

Effect of Adopting One of Coping Strategies on Overcoming Stress Associated with Nursing Students' Clinical Training during COVID-19

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Abstract

The COVID-19 pandemic is considered a major challenge and source for stress among health team members specially the nurses as well as nursing students. The entire health care system is fighting for survival from the pandemic. Nurses are the front line fighters in the healthcare system. Nursing students are the future nurses and they may become the baton holders of healthcare in the near future. **This study aimed to** evaluate effect of adopting one of coping strategies on overcoming stress associated with nursing students' clinical training during COVID-19. **Method:** A quasi-experimental research design was utilized by the investigators to conduct this study. A convenient sampling technique was used to carry out this study. The number of participants was 90. **Data collection tools:** Three tools were used in this study: **First Tool; Students' Demographic Data Assessment Tool;** this tool was used to assess students' demographic characteristics as gender, age, residency, student's financial independent status, and their interest to study nursing. **Second Tool;** Perceived Stress Scale (PSS) was used for measuring the perception of stress during clinical training. **Third Tool; Coping Behaviour Inventory Tool;** this tool was used to identify coping strategies utilized by the nursing students. **Results:** Stated that, there was highly statistically significant difference in perceived stress level among the studied nursing students before and after adopting one coping strategy at $P < 0.001$. **Conclusion:** This study concluded that, adopting one coping strategy had statistically significant effect on reducing perceived stress level of nursing students during clinical training. **Recommendation:** This study recommended the importance of adopting one coping strategy to be utilized by the nursing students to reduce their stress during clinical training.

Keywords: Coping-strategies – Problem-focused - Stress - Nursing students – Clinical training

Introduction

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Most people infected with COVID-19 virus experience mild to moderate respiratory illness and recover without requiring special treatment. COVID-19 is a source of stress with great influence for individuals and society. Different individuals may experience different levels of psychological stress due to fear from getting infection by COVID-19 (Huang et al., 2020). In addition to this, COVID-19 may lead to serious feeling of stress especially after developing new variants from it, as infection of COVID-19 variants became more serious due to rapid spread of these mutated variants, which are more likely to cause break down through or re-infections in those who are vaccinated or previously infected. These

variants are more likely to cause severe disease which lead to more stress in health care team especially nurses (Al Thobaity & Alshammari, 2020; Bollinger & Ray 2021; Majrashi et al., 2021).

Outbreak of COVID-19 and its variants have very serious effect on different sectors including education in general and specifically nursing education as the majority of teaching and learning for theoretical part is shifted to be conducted online. Meanwhile, in relation to clinical practice of nursing education, it is compulsory to be completed in-person through physical attendance in the clinical setting to fulfill nursing degree requirements. However, there were several concerns from nursing students to attend their practical training physically during outbreak of COVID-19, as they will be at risk to acquire infection which let them return to their families and cause a

further unacceptable spread of the infection (*Huang et al., 2020; Roca et al., 2021*).

It is worth mentioned that, practical training for nursing students usually is considered a very stressful and challenging experience. During practical training nursing students face both physical and psychosocial stresses that lead to significant consequences (*Yasmin et al., 2018; Ahmed & Mohammed 2019; Gaber et al., 2019; Savitsky et al., 2020; Chaabane et al., 2021*). Literatures showed that, two types of sources of stress for nursing students have been documented in the literature. These are stresses induced by academic issues and those induced by clinical training. Clinical stressors include uncertainty about the unknown, fear of making mistakes, taking care of patients, nursing staff and nurse educators, fear of failure, lack of knowledge or nursing skills, unfamiliarity with patient history, diagnosis or treatment, and caring for dying or terminally ill patients (*Esia-Donkoh, 2011, D'emeh & Yacoub 2020*).

In addition to those stressors, there are other significant stressors that might result from facing crisis or pandemic such as COVID-19. In this situation, stress that might be faced by nursing students becomes more worse that may hinder their provision of care to the patients in general and specially for those who are suspected to have COVID-19 infection, as they are worried about being infected due to close contact with patients, unfamiliarity with special working environments and procedures, physical discomfort and inconvenience caused by special protection, facing the suffering and death of critically ill patients, long-term separation from family members, and risking lives while being in contact with patients with COVID-19 every day (*Ajibade et al., 2016; Carolan et al., Dewart et al., 2020; 2020; Subba et al., 2020; Vagni et al., 2020*).

Experiencing stress due to COVID-19 or its variants may lead to poor performance, aggravates a wide range of uncertainties for nursing students generating psychological and emotional stress. This will undoubtedly contribute to more obvious sources of stress. Therefore, nursing students have been encouraged to overcome stress through using different coping mechanisms (*Carolan et al.,*

2020; Subba et al., 2020; Hamadi et al., 2021). Coping refers to the intentional efforts individuals engage in to minimize the physical, psychological, or social harm of an event or situation. Meanwhile, coping strategies are key elements of nursing students' reactions. There are many different frameworks for understanding coping and many different ways of classifying coping strategies, one of these classifications is problem-focused coping. It is that kind of coping that aimed at resolving the stressful situation or event or altering the source of the stress (*Mohammed et al., 2017; Baluwa et al., 2021*).

Problem-focused is aimed at managing the stressful situation itself, for example, when the students feel stressed about going to practical training during COVID-19, in such case use of problem-focused coping strategies might involve checking with the clinical instructor about being full aware by precaution measures related to COVID-19. Problem-focused coping works better when the source of the stress is potentially under an individual's control; however, when the source of the stress is beyond the individual's control, such strategies are not usually helpful. Problem-focused coping targets the causes of stress in practical ways which tackles the problem or stressful situation that is causing stress, consequently directly reducing the stress. It aims to remove or reduce the cause of the stressor through using some techniques as; problem-solving, time-management and obtaining social support. In general problem-focused coping deals with the root cause of the problem, providing a long term solution (*McLeod, 2015, Yasmin et al., 2018; O'Byrne et al., 2020; Huang et al., 2020; Vagni et al., 2020*).

Significance of the Study

Patient care is shown by good performance of nursing students during clinical practice which results from good quality of nursing education. During practical training, all nursing students experience several stressors. However, during COVID-19 the situation became much worse and full of significant stressors, as, those stressors could result in too significant effect on nursing students' performance during clinical practice. Stress can

lead to diseases; changes in health status, poor academic performance, and because nursing students are not well trained to avoid or to cope with different stressors, there is great necessity of orienting them by different coping strategies and focus on the most relevant one that helps them to overcome any stress they might face. Therefore, the current study will be a source for improving knowledge about adopting one of coping strategies such as problem focused in order to overcome any stress they might face during their clinical practice. The results of this study for the nursing students let them aware and use relevant coping strategies to overcome different stressors during their clinical training (*Rafati et al., 2017; Yasmin et al., 2018; Diab & Elgahsh 2020*).

Aim of the study is to:

Evaluate effect of adopting one of coping strategies by nursing students on overcoming stress associated with clinical training during COVID-19 through:

- 1) Assessing effect of coping strategies utilized by the nursing students before and after intervention.
- 2) Assessing perceived stress level among the nursing students before and after adopting one coping strategy.

Research Hypothesis

This study presumed that after encouraging the nursing students to adopt one of coping strategies, this would help them to overcome stress associated with, clinical practice during COVID-19.

Methodology:

Study Design:

A quasi-experimental study design was used to conduct this study.

Setting:

The study was conducted at the Faculty of Nursing in the British University, in Egypt, in the academic year 2020/21, semester one and two, it started from October 2020 to April 2021. The investigators selected this setting as they are working as academic staff in the mentioned setting.

Subjects of the Study:

Subjects of this study were second year nursing students.

Sampling Method:

To recruit the required sample a purposive sampling technique was used. The total number of participants was 90.

Inclusion/Exclusion Criteria:

All students enrolled in second year from both gender, and their prior education was secondary school was included in the study, while students who had technical nursing degree certificate or repeated the year; they were excluded from the study.

Data Collection Tools:

Data were collected by using three tools:
First Tool: Student's Demographic Data Assessment Tool: this tool was used to assess student's demographic characteristics as gender, age, residency, student's financial independent status, and her/his interest to study nursing.

Second Tool: Perceived Stress Scale (PSS): Adopted from *Cohen et al. (1983)*, it is the most widely used psychological instrument for measuring the perception of stress, and it is used to ask about the participant's feelings and thoughts during the last month. It was used twice before and after conduction orientation session about the adopted coping mechanism. In this tool, the participants were asked to indicate how often they felt or thought a certain way, the PSS included 10 questions to be asked as follows; how often the student was upset because of something happened unexpectedly, how often the student felt inability to control the important things in her/his life, how often the student felt nervous and stressed, how often the student felt confident about her/his ability to handle personal problem, how often the student felt that things were going her/his way, how often the student found that she/he could not cope with all the things that she/he had to do, how often the student had been able to control irritation in her/his life, how often the student felt that she/he was on top of things, how often the student had been angered because of things that were outside of her/his control, and how often the student felt

difficulties were piling up so high that she/he could not overcome them.

Scoring system of PSS: It was done by using a 5 point Likert scale with options as follows; never (1), rare (2), sometimes (3), often (4), and always (5). The PSS scores are obtained by reversing responses (e.g. 1=5, 2=4, 3=3, 4=2 & 5=1) to the four positively stated items (items 4, 5, 7 and 8), and then summing across all scale items. A short 5-item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 items scale. Respondent's scores ranged from 1 to 40. Respondent's scores ranging from 1-13 would be considered as low stress level, while respondent's scores ranging from 14-26 would be considered as moderate stress level, respondent's scores ranging from 27-40 would be considered as high stress level.

Third Tool: Coping Behavior Inventory (CBI) Assessment Tool: Adopted from Carver *et al.* (1989), it is a 4-point scale used to identify the coping strategies that used by the participants and to which extent she/he used it. This tool was used before and after adopting one coping strategy before and after clinical training. This scale comprised 4 items divided into four subscales as follows: First subscale consists of seven items and measures avoidance behaviors (i.e., efforts to avoid the stressful situation). Second subscale consists of six items and it measures problem-solving behaviors (i.e., actions to manage or change the stress arising out of a stressful situation). Third subscale consists of four items and it measures optimistic coping behaviors (i.e., efforts to keep a positive attitude toward the stressful situation). Fourth subscale consists of three items, and measures transference coping behaviors (i.e., efforts to transfer one's attention from the stressful situation to other things). Higher total items, score on each factor indicates more frequent utilization of the coping strategy.

Scoring system of CBI tool it was as follows; the participant was asked how frequently she/he used each of the coping strategy which is on a 4-point scale as follows; "usually do not do this at all", usually do this a little bit, usually do this a medium amount, and usually do this a lot. If the respondent answered by "usually do not at all", the score

would be given "1" and if the respondent answered by "usually do a little bit", the score would be given "2", if the respondent answered by "usually do this a medium amount", the score would be given "3", and if the respondent answered by "usually do this a lot", the score would be given "4". This tool can be scored by summing the responses for a total score by dividing the total by the number of items to obtain an average score. Lower score reflects less frequent use of coping mechanism.

Validity and Reliability of Data Collection Tools:

Data collection tools were reviewed for their content validity by three Professors from Medical Surgical Nursing who tested the content and face validity of data collection tools. According to assessors' feedback necessary modifications were requested as adding questions and deleting others and the investigators did them all to get the final valid version of the tools. Reliability was done to test data collection tools by measuring their internal consistency using Cronbach's alpha coefficient test. This turned to be ($\alpha=0.85$) for PSS tool; ($\alpha=0.93$) for CBI tool. These indicated high degrees or reliability for the study tools.

Ethical Considerations

Approval was obtained from the Dean of Nursing Faculty in the British University to conduct this study, after explaining the aim of the study, implementation plan, and the policy of maintaining the participants' rights throughout the study. The investigators informed the students that, they had the right to withdraw from the study at any time without giving any reason. In addition, the investigators informed them that, the data collection tools were anonymously designed. After all these clarifications, the investigators obtained a consent form from each student which proved that she/he was willing to participate in the study.

Pilot Study

A pilot study was conducted before the actual data collection. It was done on 10% (9 students) of the sample to ensure that the implementation of the study plan and the tools were accurately working. The results of the pilot study revealed that, the data collection

tools needed some wording modifications and reordering of their contents to be understood. The tools were modified accordingly. The nursing students who participated in the pilot study were excluded from the main study sample.

Data Collection Phase:

Data collection for the current study was done in 3 phases as follows; preparation phase; that was started during semester one clinical training, and it was called pre implementing coping strategies, in this phase the investigators explained to the students' the aim of the study, and data collection tools. After that the investigators did baseline assessment for the students to assess their demographic data, and their perceived stress level that they faced after they completed clinical training for semester one. In addition, the investigators assessed the students' coping strategies that they might utilize during clinical training to overcome stressors if any. Then, the investigators distributed data collection tools on the students and asked them to fill them in. After the students finished filling in the tools, the investigators asked them about time they spent to fill in the tools, the average time was 25 to 30 minutes. According to the findings that investigators assessed the perceived stress level that they experienced during semester one clinical training as well assessed their coping strategies to overcome the stress if any.

Then second phase started one month before starting semester two clinical training, as the investigators informed the students about the time schedule for conducting 3 sessions, in each week, there would be one session in a specific day that was not contradicted with their teaching timetable, and each session took 2 hours, in the first session; the investigators explained to the students what is meant by coping strategies, what are the different coping strategies advantages and disadvantages of each one, importance of utilizing different coping strategies. In the second session; the investigators focused on one of the coping strategy which was problem focused and explained the advantages of using this one. In third session; the investigators did some applications with the nursing students about the selected adopted coping strategy in order to let them being familiar by the way they will use it in order to help them on overcoming stress they faced in semester one during their

clinical training especially in the presence of COVID-19. After that, the investigators met the nursing students one day before starting semester two clinical training and conducted to them a refreshed session, informing them about what they could do during clinical training if they face any stressor.

Later, evaluation phase, in this phase, the investigators used PPS to assess the effect of sessions that had been conducted on reducing stress. Also, the investigators informed the students that there would be continuous follow up for them during clinical training to assess to what extent the students would be able to utilize problem focused coping strategies that had been explained to them before attending semester two clinical training, and according to the students' responses the investigators recorded the results as pre and post implementing problem focused coping strategy and then data analysis was done accordingly.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 18, through using frequencies, percentages, Paired t-test, and Chi square test. The results of the study were reported by using descriptive statistics (frequencies, percentages, and means).

Results

Table (1) shows that, 70% of the nursing students in the studied sample were males. Concerning their age, it ranged between 18 to 21 years, with a mean age of 19.7 ± 0.796 years. With regard to their previous obtained certificate, the entire studied sample had secondary education. As regards residency, the same table reveals that, 8.9%, 53.3%, and 37.8% of them were living alone, with family, and with friends respectively. Meanwhile, 41.1% and 58.9% of the studied sample were either dependent on their families or are self-independent financially respectively. As regards the nursing student interest to join the faculty of nursing and study nursing the same table reveals that, 73.3% and 26.7% of them were interested and not interested in studying nursing respectively.

Table (2) shows that, 15.6%, 23.3%, 35.6%, 12.2%, and 13.3% of the nursing students in the studied sample their perceived stress before

intervention were as follows; never, rarely, sometimes, often, and always respectively.

Table (3) shows that, 15.6%, 16.7%, 38.9%, 14.4%, and 14.4% of the nursing students in the studied sample their perceived stresses after adopting one coping strategy were as follows; never, rarely, sometimes, often, and always respectively.

Table (4) presents that, before intervention 23.3%, 30%, 27.8%, and 18.9% of the studied sample used emotion-focused coping strategy as follows; usually not at all, usually do little bit, usually do medium, and usually do a lot, respectively. Meanwhile, 18.9%, 31.1%, 36.7%, and 13.3% of them used problem focused coping strategy as follows; usually not at all, usually do little bit, usually do medium, and usually do a lot, respectively. Concerning dysfunctional coping strategy, the same table shows that, 34.4%, 30%, 25.6%, and 10% of the studied sample used it as follows; usually not at all, usually do little bit, usually do medium, and usually do a lot, respectively.

Table (5) reveals that, 46.7%, 50%, and 35.6% of the nursing students in the studied sample used emotion-focused coping strategy, problem focused coping strategy and dysfunctional coping strategy respectively.

Table (6) reveals that, 13.3%, 35.5%, 35.5% and 15.6% of the nursing students in the studied

sample who utilized the adopted coping strategy which (focused problem) as follows; usually not at all, usually do little bit, usually do medium, usually do a lot, respectively.

Table (7) shows that, 10%, 37.8%, and 52.2% of the nursing students in the studied sample perceived stress level before starting clinical training was low, moderate and high level respectively. Meanwhile, after adopting one coping strategy, perceived stress level among the nursing students in the studied sample became 2.2%, 61.1% and 36.7%, which reflected low, moderate, and high level respectively. In addition, the same table shows that, there was a highly statistically significant difference between total levels of perceived stress after adopting one coping strategy at $P = 0.000$.

Table (8) shows that, there was a highly statistically significant relation between level of perceived stress after adopting one coping strategy (problem solving) at $P = 0.000$.

Table (9) reveals that, there were a highly statistically significant relations between male gender, financial independence status, and being interested in studying nursing among the studied sample and the level of perceived stress before and after adopting one coping strategies on overcoming stress during clinical training, at $P = 0.000$.

Table (1): Frequency and Percentage Distribution of Demographic Characteristics of the Nursing Students in the Studied Sample (n=90)

Items	No.	%
Gender		
Male	63	70
Female	27	30
Age (in years)		
18 -< 19	40	44.4
19 - 21	50	55.6
$\bar{x} \pm SD 19.7 \pm 0.796$		
Residency		
Alone	8	8.9
With family	48	53.3
With friends	34	37.8
Financial independent status		
Dependent on the family	37	41.1
Self-independent	53	58.9
Interested in studying nursing		
Interested	66	73.3
Not interested	24	26.7
Previous educational level		
Secondary school	90	100

Table (2): Frequency and Percentage Distribution of Perceived Stress among the Nursing Students in the Studied Sample before Intervention (n=90)

Items	Never		Rarely		Sometimes		Often		Always	
	No.	%								
How often have you been upset because of something that happened unexpectedly?	11	12.2	33	36.7	29	32.2	12	13.3	5	5.6
How often have you felt that you were unable to control the important things in your life?	12	13.3	15	16.7	40	44.4	20	22.2	3	3.3
How often have you felt nervous and stressed?	5	5.6	19	21.1	36	40	17	18.9	13	14.4
How often have you felt confident about your ability to handle your personal problems?	26	28.9	27	30	20	22.2	6	6.7	11	12.2
How often have you felt that things were going your way?	23	25.6	3	3.3	34	37.8	6	6.7	24	26.7
How often have you found that you could not cope with all the things that you had to do?	11	12.2	27	30	32	35.6	14	15.6	6	6.7
How often have you been able to control irritations in your life?	19	21.1	12	13.3	36	40	1	1.1	22	24.4
How often have you felt that you were on top of things?	17	18.9	14	15.6	33	36.7	3	3.3	23	25.6
How often have you been angered because of things that happened that been outside of your control?	7	7.8	21	23.3	33	36.7	17	18.9	12	13.3
How often have you felt difficulties were piling up so high that you could not overcome them?	15	16.7	34	37.8	24	26.7	12	13.3	5	5.6
Total	14	15.6	21	23.3	32	35.6	11	12.2	12	13.3

Table (3): Frequency and Percentage Distribution of Perceived Stress among the Nursing Students in the Studied Sample after Intervention (n=90)

Items	Never		Rarely		Sometimes		Often		Always	
	No.	%								
How often have you been upset because of something that happened unexpectedly?	14	15.6	28	31.1	26	28.9	16	17.8	6	6.7
How often have you felt that you were unable to control the important things in your life?	7	7.8	27	30	32	35.6	16	17.8	8	8.9
How often have you felt nervous and stressed?	4	4.4	17	18.9	39	43.3	20	22.2	10	11.1
How often have you felt confident about your ability to handle your personal problems?	24	26.7	7	7.8	31	34.4	4	4.4	24	26.7
How often have you felt that things were going your way?	23	25.6	4	4.4	37	41.1	4	4.4	22	23.5
How often have you found that you could not cope with all the things that you had to do?	6	6.7	22	24.4	42	46.7	17	18.9	3	3.3
How often have you been able to control irritations in your life?	17	18.9	3	3.3	38	42.2	6	6.7	26	28.9
How often have you felt that you were on top of things?	25	27.8	2	2.2	37	41.1	7	7.8	19	21.1
How often have you been angered because of things that happened that been outside of your control?	10	11.1	19	21.1	23	25.6	27	30	11	12.2
How often have you felt difficulties were piling up so high that you could not overcome them?	7	7.8	18	20	41	45.6	18	20	6	6.7
Total	14	15.6	15	16.7	35	38.9	13	14.4	13	14.4

Table (4): Frequency and Percentage of Different Coping Strategies Used by the Studied Sample before Intervention (n=90)

Coping strategies used	Usually not at all		Usually do little bit		Usually do medium		Usually do a lot	
	No.	%	No.	%	No.	%	No.	%
Emotion-focused coping strategies								
Accepting the reality that the stress happened and learning to live with it	22	24.4	23	25.6	33	36.7	12	13.3
Getting moral support from others	21	23.3	25	27.8	27	30	17	18.9
Using humor and making fun of the stressor	28	31.1	35	38.9	14	15.6	13	14.4
Viewing a stressor in positive terms that should lead to active, problem-focused coping	16	17.8	30	33.3	30	33.3	14	15.6
Using ones religion as a source of emotional support and an active coping	20	22.2	20	22.2	21	23.3	29	32.2
Total emotion – focused coping strategies	21	23.3	27	30	25	27.8	17	18.9
Problem Focused Coping Strategies								
Taking steps to remove or improve the stressor	18	20	26	28.9	35	38.9	11	12.2
Thinking out a systematic method to cope with a stressor	17	18.9	29	32.2	32	35.6	12	13.3
Asking for help and advice from others, seeking advice	15	16.7	29	32.2	31	34.4	15	16.7
Total problem focused strategies	17	18.9	28	31.1	33	36.7	12	13.3
Dysfunctional coping strategies								
Refusal to believe the stressor exists	43	47.8	28	31.1	12	13.3	7	7.8
Focusing on other things to take one's mind of the stressor	17	18.9	27	30	39	43.3	7	7.8
Use medications to relieve stress	38	42.2	23	25.6	19	21.1	10	11.1
Giving up trying to manage the stress	32	35.6	27	30	22	24.4	9	10
Criticizing one's self, blaming one's self for what happened	26	28.9	30	33.3	21	23.3	13	14.4
Total dysfunctional coping strategies	31	34.4	27	30	23	25.6	9	10

Table (5): Frequency and Percentage of Coping Mechanism Used by the Studied Sample before Intervention

Coping strategies	No.	%
Total Emotion– focused coping strategy	42	46.7
Total Problem focused coping strategy	45	50
Total Dysfunctional coping strategy	32	35.6

Table (6): Frequency and Percentage of Adopted One Coping Strategy Used by the Studied Sample after Intervention (n=90)

Problem Focused Strategies	Usually not at all		Usually do little bit		Usually do medium		Usually do a lot	
	No.	%	No.	%	No.	%	No.	%
Taking steps to remove or improve the stressor	9	10	31	34.4	38	42.2	12	13.3
Thinking out a systematic method to cope with a stressor	12	13.3	31	34.4	34	37.8	13	14.4
Asking for help and advice from others, seeking advice	14	15.6	34	37.8	25	27.8	17	18.9
Total problem focused strategies	12	13.3	32	35.5	32	35.5	14	15.6

Table (7): Comparison between Perceived Stress Level among the Nursing Students in the Studied Sample before and after Intervention (n=90)

Perceived stress level	Before				After				t-test
	No.	%	Mean	± SD	No.	%	Mean	± SD	
Low	9	10	2.42	0.670	2	2.2	2.34	0.522	0.000*
Moderate	34	37.8			55	61.1			
High	47	52.2			33	36.7			

** There is a highly significance in perceived stress scale before and after intervention.

Paired t-test is used to test significance of perceived stress scale before and after intervention.

Table (8): Correlation between Perceived Stress Level and the Adopted Coping Strategy (Problem Focused)

Adopted coping strategy problem focused	Perceived Stress Level			X ²	P- Value
	Low	Moderate	High		
Not at all	2	10	0	68.591	0.000
Little bit	0	32	0		
Medium	0	13	19		
A lot	0	0	14		

Table (9): Relation between Demographic Data and Total Level of Perceived Stress before and after Adopting One Coping Strategies

Demographic data	Level of Perceived Stress												
	Before						After						
	Low		Moderate		High		Low		Moderate		High		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Gender													
Male	0	0	16	17.8	47	52.2	0	0	30	33.3	33	36.7	
Female	9	10	18	20	0	0	2	2.2	25	27.8	0	0	
X ²	49.66						25.06						
Significance	P-Value	0.000						0.000					
Residency													
Alone	4	4.4	23	25.6	21	23.3	1	1.1	30	33.3	17	18.9	
With family	0	0	1	1.1	7	7.8	0	0	4	4.4	4	4.4	
With friends	5	5.6	10	11.1	19	21.1	1	1.1	21	23.3	12	13.3	
X ²	7.62						0.866						
Significance	P-Value	0.106						0.929					
Financial independence status													
Dependent	9	10	28		0	0	2	2.2	35	38.9	0	0	
Independent	0	0	6	31.1	47	52.2	0	0	20	22.2	33	36.7	
X ²	69.59						37.42						
Significance	P-Value	0.000						0.000					
Interested in studying nursing													
Interested	9	10	34	37.8	23	25.6							
Not interested	0	0	0	0	24	26.7	2	2.2	55	61.1	9	10	
X ²	29.94						56.52						
Significance	P-Value	0.000						0.000					

Discussion

Stress among nursing students is an area of growing concern and it has been exacerbated during the COVID-19 pandemic, as it has been a source of great stress for all persons, but it is very stressful and especially harder for those who are working at the core of pandemic such as nurses during their work as well as nursing students during their clinical training.

In the present study, more than two thirds of the studied patients were males. With regard to the mean age of the nursing students in the studied sample, it was 19.7 ± 0.796 . Concerning the nursing students' residency, the finding of this study revealed that, more than

fifty percent of them lived with their families. As regards the nursing students' financial independence status, the current study showed nearly two thirds of them were dependent on themselves, and regarding to being interested to study nursing, this study stated that, less than three quarters of them were interested to study nursing.

As regards the coping strategies utilized by the nursing students during their clinical training before adopting specific coping strategy, the current study indicated that, fifty percent of the nursing students' utilized problem-focused coping strategy by their own. Meanwhile, around half of them utilized

emotional focused coping strategy. However, more than one third of them utilized dysfunctional coping strategy. This may be due to that, the actions of problem focused coping strategy is familiar with the nursing students as they are studying principles of problem solving skills, and they practice all the items that were mentioned under problem solving skills during their daily work in the clinical training. This finding is supported by *Pourmohamadreza-Tajrishi et al. (2015)*, who stated that, problem-focused coping strategy training program had positive effect on the promotion of mental health and decreased stress and associated symptoms among nursing students. As well, *Trougakos et al., (2020)* reported that, problem-focused coping strategy would promote better mental health outcomes and well-being, as it basically aims to solve the problem completely and how to deal with stress anxiety effectively and is relatively associated with reduced levels of stress; problem-focused strategies are expected to moderate the negative effects of the stressor.

Concerning adopting one coping strategy which was problem focused, this study indicated that, more than one third of the nursing students usually did all the actions related to problem focused strategy. This is attributed to the applicability and familiarity of the actions related to this strategy, as they utilize them in their daily life as well as in clinical training. This finding is the same line with that of *Ahmed and Mohammed (2019)*, who reported that, focused problem strategy is a strategy that is mostly commonly used among nursing students to overcome stress, and it is more significantly utilized by nursing students to manage stressors due to attending clinical training and patient care, environment, and teachers and clinical staff. In addition, this strategy could be explained by the fact as being the easiest for students and related to their personalities.

The current study showed that, there was a highly statistically significant difference regarding total level of perceived stress among the nursing students after adopting one coping strategy. This may be attributed to the nursing students had been taught about the principles of adopting and utilizing one coping strategy to overcome any stress during clinical training and also what was mentioned to them to be

adopted was familiar and easy for them to be implemented. This result is supported by that of a very recent study carried out by *Garbóczy et al. (2021)*, who clarified that, individuals who were characterized by a preference for certain coping strategies reported significantly lower perceived stress and/or health anxiety than those who did not use any coping methods. As well, *Shdaifat et al. (2018)*, in a previous similar study, highlighted that, utilizing coping strategies to manage stress among nursing students can positively reduce levels of stress and promote health.

The current study reported that, the nursing students experienced a decrease of perceived stress from high into moderate level after adopting problem focused as a coping strategy. This may be due to that the students became more aware by what could be done to overcome any stressors they might face due COVID-19 or any other stressors while they are attending clinical training. In the same line with this finding *Shdaifat et al. (2018)* detected that, problem focused strategies were the most commonly organized mechanisms of coping with stress.

The current study reported that, there was a highly statistically significant difference in total level of perceived stress before and after adopting problem focused coping strategy among males' gender, who were independent financially, and those who were interested to study nursing. This might happen because of the male nurses are usually responsible about covering expense needs and once they have been taught about one coping strategy which let them enthusiastic to utilize in order to help them fulfill their needs which of course will relieve much stress among them. This finding is incongruent with that of *Adasi et al. (2020)*, who stated that, females utilize social support and assistance seeking behaviour as a coping approach. Similarly, *Shdaifat et al. (2018) & Graves et al.(2021)*, revealed that, female students were more motivated for using self-distraction activities to deal with stressful circumstances compared to their male counterparts, therefore they are able to cope and adapt with different stressors.

Conclusion

This study concluded that, COVID-19 pandemic had imposed a significant stress

among the nursing students. Therefore, adopting proper coping mechanism had significant effect on reducing perceived stress level associated with clinical training of the studied sample of nursing students during COVID-19.

Recommendations

This study is recommended in order to manage stress among nursing students during clinical training; it is highly recommend explaining to them different coping strategies and training them on how they utilize the selected coping strategy. As well, this study recommended involving more nursing students at different study years in order to be able to generalize the results for large groups.

Limitations

Although this study reached its aim, there were some unavoidable limitations. This research was conducted only on a small size of population, who were attending clinical training in second year.

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References

- Adasi, G.S., Amponsah, K.D., Mohammed, S.M., Yeboah, R., & Mintah, P. (2020). Gender differences in stressors and coping strategies among teacher education students at University of Ghana. *Journal of Education and Learning*; 9:2.
- Ahmed, W.A.M., & Mohammed, B.M.A. (2019). Nursing students' stress and coping strategies during clinical training in KSA. *Journal of Taibah University Medical Sciences*; 14(2): 116-122.
- Ajibade, B.L., Olabisi, O.O., Fabiyi, B., Ajao, O.O., & Ayeni. A.R. (2016). Stress, types of stressors and coping strategies amongst selected nursing schools students in South-West Nigeria. *European Journal of Biology and Medical Science Research*; 4(3): 1-15.
- Al Thobaity, A., & Alshammari, F. (2020). Nurses on the frontline against the COVID-19 pandemic: An integrative review. *Dubai Medical Journal*; 3 (3):87-92.
- Baluwa, M. A., Lazaro, M., Mhango, L., & Msiska, G. (2021). Stress and coping strategies among Malawian undergraduate nursing students. *Advances in Medical Education and Practice*; 28(12): 547-556.
- Bollinger, R., & Ray, S. (2021). COVID Omicron variant: What you need to know. Centers of Disease Control and Prevention. Available at: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/covid-omicron-variant-what-you-need-to-know>
- Carolan, C., Crookes, P., McGhee, S., & Roxburgh, M. (2020). COVID-19: Disruptive impacts and transformative opportunities in undergraduate nurse education. *Journal of Nurse Education in Practice*; 46.
- Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*; 56(2):267-283.
- Chaabane, S., Chaabna, K., Bhagat, S., Abraham, A., Doraiswamy, S., Mamtani, R., & Cheema, S. (2021). Perceived stress, stressors, and coping strategies among nursing students in the Middle East and North Africa: An overview of systematic reviews. *BMC Journal*; 10:136.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*; 24(4):385-396.
- D'emeh, W.M., & Yacoub, M.I. (2020). The visualization of stress in clinical training: A study of nursing students' perceptions. *Nursing Open*; 8(1): 290-298.
- Dewart, G., Corcoran, L., Thirsk, L., & Petrovic, K. (2020). Nursing education in a pandemic: Academic challenges in response to COVID-19. *Nurse Education Today*; 92.
- Diab, G.H.A., Elgahsh, N.F. (2020). E-learning COVID-19 pandemic: Obstacles faced nursing students and its effect on their attitude while applying it. *American Journal of Nursing Sciences*; 9(4): 300-314.
- Esia-Donkoh, K., Yelkpiere, D., & Esia-Donkoh, K. (2011). Coping With Stress: Strategies Adopted by Students at the Winneba

- Campus of University of Education, US-China Education Review; (B2); 290-299.
- Gaber, M.A., Metwally, F.G., & Ibrahim, A.F. (2019). Developing strategies for overcoming challenges facing nursing's clinical teaching. *American Journal of Nursing Research*; 7(6): 1102-1115.
- Garbóczy, S., Szemán-Nagy, A., Ahmad, M.S., Harsányi, S., Ocsenás, D., Rekenyi, V., Al-Tammemi, A.B., & Kolozsvári, L.R. (2021). Health anxiety, perceived stress, and coping styles in the shadow of the COVID-19. *BMC Psychology*; 9(1):53.
- Graves, B.S., Hall, M.E., Dias-Karch, C., Haischer, M.H., & Apter, C. (2021). Gender differences in perceived stress and coping among college students. *PLoS ONE*; 16(8):
- Hamadi, H.Y., Zakari, N.M.A., Jibreel, E., AL Nami, F.N., Smida, J.A.S., & Ben Haddad, H.H. (2021). Stress and coping strategies among nursing students in clinical practice during COVID-19. *Nursing Report Journal*; 11(3):629-639.
- Huang, L., Lei, W., Xu, F., Liu, H., & Yu, L. (2020). Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. *PLoS One*; 15:8.
- Majrashi, A., Khalil, A., Nagshabandi, E. A., & Majrashi, A. (2021). Stressors and coping strategies among nursing students during the COVID-19 pandemic: Scoping review. *Nursing Reports (Pavia, Italy)*; 11(2): 444-459.
- McLeod, S.A. (2015). Emotion focused coping. *Simply Psychology*. Available at: www.simplypsychology.org/sress-management.html#em.
- Mohammed, Sh.F.M., Ghaith, R.F.A., & Mohamed , A.I. (2017). Relation between stress and coping strategies as perceived by nursing students during clinical practice. *American Journal of Nursing Research*; 5(6): 250-259.
- O'Byrne, L., Gavin, B., & McNicholas, F. (2020). Medical students and COVID-19: The need for pandemic preparedness. *Journal of Medical Ethics*; (46):623-626.
- Pourmohamadreza-Tajrish, M., Azadfallah, P., Hemmati Garakani, S., & Bakhshi, E. (2015). The effect of problem-focused coping strategy training on psychological symptoms of mothers of children with Down syndrome. *Iranian Journal of Public Health*; 44(2): 254-262.
- Rafati, F., Nouhi, E., Sabzevari, S., & Dehghan-Nayeri, N. (2017). Coping strategies of nursing students for dealing with stress in clinical setting: A qualitative study. *Electron Physician*; 9 (12):6120-6128.
- Roca, J., Canet-Vélez, O., Cemeli, T., Lavedán, A., Masot, O., & Botigué, T. (2021). Experiences, emotional responses, and coping skills of nursing students as auxiliary health workers during the peak COVID-19 pandemic: A qualitative study. *International Journal of Mental Health Nursing*; 30(5):1080-1092.
- Savitsky, B., Findling, Y., Erel, A., & Hendel, T. (2020). Anxiety and coping strategies among nursing students during the COVID-19 pandemic. *Nurse Education in Practice*; 46.
- Shdaifat, E., Jamama, A., & Al-Amer, M. (2018). Stress and coping strategies among nursing Sstudents. *Global Journal of Health Science*; 10:5.
- Subba, R., Subba, H., Singh, J., & Mehta, R. (2020). Psychological impact and coping strategies of nursing students during the outbreak of Coronavirus Disease in Nepal. *Asian Journal of Multidisciplinary Studies*; 8:9.
- Trougakos, J.P., Chawla, N., & McCarthy, J.M. (2020). Working in a pandemic: exploring the impact of COVID-19 health anxiety on work, family, and health outcomes. *Journal of Applied Psychology*; 105(11): 1234-1245.
- Vagni, M., Maiorano, T., Giostra, V., & Pajardi, D. (2020). Coping with COVID-19: Emergency stress, secondary trauma and self-efficacy in healthcare and emergency workers in Italy. *Front Psychology*; 3:11.
- Yasmin, S., Hussain, M., Parveen, K., & Gilani, S.A. (2018) Coping strategies of nursing student against academic and Cclinical stress at public sector Lahore. *International of Social Sciences and Management*; 5(3): 209-218.