era.[12]

Ever-increasing infected cases in the hospital, depleting medical supplies, witnessing close relatives and peers getting the infection, quarantined or inevitable death in front of them further exceeds the stress and emotional turmoil among nursing students.[9,10] Similarly, they were observed terrified to have a higher probability of getting the virus and transmitting it to their families and close relatives.[9,13] Earlier work during the SARS outbreak reported more pain for nurses than doctors due to long working hours and the nature of the job where nurses have to work in close contact with the patients.[14,15] Nurses being the frontline workers in every medical situation, risk their lives to others.

Pandemic has not only impacted people's emotional turmoil but has also forced them to think and act in different ways to balance life. Coping strategies are defined as thoughts and actions of an individual to deal with stressful conditions.[16] It is believed that emotion plays a significant role in opting for a specific coping style and vice versa.[15] Usually, an individual uses problem-solving coping with getting rid of a problem and emotion-focused styles on balancing the emotional distress linked with stressful life situations.[17] In turn, the appropriate use of adaptive coping strategies will help manage stressful situations and balance emotional outbursts.[16,17] To the best of our knowledge, there is a crunch of information on the impact of COVID-19 on nursing students' psychological distress and coping preferences in the Northern region of Uttarakhand, India. Hence, it was decided to measure the psychological distress and coping preferences among college-bound undergraduate nursing students.

Material and Methods

Study design and setting
A cross-sectional online survey was planned and conducted in the December 2020 in one of the newly established apex tertiary care teaching institutions in North India. All baccalaureate nursing students staying in a nursing hostel during the data collection period were included in the work.

Study participants and sampling
The survey questionnaire was purposively shared with 300 nursing students who stayed at the hostel during the pandemic. The survey questionnaires were shared digitally using individual nursing students' personal Gmail and WhatsApp numbers. Students were requested to participate in the survey voluntarily and were reminded to fill the questionnaires. Survey questionnaires was shared with all the students staying in hostel considering direct and indirect exposure and involvement in nursing care and management of covid-19 patients during ongoing pandemic. Students who were on leave during data collection and were undergoing treatment for any diagnosed psychiatric or medical ailments were asked not to participate in the survey.

Data collection tool and technique
The survey questionnaires were shared digitally using personal WhatsApp and Gmail of the nursing students. A reminder to the students was given after one-week to respond to the questionnaires. The survey questionnaire was completed and returned by 251 nursing students (response rate = 83.6%) and found satisfactory on scrutiny to include in the final analysis. The details of the questionnaires used in the study are as follows.

Sociodemographic datasheet
The structured profile used to access information on age, academic year, habitat, types of family, socioeconomic status as per modified Kuppuswamy scale (2020),[18] relationship with a family member, friend, or family members infected with COVID-19, hospitalization history due to COVID-19, quarantine status of family and friends, number of quarantine days, contact with a laboratory-confirmed COVID-19 patient (RT-PCR; reverse transcription–polymerase chain reaction), status on COVID-19 testing, status on institutional/ home isolation, and student accompanied during the quarantine period. The sociodemographic sheet sought

validation from the experts in microbiology, psychiatric nursing, and public health.

Psychological distress

IES-R English version questionnaire, a widely available scale, was used to measure psychological distress due to COVID-19.[19] This questionnaire measures the traumatic or stressful events of an individual expressed in external (e.g., anger and irritability) and internal (e.g., distressing memories or painful episode) situations as experienced in the last 7 days. The scale consists of 22 items categorized under three subscales, namely hyperarousal (IES-H), intrusive thoughts (IES-IT), and avoidance symptoms (IES-A) after undergoing a particular stressful life event. An individual has to rate each item on a five-point Likert scale ranging from 0 (not at all) to 4 (extremely). IES-R total score ranges from 0 to 88; a score of ≥26 indicates probable symptoms of stressful events in the last 1 week.[20,21] The experts in medicine, psychiatry, and nursing were asked to validate the scale with a scale content validity scale (S-CVI) of 0.89 for this study. The scale Cronbach's α for the study sample was 0.90 for the total scale, 0.74 for the avoidance, 0.84 for the intrusive thoughts, and 0.78 for the hyperarousal subscales.

Coping styles

Coping styles of baccalaureate nursing students during COVID-19 were measured using Coping Orientation to Problems Experienced Inventory (Brief-COPE) prepared by Carver (1997).[22] Brief-COPE coping inventory used in earlier work to measure residents' coping strategies during the COVID-19 outbreak displayed acceptable reliability.[15] The scale has two broad areas with 14 subscales, namely; emotion-focused coping (acceptance, use of emotional support, religion, humor, positive reframing, self-blame, substance abuse, self-distraction, denial, venting, and behavior disengagement), and problem-focused coping (planning, active coping, and use of instrumental support). Every individual has been requested to respond to the coping strategies preferred during COVID-19 using a four-point Likert scale, ranging from 1 (not at all) to 4 (a lot). A higher score indicates more often use of a particular coping style and vice versa. The scale was validated using experts' opinions and pretested in a similar population before final use. The scale content validity index (S-CVI) was 0.92 for the scale. In this work, the Cronbach's for emotion-focused and problem-focused coping styles are 0.80 and 0.81, respectively.

Sample size analysis: Sample size calculation was done based on psychological distress among Indian nursing students.[23] $n = N \times [Z^2 \times p \times (1 - p)/d^2]/[N - 1 + (Z^2 \times p \times (1 - p)/d^2] = 127$, assuming 10% attrition it came out to be 142. A precision of 5% and 83% outcome factor in the population was used. However, the sample size achieved in the study was 251.

Ethical consideration

The Institutional Ethics Committee (IEC) approved the study (AIIMS/IEC/20/798). A consent form was supplemented with the questionnaire as a mandatory requirement to participate in the survey. However, researchers avoid collecting any personal information of the participants during the survey.

Statistical analysis

A datasheet is prepared in Microsoft excel and analyzed using IBM SPSS Statistics for Windows, Version 23.0 Armonk, NY: IBM Corp.[24] Descriptive statistics, frequencies, and percentages are used to describe the characteristics of the participants. The mean and standard deviation (SD) are used to compare the findings between different study groups. Bivariate and multivariate logistic regression was applied to determine factors associated with psychological distress in nursing students. Odds ratio (OR) with 95% confidence interval (CI) was used to quantify the strength of association between participants' characteristics and psychological distress in nursing students. The level of significance was set at $P < 0.05$ (two-sided) for all tests.

Results

Table 1 summarises the sociodemographic details of the participants. The participants' mean age was 22.22 (±1.24) years and female (100%), considering the female admission in the institute. More students (39.4%) belonged to the first year, followed by 39.1% from the second year, and 21.5% from the third year.

Of the students, 55% belong to an urban area and nuclear family (78.9%), and 57% reported middle-upper socioeconomic class as per the modified Kuppuswamy scale 2020.

In terms of COVID-19 related information, 62.2% of the students reported travel history during the pandemic. The majority of the students (94.8%) underwent reverse transcription–polymerase chain reaction (RT-PCR) COVID-19 testing, and only 5 (2%) reported positive for COVID-19 and advised institutional quarantine (70.1%). A friend accompanied 46.6% of students during their quarantine with a mean duration of 12.29 ± 5.8 days [Table 1].

An independent sample *t*-test was applied to find the association of psychological distress with sociodemographic characteristics of the students. Findings show that age ($P = 0.022$), academic class ($P = 0.016$), travel history ($P = 0.034$), positive RT-PCR test for COVID-19 (a

Table 1: Association of Psychological Distress with Nursing Students' Characteristics (*n*=251)

Variables	Categories	Total f (%)	IES-R (mean±SD)	*P*
Age (years)[a]	≤20	69 (27.5)	22.51±11.99	0.022*
	>20	182 (72.5)	18.48±12.48	
Academic year[b]	BSc (N) I Year	99 (39.4)	22.38±11.68	0.016*
	BSc (N) II Year	98 (39.1)	17.78+12.34	
	BSc (N) III Year	54 (21.5)	17.76±13.24	
Habitat[a]	Urban	138 (55.0)	19.30±12.94	0.682
	Rural	113 (45.1)	19.95±11.88	
Type of family[a]	Joint	53 (21.1)	18.02±11.85	0.302
	Nuclear	198 (78.9)	20.01±12.61	
Socio-economic status (INR) [a]	Middle-upper[#]	143 (57.0)	19.01±11.79	0.400
	Middle-lower	108 (43.1)	20.35±13.29	
Travel history[a]	Yes	156 (62.2)	20.89±13.03	0.034*
	No	95 (37.8)	17.45±11.17	
Contact with laboratory-confirmed COVID-19 patient[a]	Yes	16 (6.4)	23.25±11.52	0.228
	No	235 (93.6)	19.35±12.52	
Undergone for COVID-19 testing (RT-PCR) [a]	Yes	238 (94.8)	19.50±12.45	0.610
	No	13 (5.2)	21.31±12.76	
The student tested positive for COVID-19a	Yes	05 (2.0)	32.60±22.46	0.018*
	No	246 (98.0)	19.33±12.10	
Quarantined after travel/testing[a]	Yes	212 (84.5)	19.64±12.22	0.889
	No	39 (15.5)	19.33±13.79	
Institutional quarantine[a]	Yes	176 (70.1)	19.81±12.10	0.645
	No	36 (14.3)	18.78±12.96	
Home isolation[a]	Yes	43 (17.1)	19.88±13.53	0.882
	No	169 (67.3)	19.57±11.91	
Students accompanied during quarantine[b]	Family member	19 (7.6)	16±12.27	0.301
	Friend	117 (46.6)	19.46±11.74	
	Alone	76 (30.3)	20.82±12.89	
Information on family members				
Family members in the medical profession[a]	Yes	49 (19.5)	17.30±11.84	0.147
	No	202 (80.5)	20.16±12.56	
Relationship with a family member[a]	Parents/siblings	11 (4.4)	25.01±13.95	0.013*
	Others**	38 (15.2)	15.01±10.49	
Family/friend infected with COVID-19[a]	Yes	34 (13.5)	22.01±12.85	0.226
	No	217 (86.5)	19.21±12.37	
Whether family member got hospitalized[a]	Yes	11 (4.4)	24.55±13.34	0.433
	No	23 (9.1)	20.78±12.72	
Family member/friend got quarantine[a]	Yes	96 (38.2)	20.73±11.82	0.255
	No	155 (61.8)	18.88±12.81	

*Significant at *P*<0.05 (two-tailed); **Neighbour, friends, or relatives; [#]Middle upper - upper and upper middle, [$]Middle lower - lower middle, upper lower and lower; Age (years) Mean±SD, 21.11±1.2; Median (range) - 21 (18-26); [a]Independent *t* test, [b]One-way ANOVA; COVID-19 testing or laboratory confirmed test is RT-PCR

lab-confirm case, *P* = 0.018), and presence of parents and siblings in the medical profession (*P* = 0.013) found a significant association with higher psychological distress among nursing students. It can be interpreted that younger students who have just started their nursing journey, had a travel history, and reported positive COVID-19 had higher psychological distress than counterparts. Likewise, students with parents and siblings in the medical profession had significantly higher psychological distress than other students. This higher stress in nursing students is evident due to the fear of catching infection to parents and siblings visiting hospitals or clinics daily during coronavirus pandemic [Table 1].

Table 2 shows the mean score of adaptive and maladaptive coping preferred by the nursing undergraduates with a maximum possible score for each coping style. The highest score was acceptance for adaptive coping and self-distraction for maladaptive coping. The mean score of IES-R was 19.52 (SD = 12.45) with a higher score indicates failure to manage stressful situation, followed by feelings distress managing stressful situations 8.29 (SD = 5.43) followed by intrusive thoughts, feelings, nightmare, and dissociative experiences 6.82 (SD = 4.63), and least to manage expressing anger, irritability, and difficulty concentrating 4.48 (SD = 3.71).

Table 3 shows the findings on correlation of psychological distress with coping styles among nursing undergraduates. The association was significant for religious coping ($P = 0.003$), active coping ($P < 0.001$), planning ($P < 0.001$), acceptance ($P = 0.019$), instrumental support ($P = 0.005$), emotional support ($P = 0.001$), and total adaptive coping styles ($P < 0.001$). In addition, psychological distress found a significant positive relationship with adaptive coping ($P < 0.001$), religious activities ($P = 0.003$), active coping ($P < 0.001$), planning ($P < 0.001$), acceptance ($P < 0.010$), instrumental support ($P = 0.005$), and emotional support ($P = 0.004$). Also nursing graduates with higher distress use higher maladaptive coping styles ($P < 0.001$), self-distraction ($P < 0.001$), venting ($P < 0.001$), behavioral disengagement ($P < 0.001$), denial ($P < 0.001$), and self-blame ($P < 0.009$).

Table 3 reflects findings on correlations between psychological distress and preferred coping styles among nursing students. Findings reported a significant positive relationship between adaptive ($P < 0.001$)

Table 2: Adaptive and Maladaptive Coping Preferences Among Nursing Students (*n*=251)

Brief-COPE & IES-R	Maximum possible point	Absolute score		Relative score (%)	
		Mean	SD	Mean	SD
Adaptive coping	64	34.75	8.33	54.29	13.01
Religion (22 and 27)	8	4.77	1.71	59.63	21.38
Active coping (2 and 7)	8	4.75	1.55	59.38	19.38
Planning (14 and 25)	8	4.29	1.61	53.62	20.13
Acceptance (20 and 24)	8	5.17	1.80	64.63	22.5
Positive reframing (12 and 17)	8	4.49	1.28	56.12	16
Instrumental support (10 and 23)	8	4.22	1.55	52.75	19.38
Emotional support (5 and 15)	8	4.15	1.63	51.88	20.38
Humor (18 and 28)	8	2.88	1.27	36	15.5
Maladaptive coping	48	19.47	4.95	40.56	10.31
Self-distraction (1 and 19)	8	4.70	1.62	58.75	20.25
Self-blame (13 and 26)	8	2.56	1.03	32	12.88
Venting (9 and 21)	8	3.51	1.31	43.87	16.38
Behavioral disengagement (6 and 16)	8	3.59	1.55	44.87	19.37
Denial (3 and 8)	8	2.85	1.17	35.62	14.63
Substance use (4 and 11)	8	2.23	0.80	27.87	10
IES-Revised	88	19.59	12.45	22.26	14.14
Intrusion	32	6.82	4.63	21.31	14.47
Avoidance	32	8.29	5.43	25.91	16.97
Hyperarousal	24	4.48	3.71	18.67	15.46

Table 3: Association and Correlation Between Psychological Distress and Coping Preferences among Nursing Students (*n*=251)

Brief-COPE	IES-R (Mean (SD))			Correlation	
	Normal (0-25)	Distress (≥26)	P	Spearman's rho	P
Adaptive coping	33.17 (8.29)	38.62 (7.14)	<0.001	0.295	<0.001
Religion (22 and 27)	4.57 (1.72)	5.27 (1.60)	0.003*	0.185	0.003*
Active coping (2 and 7)	4.43 (1.50)	5.55 (1.43)	<0.001	0.333	<0.001
Planning (14 and 25)	3.97 (1.55)	5.10 (1.48)	<0.001	0.327	<0.001
Acceptance (20 and 24)	4.99 (1.82)	5.63 (1.69)	0.010*	0.148	0.019*
Positive reframing (12 and 17)	4.39 (1.29)	4.73 (1.22)	0.062	0.119	0.060
Instrumental support (10 and 23)	4.05 (1.51)	4.66 (1.57)	0.005*	0.177	0.005*
Emotional support (5 and 15)	3.95 (1.67)	4.60 (1.43)	0.004*	0.214	0.001*
Humor (18 and 28)	2.81 (1.23)	3.08 (1.36)	0.124	0.101	0.111
Maladaptive coping	18.34 (4.63)	22.21 (4.67)	<0.001	0.403	<0.001
Self-distraction (1 and 19)	4.39 (1.60)	5.48 (1.43)	<0.001	0.307	<0.001
Self-blame (13 and 26)	2.46 (1.00)	2.83 (1.08)	0.009*	0.192	0.002*
Venting (9 and 21)	3.25 (1.18)	4.16 (1.40)	<0.001	0.302	0.119
Behavioral disengagement (6 and 16)	3.32 (1.45)	4.26 (1.62)	<0.001	0.281	<0.001
Denial (3 and 8)	2.70 (1.10)	3.22 (1.28)	<0.001	0.218	<0.001
Substance use (4 and 11)	2.22 (0.77)	2.26 (0.87)	0.751	0.017	0.791

*Significant at *P*<0.05; Spearman's correlation used to examine the associations between scores of coping strategies and IER-R

and maladaptive coping styles ($P < 0.001$), with psychological distress, indicating higher use of both types of coping styles as stress level goes up during pandemic. Interestingly, consuming substances, alcohol, and drugs did not correlate significantly with higher stress ($P > 0.05$). Likewise, making fun of the situation did not establish any significant relationship ($P > 0.05$) with stress in nursing undergraduates.

Binary logistic regression was applied to identify the factors associated with psychological distress among nursing students. All the variables that found a significant association with psychological distress were used in bivariate logistic regression. Findings revealed that junior nursing students, that is, first-year nursing students experienced higher stress (OR: 3.250, 95% CI: 1.429–7.390, $P = 0.005$) than senior nursing students. Further, students whose parents and siblings were in the medical profession reported significantly higher stress (OR: 4.444, 95% CI: 1.019–19.382, $P = 0.047$) than students whose friends, neighbors, and a distant relative were in the medical profession [Table 4].

Multivariable logistic regression is used to see a combined effect of variables showing a significant association with distress. Regression findings revealed that the presence of parents and siblings in the medical profession (OR: 6.892, 95% CI: 1.175–40.430, $P = 0.032$) significantly gave more stress to the nursing students [Table 4].

Discussion

The present study assesses psychological distress and coping styles preferred by nursing undergraduates during their stay at the hostel during the ups and downs of restrictions and unprecedented measures to stop coronavirus transmission. A single center, yet a large sample size study revealed that students faced higher stress managing or were dealing more with stressful situations followed by more rumination and frequent thoughts, nightmares, and more situation to express anger and irritability. Students reported higher stress while managing worries, thinking repeatedly about taking adequate measures against infection, washing hands frequently, driving social distance, and keeping the environment healthy.[25,26] The stress level found a significant association with age, academic session, travel history, laboratory conformation COVID-19 status for self, and presence of parents and siblings in the medical profession. These findings are in concurrence with the earlier work that reported higher anxiety among young and novice nursing students indicating the stressful effect of the pandemic on the mental status of nursing students.[26,27] Earlier work reported a significant relationship of higher anxiety with the changes of environment, lack of professional knowledge and skills about the profession, and fear of attending clinical posting.[28,29] These findings should be correlated to the present work where the first-year nursing students reported higher stress than senior students, indicating exposure to patient care, ability to work in a team, and clinical confidence inexperienced students. Conversely, the existing literature commonly reported complaints in novice nursing students about irritability, lack of concentration on the study, insomnia, and reasonable higher stress levels.[7,29,30] Trainee nursing students are also prone to stress due to the transitional nature of moving away from home to college life, fear of going to the hospital, insecurity about clinical competence, and working with diseased patients.[7,31] However, whether the COVID-19 is the primary source of stress during the first year of study or clinical environment remains inconclusive, as students in the first year routinely perceived higher stress due to many clinical and academic-related challenges and need more investigations to reach on a specific conclusion.[7,28,31]

Stress levels among female nursing students were reported higher in earlier work; it can explain that females comprise most of this study population in earlier and present work. The authors believe that

Table 4: Binary Logistic and Multivariable Regression to Find out the Factors Associated with Psychological Distress Among Nursing Graduates (*n*=251)

Variables	Category	OR (95% CI)#	OR (95% CI)$
Age (years)	≤20	1.586 (0.878-2.865)	0.099 (0.007-1.388)
	>20	Ref.	Ref.
Academic year	BSc (N) I Year	3.250 (1.429-7.390)*	9.036 (0.643-126.996)
	BSc (N) II Year	1.712 (0.734-3.997)	1.360 (0.151-12.214)
	BSc (N) III Year	Ref.	Ref.
Travel history	Yes	0.738 (0.416-1.309)	1.394 (0.276-7.041)
	No	Ref.	Ref.
Family members in the medical profession	Parents/siblings	4.444 (1.019-19.382)*	6.892 (1.175-40.430)*
	Others**	Ref.	Ref.
Tested COVID-19 positive	Yes	2.65 (0.043-1.621)	0.371 (0.022-6.122)
	No	Ref.	Ref.

*Significant at *P*<0.05; **Neighbor, friends, or relatives; #Binary logistic regression; $Multivariable regression; COVID-19 test is RT-PCR

the reason for this high level of stress may be due to staying away from family, social isolation, uncertainty about the future, fear of getting infected, and living in exceptional hostel conditions during the COVID-19 pandemic. However, the authors suggest a need for more investigations in this direction to identify the direct link of the COVID-19 pandemic on psychological status among different categories of nursing students. It is reported in earlier studies that COVID-19 infection and the multiple stressors emerging at different pandemic waves and their outcomes may increase the likelihood of psychological issues in nursing undergraduates.[9,32,33]

Psychological distress found a significant relationship with adaptive coping styles among nursing undergraduates. These findings are in concurrence with the work reported more frequent indulging in problem-solving coping strategies brings positive main effect in reducing psychophysiological symptoms and improved overall well-being in nursing students and vice versa.[28,34] However, the role of positive coping strategies to handle stress cannot be overlooked and abundantly mentioned in earlier literature in different populations.

Further, more ineffective coping styles used were associated with the development of more social problems that exaggerated emotional and physical symptoms.[35] In this study, substance abuse and the use of drugs were associated with a higher state of psychological distress. The findings agree with the earlier work that reported more psychological distress among higher use of maladaptive coping.[36,37]

Our study findings reported more frequent use of adaptive coping styles than maladaptive coping (54% vs 41%) among nursing undergraduates amid the COVID-19 pandemic. More adaptive coping styles have been previously reported among nursing undergraduates in India[23,38] and internationally.[8,23,27,36,38]

Unlike earlier work reported more use of active coping styles among the adaptive coping styles. Concentrating on best efforts and making situations better reported the most preferred adaptive coping styles among nursing students.[36] These findings for coping preferences were expected and in consensus with earlier work done on nursing students in India,[30] China,[39] and Iran.[40] In addition to active coping styles, finding comfort engaging in religious and spiritual activities are the second common coping styles preferred by participants in our study and other previous studies.[7,41,42] Engaging in religious activities works as an emotional support and helps to visualize the positive side of the problem to achieve meaning

in life, peace, and instill hope.[36,43] There is a scarcity of findings on the impact of different COVID-19 related issues on the psychological status of nursing students; however, some of these issues are well studied in front-line nurses. Studies on nurses across the country and Western countries reported higher stress and many other psychological problems since the COVID-19 pandemic.[44,45]

Limitations and Recommendations

The present study should be appraised under many limitations. The study was limited to students studying in a single tertiary care teaching institute, which may negatively impact the generalization of the findings on other populations. A single-center study limited the sample size and suggested future research to expand the scope, including nursing students from different educational institutions and programs to understand the chemistry between stress and coping styles during the pandemic. Besides, a cross-sectional study design hinders the imputation of casual association, and self-reported responses may infuse reporting bias. Future researchers should be cautious using the study findings considering the different waves of the ongoing pandemic; unprecedented and tightened measures taken by the government to stop the transmission which may infuse variations in the conclusions and need interpretation considering the long duration and span of the pandemic. Further, using different instruments for measuring stress and coping styles during a pandemic may also bring variations in the findings, and authors strictly advised to be cautious while extrapolating the result on other similar populations.

Further, a crunch of scientific work on nursing students during the COVID-19 pandemic may limit extrapolating findings to similar populations.

Conclusions

In conclusion, active engagement during the pandemic was the most frequently reported coping strategy followed by involving in religious activities, using humor, showing a positive attitude, and accepting the pandemic situation. Substance abuse was the least often preferred coping strategy, followed by self-blame and behavioral disengagement. Further, stress levels enable the students to be more active and proactive to plan ahead in the pandemic. Our findings suggest using early screening and preventive intervention to help them preclude mental health during the pandemic. Seeking the help of a respected mentor during ongoing time is equally essential and shall be advised to nursing students.

Ethical Approval: AIIMS/IEC/20/798.

Conflicts of interest

There are no conflicts of interest.

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