



COPING PROCESSES ON NURSING STUDENTS' PERCEIVED STRESS DURING CLINICAL TRAINING: AN INTERVENTION STUDY

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Abstract

Background: Learning how to manage stress not only benefits student nurses as they enter the nursing profession, but also plays a critical role during their nursing education. Unmanaged stress in nursing students can lead to poor academic and clinical performances and mental health problems.

Aim of the study: Evaluate the role of coping processes on nursing students' perceived stress during clinical training: an intervention study.

Design: A quasi-experimental pretest-and-posttest design was used to determine the role of coping processes on nursing students' perceived stress during clinical training in Technical Health Institute in Zagazig city.

Setting: the current study was conducted at Technical Health Institute at El Ahrar, Zagazig, Sharkia Governorate.

Sample: A simple random sample of the second-year nursing students from the academic year 2020 - 2021, enrolled in the general nursing department in the first semester. The total number of nursing students were 292; the required sample size was 100 nursing student divided equally randomly into two groups; study & control.

Tools: Three tools were used to collect data for the study; Demographic data questionnaire and Student Nurses Stress Index, Brief Cope Inventory, and emotional approach coping scale.

Results: The results revealed post- intervention significant negative correlation between stress score and problem focused coping score. There was significant improvement of problem focused coping approach and total emotional coping approach score in the study group at post intervention program, $p < 0.05$.

Conclusion: the study intervention program was effective in reducing stress and improve coping processes usage among the studied nursing students.

Recommendations: Applying the study intervention program for more improvements to decrease the risk of stress and improve coping processes among nursing students in the nursing educational institutions.

Keywords: Coping processes, Nursing students and Stress

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Introduction

Stress has even been dubbed the “Health Epidemic of the 21st Century” by the World Health Organization (WHO). This prevalence of stress also is a large burden to the economy **Brulé & Morgan, (2018)**. Stress is “the nonspecific response of the body to any demand made upon it, that is, the rate at which we live at anyone moment.” Stress is the process of experiencing stimuli that cause uneasiness, displeasure, excitement, tension in individuals and the reactions to these stimuli (**Komser & Özakgöl, 2023**).

Commonly, the term stress is used to mean both stressors and the stress response. Stressors occur at work, at home, or in our social life and are sometimes referred to as external environments (**Epel et al., 2018**). In addition, stressors are anything an individual perceives as a threat and produce a state of stress by disrupting homeostasis (**Mifsud & JMHM, 2018**). Moreover, stress refers to a dynamic interaction between the individual and the environment. In this interaction, demands, limitations and opportunities related to work may be perceived as threatening to surpass the individual’s resources and skills. In case of disarrangement, this interaction may lead to cognitive, emotional and behavioral alterations (**Samina et al., 2018**).

Nursing is regarded as a demanding and stressful profession because it mostly deals with clients in complex and interacting clinical settings (**Ahmed et al., 2021**). Nursing education contains two parts: theoretical and clinical. The clinical nursing learning plays a major role in nursing education; it forms more than half of the nursing curriculum. The learning environment is significant with respect to clinical learning and its outcomes; also it is a powerful educational component for acquiring nursing knowledge and skills (**Bsharat, et al., 2023**).

The training and experience acquired by students during their work placements are even more important in Health Sciences degrees, where individuals often work in highly sensitive circumstances and conditions with little margin of error. This makes the healthcare environment highly stressful, resulting in higher levels of perceived stress among students in this field than in other areas (**Lepiani-Díaz et al., 2023**).

Nursing students experience a high level of stress during their training. This stress comes not only from academics, but also from clinical stress arising from the theory-practice gap, along with possible poor relationships with the clinical staff. As well as, nursing students commonly cited

"problems with peer support", poor "treatment by patients and their families", "problems with supervisors", and "conflicts with physicians" as sources of stress (**Sarikoc et al., 2017**). Moderate levels of stress can motivate nursing students to excel by stimulating their potential and desire to learn. However, chronic or excessive stress not only negatively affects the physical and mental state of nursing students but also decreases their clinical performance, which may ultimately jeopardize the quality of patient care. Sometimes they feel chest pain, rapid heartbeat, depression or general unhappiness and sleeping too much or too little whenever something goes wrong. It may even lead to burnout (**Labrague, et al 2017; Ye et al., 2018**).

Furthermore, stress could result to deleterious symptoms such as alcoholism and drug dependence, eating disorder, indiscriminate use of illegal substances, sleep disorder, suicide, absenteeism, mental health disorders, and even psychological symptoms (**Department of Health and Human Resources, 2017; Labrague et al., 2017**).

Coping is defined as a cognitive and behavioral effort taken by individuals to try to either alleviate or appreciate the requirements creating the disparity between the person and the coexisting environment. Their primary suggestion included an in-depth analysis of the determinants leading to stress and their strategic management protocols. They envisioned coping as being either problem-focused or emotion-focused (**Kwaah & Essilfie, 2017; Deshpande & Sharma, 2022**).

Coping processes are cognitive and behavioral strategies that individuals adapt to perceived internal and external stressors (**Ramadan & Said, 2018; Lazarus & Folkman, 1987**). These are divided into positive and negative coping styles. Positive coping aims to reduce stress by making positive appraisals and finding solutions. However, negative coping aims to deal with stressful events by engaging in negative thoughts and poor behaviors, such as avoidance and venting (**Liu et al., 2022**).

Students' stress in their clinical practice can be altered and influenced by the coping strategies they choose to employ. Coping is a constantly changing cognitive and behavioral effort to manage specific external and/or internal demands that are experienced as taxing or exceeding the resources of the person (**Ab Latif & Nor, 2019**). 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 (Baluwa et al., 2021). The second is Coping with a focus on emotion, besides being a passive strategy, involves eliminating the emotions that occur against stress sources (Hatunoglu, 2020).

The psychiatric nurse encouraging the student nurse to apply Adaptive Coping Strategies which include Awareness, Relaxation, Meditation, and Interpersonal Communication with a Caring Other, Problem Solving, Pets and Music (Can et al., 2020). Nursing intervention program for enhancing coping patterns among nursing students include health education, stress management, decreasing maladaptive responses to the identified stressor, enhancing adaptation toward stressors, improving psychological wellbeing, communication skills, psychosocial skills, assertive techniques, relaxation techniques, problem-solving, crisis intervention, environmental change, social support, stigma reduction, role modelling, counselling, motivation, providing emotional support, lifestyle changes and the teaching of coping skills. Managing stress effectively and using healthy coping strategies is an important skill required for students who enroll in nursing, for optimum performance in their future life (Ahmed et al., 2021)

Aim of the study

The aim of this study was to evaluate The Role of Coping Processes on Nursing Students' Perceived Stress during Clinical Training: An Intervention Study.

It will be achieved through the following objectives:

- 1-To assess nursing students' perceived stress during clinical training.
- 2-To assess nursing students' coping processes.
- 3-To develop and implement the intervention program on nursing students' perceived stress and coping processes during clinical training.
- 4- To evaluate the role of the intervention program on reducing nursing students' perceived stress and improving their coping processes.

Research hypothesis:-

After implementation of the intervention program nursing students' perceived stress during clinical training will be reduced and their coping processes will be improved.

Subjects and Methods.

A quasi-experimental pretest-and-posttest design was used to conduct this study, The study was conducted at Technical Health Institute at El Ahrar, Zagazig, Sharkia Governorate. A simple random sample of the second-year nursing students from the academic year 2020 - 2021, enrolled in the general nursing department in the first semester. the required sample size was 100 nursing student divided equally randomly into two groups study & control.

Sample size. Navaee and kaykha (2019) found that Mean \pm Sd of appraisal focused coping in control group was (8.92 \pm 3.48) and (11 \pm 2.46) in intervention group, confidence level is 95% two side with power of study 90%, with 5% drop out. Sample size calculated using Open Epi, is 50 students in each group.

Tools of data collection:

Tool I: It consists of two par; **part I: Sociodemographic, Economic and health status characteristics of nursing students;** **part II: Student Nurses Stress Index (SNSI).** This scale was adopted from Jones and Johnston, (1997) to assess nursing students' perceived work stress.

Scoring System for Student Nurses Stress Index (SNSI):

The Scale items were rated on 5-point Likert scale with response options of: Not stressful is given (1), Weakly stressful is given (2), Moderate stressful is given (3), Strongly stressful is given (4) Extremely stressful is given (5) for each nurse student then total score was calculated and converted into percent score by dividing nurse students' total score by the maximum possible score. These scores were measured as follows:

- Not stressful < 20 %
- Weekly stress 20%-40 %
- Moderate stress >40%-60%
- Strongly stress >60-80%
- Extremely stress >80%

Tool II: The Brief Cope Inventory. This scale was adopted from Carver, et al., (1989) to assess problem - focused coping.

Scoring system for The Brief Cope Inventory:

The scale items were rated on 4-point Likert scale with response options of: I usually didn't do this at all (1), I usually did this a little bit (2), I usually did this a medium amount (3), I usually did this a lot (4), for each nurse student then total score was calculated and converted into percent score by dividing nurse students' total score by the

maximum possible score. These cores were measured as follows:

- I usually didn't do this at all $\leq 25\%$
- I usually did this a little bit $25\% - <50\%$
- I usually did this a medium amount $50\% - <75\%$
- I usually did this a lot $\geq 75\%$

Tool III: Emotional Approach Coping Scale (E A C S) This scale was adopted from **Stanton, et al., (2000)** to assess Emotional Approach Coping. It included two categories **Emotional Processing Coping and Emotional expression coping**.

Scoring system for The The scale items were rated on 4-point Likert scale with response options of: I usually didn't do this at all (1), I usually did this a little bit (2), I usually did this a medium amount (3), I usually did this a lot (4), for each nurse student then total score was calculated and converted into percent score by dividing nurse students' total score by the maximum possible score. These cores were measured as follows:

- I usually didn't do this at all $\leq 25\%$
- I usually did this a little bit $25\% - <50\%$
- I usually did this a medium amount $50\% - <75\%$
- I usually did this a lot $\geq 75\%$

Intervention program

Based on the assessment phase and detected the nursing students who entered the program, the study was executed through assessment, planning, implementation and evaluation phases. The researcher designed an intervention program including theoretical part covering basic knowledge about definition and types of stress, coping processes and practical part teaching how to cope with stress. The intervention program was implemented in 12 sessions and its effectiveness was evaluated at the end of the implementation phase using the same tool of the assessment phase.

Assessment phase (pre-intervention data collection):

Upon finalization of the tool and securing necessary official permissions, the researcher started to recruit the sample of participants according to the eligibility criteria. First introduced herself, explained the purpose of the study briefly to the participants and invited them to participate. Every participant was met individually and an oral consent for participation was obtained. The researcher read and explained the tool items to the participant and then handed

him/her the form to fill in the answers. The time consumed for answering all questions and scales from 30 to 35 minutes. This phase lasted 1 month from beginning of January 2021 to beginning of February 2021.

Planning phase

Biased on the result obtained from the assessment phase, and in view of related literature, the researcher designed the sessions of the intervention program. The objectives and the content were according to the nursing students' needs. This, the identified needs, requirements and deficiencies were translated into aim and objectives of the sessions, which were included in a booklet. This booklet consisted of two main parts. The first part composed of four sessions included knowledge and practice about stress, the second part composed of eight sessions included knowledge and practice about coping processes. Teaching methods included demonstrations, individual and group discussion, as well as role-play. Reinforcement was applied frequently during the sessions.

Implementation phase

The program was implemented in the form of small group sessions. nine sessions, each session lasted about 20 to 30 minutes. For 12 weeks once /week, those sessions were provided for the studied nursing students. Each session had its own title and objective according to its content. The length of each session was different according to studied nursing students' assimilation of content as well as time availability and content of each session. However, to ensure exposure of all studied 48 nursing students to the same learning experience, all studied nursing students received the same content using the same teaching methods, media, discussion, and the same booklet. This phase lasted for 3 months from the beginning of February 2021 to the end of April 2021.

The introductory session was used to present the aim and general objectives of the program and set rules for leading the sessions. Then, each session started by a summary about what was given through the previous session and the objectives of the new one, taking into consideration the use of simple language to suit the level of understanding of the nursing students. Motivation and reinforcement techniques as praise and recognition during the sessions were used to enhance active participation

and foster learning. The sessions were aided by using picture, posters, as well the program booklet. The sessions were as follows:

Part I: composed of four sessions included knowledge and practice about stress.

Session 1(30 min): During the initial session, the researcher explained the purpose of the program, determined the place of meeting, and the timetable that was once/week then administered the pre- post for the participants using data collection form.

Session 2 (20 min): The main objective of this session was to improve nursing students' knowledge about definition, nature, symptoms and levels of stress.

Session 3 (20 min): The main objective of this session was to provide nursing students' with knowledge about types, causes, effects, clinical training difficulties, problems and impact on nursing students.

Session 4 (20 min): The main objective of this session was to provide nursing students' with knowledge about clinical training difficulties, problems and impact on nursing students.

Part II: composed of eight sessions included knowledge and practice about coping processes.

Session 5 (30 min): The main objective of this session was to provide nursing students' with knowledge about definition, types, efficacy, characteristics and properties of coping processes

Session 6 (30 minut): The main objective of this session was to help nursing students' to identify coping techniques and use thinking Emotional Rational therapy (Thinking Restructuring) and understand and practice Emotional Rational Imagining to reduce stress.

Session 7 and 8 (30 minutes for each): The main objective of this session was to help nursing

students' to understand and practice Emotional Vaccination and Mental Reprograming.

Session 9 and 10 (30 minutes for each): The main objective of this session was to help nursing students' to understand and practice Mental Visualization, Mental-Physical Methods, practice Meditation, Exercise and Nutrition.

Session 11 and 12 (30 minutes for each): The main objective of this session was to help nursing students' to understand and practice Progressive Relaxation (Deep Breathing Exercise, Muscle Relaxation, Massage and Guided Imagery) .

Evaluation phase: The evaluation of the effectiveness of the intervention program was done after its implementation by a post-test that was carried out after one month of completion of the program this was done using the same data collection tools of the pre-test

Content validity and Reliability

Content validity was ascertained by three experts from psychiatric Nursing , Community Health Nursing and Nursing Administration staff who reviewed the tools content for clarity, relevance, comprehensiveness and understandable. All recommended modification were applied., Reliability of tools was assessed through estimating test-retest Reliability and measuring their internal consistency. Test-retest Reliability was done by the researcher through administrating the same tools to the same subjects under similar conditions on two or more occasions. Internal consistency of the tools was assessed by calculating Cronbach alpha coefficients. Their reliability proved to be high as shown by the values of Cronbach alpha coefficient in the following table:

Scales	Reliability Cronbach's Alpha	Number of question
Stress score	0.89	22
problem - focused coping	0.78	28
Emotional coping score	0.83	8

Administrative and Ethical considerations:

The study proposal was approved by the Ethics Committee at the Technical Health Institute. Participants were informed about the purpose of the study and voluntary participation and confidentiality were ensured. They were informed about their right to refuse to participate or withdraw from the study at any time without giving a reason. Measures were taken to ensure privacy.

Statistical Design:

All data were collected, tabulated and statistically analyzed using IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. Quantitative data were expressed as the mean ± SD & median (range), and qualitative data were expressed as number & (percentage). Parried t test was used to compare between paired of normally distributed variables.

Percent of categorical variables were compared using, Chi square test or Fisher Exact test when appropriate. Pearson' correlation coefficient was calculated to assess relationship between various study variables, (+) sign indicate direct correlation & (-) sign indicate inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. All tests were two sided. P-value < 0.05 was considered statistically significant, p-value \geq 0.05 was considered statistically insignificant. % of improvement = (after value – before value) / before value) * 100.

Result:

Table (1) shows Demographic characteristics of nursing students in the study and control groups, it's clear from the table that, most of the students in the study and control groups (90.0%&92.0%, respectively), were female. Also, 78.0% & 64.0% of them respectively, were in the age group 19 years old. Moreover, 74% & 64.0 % of the study and control group respectively lived in rural areas. Half or slightly half of study group (56.0% & 50.0%) & control group (58.0%&54.0%) had more than 2 siblings and were the middle of their siblings respectively. Concerning Father Occupation, lower than half of the studied groups (48.0%) whose, Fathers had private work and Worker. The same table demonstrates that, lower than half of nursing students in the study group (46.0%) whose Mother education were secondary education, while three- fifth of the nursing students in the control group (60.0%) whose Mother education were secondary education. Regards, Mother's Work; 76.0% of the study group & 84.0% of the control group were house wives. It's clear from the table that there is no significantly difference of study group and control group regarding demographic characteristics, $p > 0.05$

Table (2) shows Economic and social characteristics of nursing students in the study and control groups, it's clear from the table that, two thirds of nursing students in the study group (66.0%) and nearly three fourth of nursing students in the control group (72.0%) joined institute with own will. Lower than three fourth of the nursing students in the study group (70.0%) and More than four fifth of the nursing students in the control group (82.0%) had income lower than 3000 pounds per month. Moreover (70.0%) and (62.0%) of the study and control groups respectively had enough bucket money.

Table (3): shows Frequency distribution of coping processes levels at post intervention program in the control and study group. It's clear

from the table that there was significant improvement of problem focused coping approach and total emotional coping approach score in the study group at post intervention program, $p < 0.05$.

Figure (1): displays, 80.0% of the nursing students in the control group used usually problem focused coping approach while 74.0% of nursing students in the study group used always problem focused coping approach with the statistically significant difference at post intervention program ($p = 0.0001$).

Figure (2) displays, 50.0% of the nursing students in the control group used always total emotional coping approach while, it was 94.0% of nursing students in the study group used always total emotional coping approach with the statistically significant difference at post intervention program ($p = 0.0001$).

Table (4) Demonstrates correlation matrix between stress score, problem focused coping score, emotional coping score, at post intervention program,

Discussion: The nursing curriculum consists of clinical and theoretical courses that complement each other. The nursing curriculum is directed towards preparing professional and competent nurses who would apply their knowledge and skills throughout their work process. Thus, emphasis should be placed on students' clinical learning and training since it applies all the clinical skills; affective, psychomotor, and theoretical knowledge (**Bodys-Cupak et al., 2022**). The aim of this study was to evaluate the role of coping processes on nursing students' perceived stress during clinical training: An intervention study. The findings generally indicate the success of the intervention in improving coping processes and decreasing stress among attendants of intervention program. The findings lead to acceptance of the research hypothesis. This study suggest that intervention program could decreasing stress and improving coping processes among nursing students. An issues that can explain the effectiveness of intervention program on decreasing stress is: a) the role of coping processes. **In this respect, El-Nehrawaya & Abd El-Menem, (2018) in a study at faculty of nursing, Tanta University affiliated to the Ministry of Higher Education** found that as the training program encompasses a wide array of variety techniques that includes relaxation, cognitive, and behavioral techniques all aimed at providing students with the opportunities to apply several exercises in face of stress. Presumably, by using these techniques, the level of stress

decreased and coping strategies of the nursing students improved and hence it is reflected in their abilities to negotiate their stressful life situation.

Concerning the Demographic, economic, & health status characteristics of studied nursing students, the present study revealed that most of the students in the study and control groups, were female. about two thirds of the studied groups were single. The possible explanation for these results may be due to that nursing considered a feminist career and entering of male into nursing is recent in Egypt in general, as well as the system of study in the institute require attendance the theoretical lectures and clinical training in the hospital and prepare assignments this put students under overload and stress and have no time to marry and take a family responsibility. These results were in agreement with a study was carried out in **Egypt** by **Mahdy et al., (2018)** reported that the highest percentage of nursing students were female, single. Conversely, these findings disagreed with a study was carried out at **Mukalla City in Yemen** by **Abd El-Ghany et al., (2019)** found that more than half of the students are male. According to The present study, about three quarters of nursing students were in the age group 19 years old. This may be due to admission requirements. This result consistent with the study conducted by **Ahmed et al., (2021)** reported that most students were in age 19-21years. In the same line, similar finding was supported by **Ramadan & Ahmed, (2015)** conducted a study at **faculty of nursing Benha University**, found that more than half of the intervention and control groups were in age 19 years. This result was inconsistent with **Al Bedaiwi, et al., (2018)** conducted a study in a **Saudi Arabian teaching hospital**, found that most of students were in the age group 21 years. More than three- fifth of studied students in the study & control groups lived in rural areas. The fact that, the location of the study, El-Ahrar Technical Health Institute in Zagagig City, coincides with a larger rural catchments area. Also, this is an end result of the system for admission to institutes in Egypt, which depends on student's evaluation and geographical distribution. Also, the study of (**Amr et al., 2011; El-Ezazy, 2013**) reported in studies were done at **Faculty of Nursing, Mansoura University and Faculty of nursing, Zagazig University**, respectively the majority of students lived in rural areas. Conversely, these findings is inconsistent with **Ahmed et al., (2021)** conducted a study at **faculty of nursing Ain-Shams University in Egypt**, revealed that the majority of students were living in urban areas. Concerning joining the institute,

the present study revealed that about two thirds of the students in the study and control groups, joined institute with own will. These findings could be explained by those students wish to be employed and join faculty of nursing to be high qualified nurses. This result consistent with the study conducted by **Ahmed et al., (2021)** reported that about the reasons for joining the college, they found that the most selected answer was a work with a good future. In the same line, the study conducted by **Mayhob & Hashim, (2021) in Egypt**, reported that less than three fourth of them were interested to study nursing. This result was inconsistent with **Kassem & Abdou, (2015) in the Faculty of Nursing, Alexandria University**, reported that only 17% of the students joined the nursing faculty by their own choice and 12.5% of them were dissatisfied with nursing as a career because of poor nursing image as stated by 40% of them. The current study revealed that lower than three fourths of the nursing students in the study group and more than three fourths of the nursing students in the control group had income lower than 3000 pounds per month. This is quite expected in a sample with majority living in rural areas. The students stated that, their income was scarcely equal to their expenses while the remaining less than one fourth of them stated that, their families' income was less than their expenses. The findings of the current study were consistent with that of **Altiook & Usten (2014)**, conducted a study in **Department of Nursing, Health School, Adnan Menderes University**, found that more than half of the students stated that their income was equal to their expenses while one third of them stated that their income was less than their expenses, and minority of them stated that their income was more than their expenses. This result disagreed with the study conducted by **Eltrass et al., (2022)** proved that four fifth had satisfactory family income. This result disagreed with **Amr, et al., (2011)** found that more than three quarters of study sample families' income were satisfactory. **Concerning coping processes level of studied nursing students at different study periods**. The main objective of the current study was to improve nursing students' usage of coping processes through the implementation of intervention program. This includes sessions that aimed at improving nursing students' usage of coping processes and social support. According to current study findings, before the implementation of the program the majority of the nursing students used usually problem focused coping but after implementation of the program about three

fourths of nursing students used Always problem focused coping with the statistically significant difference before and after the program. This might 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 in the same line with that of **Ahmed & Mohammed, (2019)** 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. As well, **Trougakos et al., (2020)** in a study in **Canada** 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. In congruence with this finding, **Ahmed et al., (2021)** reported that there was highly statistical significant improvement between pre-post intervention program. Moreover, **Ab Latif & Nor, (2019)** in a study at **Kubang Kerian Nursing College Kelantan Malaysia**, stated that the application of nursing intervention reduce the students' stressors related to their training in pediatric critical care settings. Furthermore, **Mojarrab et al., (2020)** in a study in **Iran** demonstrated that there were the anxiety coping program improved the examination results of nursing students in the final exam compared to the midterm results. The current study results revealed that, before the implementation of the program lower than half of the nursing students used usually total emotional coping approach but after implementation of the program most of the nursing students used always total emotional coping approach with the statistically significant difference before and after the program. These results could have been due to, most of the current study participant were female and women tend to use more emotion-focused strategies than men. This finding is in the same line with that of **McLeod, (2015)** stated that Emotion-focused techniques might be the only realistic option when the source of stress is outside the person's control.

Also, Indrastuti & Herawati, (2023) in a study carried out in **Indonesia** found that Families do more emotion-focused coping strategies than problem-focused coping strategies. This is because families tend not to be able to change the situation and accept the situation more. In contrast, **Labrague et al., (2018)** in a study carried out in **Asia** reported that nursing students didn't prefer using emotion-focused coping strategies. in congruence with the foregoing current study finding that there is statistically significant relation between stress level and family income in the study group at post intervention program, **Ahmed et al., (2021)** reported that more than half of the studied nursing students have sufficient monthly income to meet all the requirements of the study, this due to the financial burden and associated additional costs, such as study costs and the continuing increase in the prices of books. Besides, the students who try to solve the financial burden of the study fees through the working night and have their academic performance affected by the lack of time available for study. On the contrary **Hatunoglu, (2020)** stated that, According to the research findings, the family income statuses variable does not make a significant difference on the coping styles used by students in the face of a stressful event. Similarly, **Ahmed and Mohammed, (2019)**, Who conducted a study at **Albaha University, KSA** and found that, there was no significant relationship between demographic factors and stress levels among nursing students at Albaha University. According to current study findings, there is statistically significant relation between emotional coping approach level and bucket money, general health perception in the study group at post intervention program. It is obvious that, students with availability of bucket money and weak general health perception students always use emotional coping approach than others. Excellent general health perception students usually use emotional coping approach than others at post intervention program while excellent health perception students little use emotion coping approach at pre intervention. In my opinion this increased usage of emotional coping approach might be due to the program sessions contribute to the improvement of coping related to stressors by providing nursing students with special information about coping patterns such as identify the concept of coping, the resources for effective coping and altering the mistaken beliefs and replacing them with right beliefs. Having sufficient allowance reflects a high care from the

side of the families to provide for their students who study in the institute and so this care helps students to overcome their total stress by using emotional coping approach. Also, weak general health perception students always use emotional coping approach because they prefer not to exert efforts in solving their problems and it is the easiest for them. This result agreed with **Tung et al., (2014)** conducted a study in **Hong Kong** found that it has been reported that students who were better of financially generally suffered less stress than those with financial hardship. The target population was full-fee paying students who have failed to gain entry into a conventional public tertiary institution where government subsidized a major portion of the tuition fees. As a result, students may be placed under considerable demands to perform better against the financial burden associated with their education. The foregoing present study also demonstrated a highly statistically significant negative correlation between stress score and both problem focused coping score & social support score at post intervention program. Otherwise there is significant positive correlation between problem focused coping score and social support score at post intervention program. These result findings could attribute these findings to, the booklet which had an excellent source of information and references to the students which helped to increase their knowledge and improve their coping or might be explained as in a profession that is labeled as stressful one, the nursing students can not completely eliminate stress in their education/ training process, but can control how much it affects. Stress can be managed through use of healthy coping strategies and through effective social support.

This finding was consistent with a study done by **Kassem & Abdou, (2015)** reported that there was a negative significant correlation between students' stress and perceived faculty support. Moreover, **Ahmed et al., (2021)** reported that there was a highly statistical correlation between coping patterns and clinical stressors. Also, **Yin Ching et al., (2020)** in their study mentioned that there was a highly statistical correlation between coping and stressors.

Conclusion:

The study results conducted to the conclusion that, more than half of nursing students in the study and control groups had moderate total stress level. The majority of the nursing students in the study and control groups usually use problem focused coping approach however about half of

them use emotion focused coping to manage their stress. The implementation of the study intervention program was effective in reducing stress, improvement of coping processes score in study group post intervention program. There was statistically significant negative correlation between stress score and problem focused coping score.

Recommendations :

- Applying the study intervention program for more improvements to decrease the risk of stress and improve coping processes among nursing students in the nursing educational institutions.
- Nursing teaching staff should design courses and workshops to teach students how to use coping strategies.
- Further research should investigate stress and ways of coping in all areas of clinical nursing practice or the correlation of stress level and stress coping pattern.

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Table (1): Demographic characteristics of nursing students in the study and control groups (n= 100)

Variables	Studied groups				χ^2	p-value
	Study group n.50		Control group n.50			
	No.	%	No.	%		
Gender						
Males	5	10.0	4	8.0	0.12	0.73
Females	45	90.0	46	92.0		
Age per years						
19.00	39	78.0	32	64.0	2.38	0.12
20.00	11	22.0	18	36.0		
Residence						
Rural	37	74.0	32	64.0	1.17	0.28
Urban	13	26.0	18	36.0		
No. of siblings:						
≤2	22	44.0	21	42.0	.04	0.84
>2	28	56.0	29	58.0		
Birth order:						
First	22	44.0	22	44.0	0.58	
Middle	25	50.0	27	54.0		
Last	3	6.0	1	2.0		
Father education						
Illiterate	4	8.0	2	4.0	3.71	0.29
read and write	14	28.0	9	18.0		
secondary education	23	46.0	23	46.0		
University	9	18.0	16	32.0		
Father occupation						
Worker	17	34.0	24	48.0	4.22	0.12
private work	24	48.0	23	46.0		
Professional	9	18.0	3	6.0		
Mother education						
Illiterate	10	20.0	4	8.0	6.05	0.11
read and write	10	20.0	5	10.0		
secondary education	23	46.0	30	60.0		
University	7	14.0	11	22.0		
Mother work						
house wives	38	76.0	42	84.0	1.000	0.32
Worker	12	24.0	8	16.0		

Table (2): Economic and social characteristics of nursing students in the study and control groups (n= 100)

Variables	Studied groups				χ^2	p-value
	Study group n.50		Control group n.50			
	No.	%	No.	%		
Joined institute by:						
Own will	33	66.0	36	72.0	.42	0.52
Score level	17	34.0	14	28.0		
Family income					1.97	0.16
≤3000	35	70.0	41	82.0		
>3000	15	30.0	9	18.0		
Enough bucket money					.713	0.39
Yes	35	70.0	31	62.0		
No	15	30.0	19	38.0		
Friends gender					4.17	0.13
same gender	46	92.0	50	100.0		
other gender	2	4.0	0	.0		
Both	2	4.0	0	.0		
Marital Status					.52	0.77
Single	32	64.0	35	70.0		
Engagement	11	22.0	10	20.0		
Married	7	14.0	5	10.0		

Table (3): Frequency distribution of coping processes level at post intervention program in the control and study groups.

	Post intervention phase				% improvement	t	p
	Control group n.50		Study group n.50				
	No.	%	No.	%			
problem focused coping approach					48.9	14.05	0.0001
Always	6	12.0	37	74.0			
Usually	40	80.0	13	26.0			
Little	4	8.0	0	0.0			
Mean ±SD median(range)	58.7±8.7 58(42-84)		87.4±6.6 88(72-98)				
emotional processing coping approach					34.9	8.3	0.0001
Always	39	78.0	48	96.0			
Usually	9	18.0	2	4.0			
Little	2	4.0	0	0.0			
Mean ±SD median(range)	10.6±2.8 11(3-15)		14.3±1.5 15(11-16)				
emotional expressing coping approach					46.2	8.16	0.0001
Always	18	36.0	43	86.0			
Usually	20	40.0	7	14.0			
Little	12	24.0	0	0.0			
Mean ±SD median(range)	9.1±3 9(3-15)		13.3±2.04 14(8-16)				
Total emotional coping approach					39.8	9.9	0.0001
Always	25	50.0	47	94.0			
Usually	20	40.0	3	6.0			
Little	5	10.0	0	0.0			
Mean ±SD median(range)	19.74±5.05 22(7-26)		27.6±2.4 28(21-32)				

Table (4): Correlation matrix between stress score, problem focused coping score, emotional coping score at post intervention program (n.50):

Variables	Stress score		Problem Focused Coping score		Emotional coping score	
	r	p	r	P	R	p
Stress score	1					
Problem focused coping score	-.323*	0.022	1			
Emotional coping score	-0.066	0.648	0.097	0.502	1	

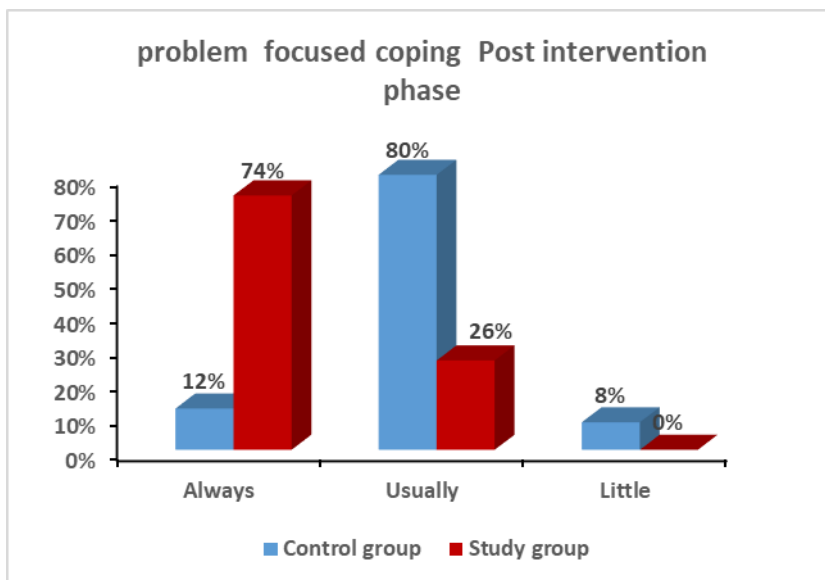


Figure (1): Problem focused coping approach level at post intervention program in the control and study groups

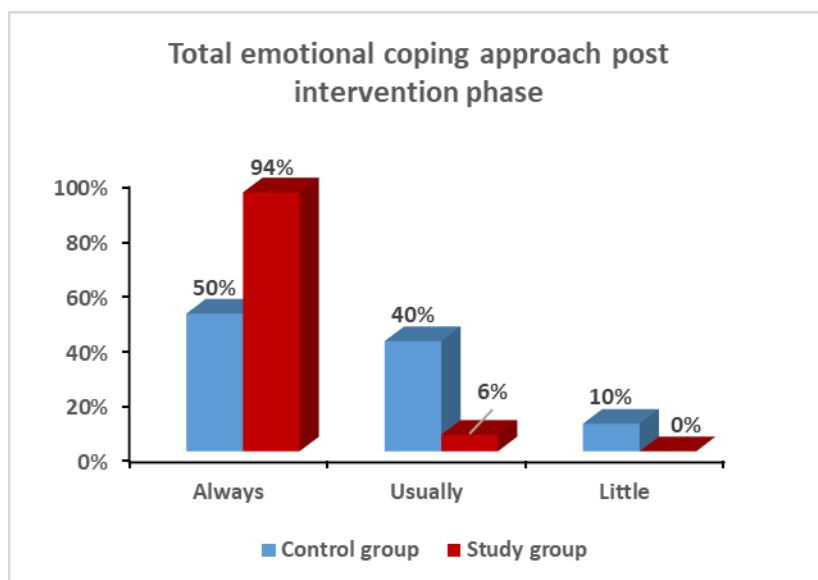


Figure (2): Total emotional coping approach level at post intervention program in the control and study groups