Relationship Between Emotional Intelligence and Coping Patterns with Stress among Nurses during COVID-19 Pandemic

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Abstract

Background: The outbreak of coronavirus disease (COVID-19) has put significant pressure on both employers and employees, and emotional intelligence (EI) is essential for effectively managing stress effectively during this period. **Aim**: This research intended to assess the relation between emotional intelligence and coping patterns with stress among nurses during the COVID-19 pandemic. **Design**: A correlational, descriptive design was used for related studies. **Setting**: The research was at Ain Shams University Hospital, which is allied to Ain Shams University Hospitals. **Subjects**: A convenience sample included 241 nurses among the 550 who were eligible to participate in this study. **Data collection:** The Emotional Intelligence Scale and the Brief Cope Scale were utilized in this study. **Results**: A total of 72.2% of the participants had the lowest total level of emotional intelligence and an elevated mean (27.1 ± 17.04, 26.1 ± 2.04, 15. 3 ± 12.04, 15. 3 ± 12.04 and 15.0 ± 2.05 and 6.1 ± 2.03) were used for self-awareness, social skills, empathy, managing emotions, optimism, and utilization of other emotion subscales, respectively. The highest mean score (41.75 ± 10.674) was for maladaptive coping. **Conclusion:** There was a statistically significant positive correlation between total emotional intelligence and coping patterns among the studied nurses. **Recommendations**: Administrators should be informed of the coping procedure and EI of nurses' contributions to defining ways to prevent emotional exhaustion and improve their job performance while they face work challenges. The development of training programs aimed at enhancing both professional and personal results ensures that nurses are well equipped with emotional intelligence and coping strategies during critical times, such as the pandemic and its aftermath.

Keywords: Emotional Intelligence, Coping Patterns, Nurses, Covid 19 Pandemic.

Introduction

In general, the nursing professions is associated with numerous challenging circumstances, complications, and strains, which cause nurses to be vulnerable to greater stress. Thus, nurses who work in hospitals play a vital and important role in becoming emotionally intelligent and being able to address such problematic situations, especially when the global medical-scientific community is trying to address a novel hazard entitled coronavirus, emotional intelligence, is causative of this widespread situation ***(Godsey et al., 2020).***

The ability to recognize and control one's own emotions is known as emotional intelligence (EI). In addition, other emotions allow employees to cope well and practice less stress, which is therefore causal for well-managed and stable workers through improved proficient practices in health care teams ***(Kikanloo et al., 2019).***

Emotional intelligence is an essential part of basic practices, including interaction, compassion, sympathy, innovation, self-consciousness, self-self-discipline, and confidence. Numerous methods in which EI is

linked to health performance can be acknowledged. Interactive EI can predict good relationships with health care teams and hence a better shift to pursue assistance and observe it ***(Fteiha & Awwad, 2020).***

Emotionally stable employees become less destructive and unpleasant to others, therefore advancing good personal relationships, which leads to greater enjoyment with existence and well-recognized problem-solving handling proficiency. Moreover, proper coping patterns should be identified to manage daily tension and decrease awareness of pressure ***(Ali & Al answer, 2020).*** This can lead to constructive organizational outcomes, including the provision of enhancement facilities, decreased absence, increased commitment, and increased motivation ***(Dickens et al., 2019).***

In addition, crop constructive consequences at various levels, for example, refining or producing interactive relationships by patients and coworkers, growing coping capital, and growing societal provisions in jobs and households since good social associations. Finally, they can approve of employee plans for resilience and control and help employees enhance their cheerful outlook concerning life difficulties and actions ***(Kurdi & Hamdy, 2019).***

There are many dimensions comprising emotional intelligence, including self-awareness, self-regulation, motivation, empathy, and social skills, which assist personnel in recovering relationships, treating their patients efficiently, making good decisions, and impacting the care delivered to patients and their relatives ***(Raghubir, 2018).*** Further studies proposed that elements of EI are extremely important in reducing tension. Specifically, the study recognized emotional evaluation of others (the ability to realize and direct one's own feelings), emotive managing (the capacity to successfully appraise and handle constructive and harmful feelings for oneself and others), and emotional controller (the capacity to switch feelings well). This element is an essential factor in handling tension and exhaustion in nurses ***(Rakhshani et al., 2018).***

The three main components of emotional intelligence: awareness, empathy, and treatment are especially important for helping people deal with anxiety, especially those who are financially successful. Since the son and, later, the adult can handle demanding states, it is clearly necessary for the improvement and farming of EI as of the actual opening, preliminary from the specialty of teaching. Furthermore, EI has been linked to managing stress in a balanced, adaptive, and problematic way (***Gupta & Khokhar, 2018).*** According to ***Soto-Rubio et al. (2020),*** stress is a disorder with uncontrollable and undesirable effects that arises from blame for the highest values in human life and well-being, such as contact with harmful organic, biochemical, physical, and mental factors.

Additionally, geographic challenges in the community lead to danger in the current

situation. The pandemic started with COVID-19. This compelling virus was initiated by a newly realized coronavirus and has a significant consequence on various civilizations across the globe ***(Rupani et al., 2020).*** The recent widespread devastation, risk of infectious disease directness, emergence of abrupt challenges, deficiency of individual protective equipment and additional resources, absence of testing, restricted scope of handling, and worries around contamination to families and groups combined with the exposure of nurses to extensive hours of work in tense and unsettling atmospheres pose serious intimidations to their lives plus well-being. (***Pfefferbaum & North, 2020)***

Continuing operation in a worrying, employed atmosphere prompts the need for successful management through these stressors ***(Vinkers et al., 2020).*** The act of deal with pressure implies that special attempts, together with behavioral and emotional attempts, that individuals retain to master, stand, diminish, or decrease traumatic incidents. Two main categories of coping have been identified: maladaptive and adaptive. Adaptive coping patterns are forces to perform approximately energetically to improve worrying conditions, for example, active handling, instrumental provision, scheduling, reception, emotional reinforce, accommodation, optimistic reframing, in addition faith. Maladaptive handling patterns (behavior disconnection, rejection, self-disruption, personal guilt, ingredient practice, and expulsion) and the high level of emotional intelligence required for adaptive coping patterns support nurses in managing and advancing job appointments ***(Baba, 2020).***

Significance of the study:

Through unexpected ecological failures and infectious viruses, nurses exist under major pressure. Since confirmed via the World Health Organization (WHO) 2020, there were a total of 10.431 reported incidents of COVID-19, resulting in 556 fatalities in Egypt. The 2020 coronavirus pandemic in Egypt is a help of an incessant near-Earth coronavirus epidemic ***(WHO, 2020).***

Nurses are experiencing stress, anxiety, strain, fatigue, weariness, ongoing emotional disturbances, and separation because of the COVID-19 virus (***Cheung et al., 2020)***. As a result, they have an ethical and professional obligation to handle and oversee altruistic aid. In light of this, emotional intelligence becomes relevant, serving as a catalyst for well-meaning rather than frightful treatment across all domains (***Jun et al., 2020).***

Nurses who possess emotional intelligence and understand the causes of their moods are less likely to experience emotional breakdowns under real-life stress and are more likely to regain emotional equilibrium and cope with life challenges. The conscious benefit of EI reserve assistance subsequently exploits the effectiveness of the whole reaction ***(Dickens et al., 2019).***

Adaptive coping, in turn, decreases the strength and interval of worrying encounters and hence dismisses the design of obstacles

associated with persistent strain. Employees with emotional intelligence are better able to manage stressors such as the COVID-19 virus and its duration while also remaining proactive in reducing anxiety and trepidation. This research aims to test the relationship between nurses' emotional intelligence and coping patterns to stress during the COVID-19 pandemic.

Study aim:

This research aims to investigate the relationship between emotional intelligence and coping patterns with stress among nurses during the COVID-19 pandemic.

Research question:

What are the levels of emotional intelligence and coping patterns with stress among nurses during the COVID-19 pandemic?

Materials and methods:

Design:

The research employed a descriptive correlation design. It aims to present an outline of the existing shape of affairs; it is not capable of drawing conclusions or establishing causality. Finding a link involving two or extra variables plus using current knowledge to predict future events are the goals of correlational research ***(Lappe, 2000)*.**

Setting:

The study was operated at the Ain Shams University Hospital allied with Ain Shams University Hospitals. It covers one structure and has a total capacity of 618 beds. The hospital delivers medical therapy in several areas, such as the intensive cardiac department, cath lab, medical care 1 & 2, intermediate care sector, chest care unit, neurology intensive and neurosurgery intensive care department, hematology unit, tropical care and hemodialysis units.

Subjects:

The subjects of this study included nurses employed in the aforementioned settings and providing care during the Covied-19th pandemic.

Sample size:

A total of 241 out of 550 nurses made up the convenience sample, which was used to calculate sample proportions with a 95% confidence level and a 0.05 precision ratio (**Krejcie & Morgan, 1970).**

$$S = X^2 NP(1-P) \div d^2(N-1) + X^2 P(1-P).$$

s= required sample size

x=the chi-square value for a single level of independence at the preferred level of confidence (3.841)

N=Size of the population.

P=Population proportion at .50 to generate the greatest potential sample proportions.

d=the accurateness level expressed as a proportionality (.05).

Tools of collected data:

Two instruments were employed for data assemble:

1. **Emotional Intelligence Scale:** was initially developed by ***Schutte et al. (1998),*** was

aimed to assess the level of emotional intelligence among nurses during the COVID-19 pandemic. There are two primary sections to the scale.

Part A: The nurses' characteristics include age, gender, marital status, education level, monthly income, and work experience.

Part B: This scale comprises thirty-three questions on six subscales: self-awareness (8 items), managing emotions (7 items), utilization of other emotions (6 items), empathy (5 items), social skills (3 items), and optimism (4 items).

Scoring system:

A five-point Likert scale varying from strongly disagree (1) to strongly agree (5) was operated to assess the sub scale scores via summing the scores distinctly, and then the overall score is divided by the number of items to calculate the mean score for each section These means were converted to percentage scores. A score below 60% specifies a low level, a score between 60% and 75% specifies a moderate level, and a score above 75% specifies an elevated level ***(Schutte et al., 1998)***.

2. **Brief Cope Scale:** was used to identify nurses coping patterns with stress during the COVID-19 pandemic, and ***Carver, (1997)*** developed it. The scale involves fourteen coping types with twenty-eight questions that establish someone's initial handling pattern as either adaptive or maladaptive handling with a stressful life event. Adaptive coping includes active surviving, involved support, planning, acceptance, emotional provision, humor, constructive reframing, and religion. In contrast, maladaptive coping consisted of behavioral withdrawal, deprivation, self-distraction, self-blame, substance use and declaring.

Scoring system:

A four-point Likert scale with options of 1 ("I have not been doing this at all"), 2 ("A little bit"), 3 ("A medium amount"), and 4 ("I have been doing this a lot") was used to evaluate the responses. The means of each coping strategy and the scores for each domain, which ranged from 2-8, were then computed to determine whether a coping strategy was maladaptive or adaptive ***(Nisa & Siddiqui, 2020).***

Tools validity*:*

A team of experts comprising five experts from the administration and psychiatric/mental health nursing departments evaluated the instruments' face and content validity. The panel consisted of three assistant professors from the field of nursing administration and two from the field of psychiatric mental health at Ain Shams University. They evaluate the instruments for their relevancy, layout, clarity, depth, consistency, also accuracy. Based on the feedback received, minor adjustments were made, primarily involving the rephrasing of certain statements.

Reliability:

Cronbach's alpha coefficient test was

used to evaluate the consistency of the data. The coefficients for coping patterns and emotional intelligence were 0.93 and 0.89, respectively, indicating high reliability.

Pilot Study:

Following the selection of the research tools, a trial analysis was conducted. This period occurred within the middle of July 2020. Twenty-four staff nurses participated in the pilot study; their data were not compromised in the previous investigation, making them ten percent of the global study sample. This was done to assess the tool's applicability and clarity of the research methodology, as well as the length of the questionnaire, which was set at 25-35 minutes.

Ethical consideration:

were resolved by receiving the research proposal approved by the Ain Shams University Faculty of Nursing's Scientific Research and Ethical Committee. To safeguard consent for data collection, the dean of Ain Shams University's faculty of nursing also forwarded official letters to administrators of nursing and medical facilities. The communication provided a clear explanation of the research's objectives and methodology. Before being permitted to participate, applicants were asked for their informed consent after the study's purpose was stated. By using coding questionnaires, the privacy of the data can be ensured. They understood that they could leave the study at any time or freely during the period of data collection without facing any repercussions or penalties. The information they provided was only utilized for research.

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Fieldwork

The fieldwork for the study was completed between September 2020 and October 2020, a span of two months. To ensure that the nurses would cooperate and agree to share, the researchers visited the study setting, discussed the goals with the head nurse of the unit separately, and scheduled a suitable time for data collection. Following their meeting with the study participants, the researchers revised the objectives of the study as well as the instrument components and their completion procedures. Every respondent filled out a form while taking a break from their work, and the researchers were available for any additional clarification. To ensure that the completed instruments were accurate and comprehensive, the researcher double-checked them. Three days a week, during morning shifts in accordance with a scheduled schedule, data collection took place. A total of 12 to 15 questionnaires were collected every day from 9 AM to 2 PM.

Statistical analysis:

The data were composed, implied, and organized via the Statistical Package for the Social Sciences (SPSS) version 22.0 before being reviewed. The data that were gathered were accessible, and appropriate analyses were carried out according to the type of data for every parameter. The data are presented via descriptive statistics, including means, rates, percentages, and standard deviations (SD). Cronbach's alpha coefficient was used to measure internal consistency, and instrument reliability was evaluated. The relationships between the two research variables were assessed via Pearson correlation, a numerical correlation measure. A p value less than 0.05 or less than 0.001 was considered statistically significant.

Results:

According to Table 1, more than one-third (34.9%) of the nurses under study were between the ages of 25 and 29. The highest percentage of them (91.7%) were female. Most of the nurses under study (71.8%) were married; more than three-fifths (60.6%) were from the Technical Institute of Nursing; and 83.8% had a sufficient monthly income. Furthermore, the majority of them (58.1%) had three to five years of work experience.

Table (2) shows that the highest average score (27.1 ± 17.04) was distributed for self-awareness, followed by (26.1 ± 2.04, 15. 3 ± 12.04, 15. 3 ± 12.04 and 15.0 ± 2.05 and 6.1 ± 2.03) were distributed for social skills, empathy, managing emotions, optimism, and utilization of other emotion subscales, respectively.

Table (3) implies that (72.2%) of the understudied nurses had minimal levels of emotional intelligence, with statistically significant differences (P >0.01).

According to Table 4, the adaptive coping subscale with the greatest mean score (5.92 ± 1.743) is related to active surviving, whereas the religious subscale has the lowest mean score (5.23 ± 1.915). In maladaptive coping, self-blame had the minimal score (5.24 ± 0.850), and behavioral withdrawal had the uppermost mean score (5.24 ± 1.894). The group that deprivation using maladaptive coping had the lowest score (5.11 ± 1.837).

The statistical analysis in Table **(5)** revealed that maladaptive coping had the highest mean score (41.75± 10.674). Also, there were statistically significant differences relating to the nurses' coping levels.

Table (6) elucidates the statistically significant positive correlation amongst nurses total emotional intelligence and coping patterns.

Table (1) Distribution of the nurses' according to their personal characteristics (n=241).

Items	No.	%
Age		
≤ 20-24	45	18.7%
> 25-29	84	34.9%
> 30-34	79	32.8%
≥ 35	33	13.7%
Mean± SD 28±5.6		
Gender		
Male	20	8.3%
Female	221	91.7%
Marital status		
Single	31	12.9%
Married	173	71.8%
Divorced	32	13.3%
Widowed	5	2.1%
Educational level		
Bachelor of nursing	23	9.5%
Technical institute of Nursing	146	60.6%
Nursing diploma	72	29.9%
Monthly income		
Non enough	39	16.2%
Enough	202	83.8%
work experience		
≤ 1 - 3	65	27.0%
> 3 - 5	140	58.1%
≥ 5	36	14.9%

Table (2): Mean scores of the emotional intelligence subscale among the understudied nurses (n=241).

Subscale of emotional intelligence	Mean	±SD
Self-awareness	27.1	±17.04
Managing emotions	15. 3	±12.04
Utilization of other emotion	6.1	±2.03
Empathy	15. 3	±2.04
Social skills	26.1	±2.04
Optimism	15.0	±2.05

Table (3) Total emotional intelligence levels among the understudied nurses (n= 241).

	Total emotional intelligence levels		X	P Value
	No	%		
Low	174	72.2	25.2	P > 0.01
High	67	27.8		

Table (4): Mean score of the coping subscale among the understudied nurses (n=241).

Subscale	Mean	± SD
Adaptive Coping		
Active surviving	5.92	± 1.743
Involved support	5.09	± 1.830
Planning	5.14	± 1.862
Acceptance	5.12	± 1.925
Emotional provision	4.91	± 1.779
Humor	5.16	± 1.913
Constructive reframing	5.17	± 1.898
Religion	5.23	± 1.915
Maladaptive Coping		
Behavioral withdrawal	5.24	± 1.894
deprivation	5.11	± 1.837
Self-distraction	5.20	± 1.847
Self-blame	5.24	± 0.850
Substance use	5.18	± 1.864
declaring	5.17	± 0.847

Table (5): Total coping sub scale levels among the understudied nurses (n=241).

	Total levels of coping		
	Mean	±SD	P value
Adaptive coping	31.15	± 7.332	P >0.001
Maladaptive coping	41.75	± 10.674	

Table (6): Correlations between total nurses' emotional intelligence and their total coping pattern.

Variable	Total coping pattern	
	r	P value
Total emotional intelligence	0.342	0.001

**Highly significant at P ≤ 0.001

* Significant at P 0.0001

Discussion:

Nurses face greater pressure in the workplace, especially during the COVID-19 pandemic. The core adaptive way to cope with this pressure is emotional intelligence, which is considered essential for individuals to handle critical conditions. Consequently, nurses with strong emotion-regulation skills typically have lower rates of collapse when under duress, and emotional intelligence helps people cope with the pandemic (***Kikanloo et al., 2019).***

With respect to the initial variable, the present findings indicate that, according to the emotional intelligence subscale, self-awareness has the greatest mean score, followed by optimism and the use of other emotions, which have the lowest mean scores. The researchers speculated that this outcome might be explained by nurses' self-awareness, which is a necessary skill for nursing work, but no one is born with high emotional intelligence. Undergraduates need instruction, experience, and practice to develop their emotional intelligence (EI). These factors can help nurses better control their own emotions as well as those of others, encourage the expression of real emotions, develop the capacity to connect emotions, and increase empathy. These results support those of **Hussien *et al.* (2020**), who discovered that nursing education should grant a studying atmosphere that emphasizes the goal of EI through fostering also supporting the improvement of these attributes.

The findings of the present study show that almost three-quarters of the nurses under investigation have low emotional intelligence on the basis of their overall emotional intelligence level. These results could be explained by the detail that many of the sample were either diploma nurses or graduates of the Technical Institute of Nursing and that academic intelligence, or emerging students' IQ, is given far more weight in our society and educational systems than emotional intelligence development. As a result, it is possible that the nurses were not trained in something regarding passions or how to operation and operate them.

Additionally, because of the rise in patient deaths, ongoing hostilities with tense conditions, frequent experience to work-associated stressors, and the possibility of providing inappropriate care, nurses may have felt immobilized and unable to propose care that would have restored their own sense of self-worth. As a result, they are more likely to develop emotional dysregulation and lose their ability to use their emotions, which in turn affects their emotional intelligence.

This conclusion was in line with research **by Ali & Al Answer (2020**), who examined the relationships among moral danger, job engagement, and emotional intelligence in intensive care nurses. They reported that there was a correlation between nurses' levels of moral distress and emotional intelligence. **Nerissa (2017)** also supported previous research that examined the connection between emotional intelligence and stress, reporting that certain contributors' personal information had a rough bearing on their emotional intelligence scores, with women reporting slightly higher emotional intelligence than men.

The findings of the present study, however, did not align with those of ***Štiglic et al. (2018),*** who investigated emotional intelligence in nursing students. The majority of the data indicated that the emotional intelligence levels of the nurses in their study ranged from moderate to high. Correspondingly, the findings of ***Larijani et al. (2017)*** contradict those of the current study, which explored the relationship between emotional intelligence and coping styles alongside stress among nurses and reported that the contributors received good scores for emotional intelligence.

Additionally, ***Sayed & Kamel (2018)*** conducted a study entitled Relationship between Nurses' Emotional Intelligence and Health Behavior and determined that the overall mean of emotional intelligence remained modest. Similarly, ***Larijani et al. (2017)*** reported good scores for emotional intelligence. Subjects with an elevated level of EI receive suitable monitoring of their psychological condition. Last of all, ***Rakhshani et al. (2018)*** opposed with the existing findings, which investigated the relationship between emotional intelligence and work pressure among nurses and reported that the EI levels of participants were medium or suitable.

In relation to the adaptive coping subscale, the existing study findings indicate that active surviving had the uppermost mean score, followed by the religion of adaptive coping. Likewise, in the maladaptive coping subscale, the present findings illustrate that behavioral withdrawal had the uppermost mean score, followed by self-blame. In the interim, deprivation maladaptive received the lowest mean score. Ultimately, the results revealed that there were statistically significant differences between the levels of the coping subscale.

Contrary to this, employees typically report being more positive in treating problem-attentive coping than do undergraduate nurses; thus, emotion-focused handling is rarely utilized as production pressure in research conducted by ***Huang et al. (2020)***. Moreover, this research reported that subjects in exaggerated areas were expected to deal with emotion-focused approaches more effectively than unchanged populations. According to the researchers, this outcome may be because in an untouched region, the subjects do not pay much attention to COVID-19 and do not reason for an effective emotional reaction to the pandemic.

In contrast, **MacIntyre *et al. (2020)*** that nurses are women, are more likely to accept

problematic-concentrated coping mechanisms than males and have small prospects for selecting emotion-focused coping strategies. As revealed above, females are more exposed and precise to reactions; consequently, emotion-focused coping is rarely used when production is under pressure. On the other hand, the existing results contradict those of **Nerissa (2017),** who summarized that contributors reported the use of unsuccessful coping approaches, problem prevention, and self-damage.

With respect to the correlation between two variables. The results of the present study revealed a statistically significant positive correlation between the total level of emotional intelligence and coping patterns. ***Larijani et al. (2017)*** supported these findings by demonstrating a meaningful correlation between the average score of emotional intelligence and coping styles among nurses. Additionally, this conclusion is consistent with the findings of ***Nerissa (2017),*** who reported that there is a positive correlation between the emotional intelligence of nurses and their coping styles and psychological distress. Significant differences were discovered in emotional intelligence level, recognized stress, and exploitation of coping approaches based on personal traits.

Nevertheless, the results of the present study are inconsistent with those of A**li & Al answer (2020)**, who examined the relationships among emotional intelligence, moral distress, and work engagement for critical care nurses. Most of the data revealed an extremely statistically significant negative correlation relating moral distress and general emotional intelligence.

Conclusion

According to the study's outcomes, almost three-quarters of the nurses exhibited low levels of emotional intelligence, with the highest mean being for self-awareness, followed by social skills, empathy, managing emotions, optimism, and the utilization of other emotions subscales. Additionally, the highest mean score was for maladaptive coping. Furthermore, there was a statistically significant positive correlation between total emotional intelligence and coping patterns among the nurses. The study's results then addressed the research question concerning the association between emotional intelligence and coping patterns among nurses.

Recommendations:

- Administrators are informed of the coping procedures and EI of nurses to help them define ways to prevent emotional exhaustion and improve their job while they encounter work challenges.
- Instruction programs that improve both professional and individual outcomes can be created to train nurses to be emotionally intelligent and to have good coping aids in critical situations such as the pandemic and the years that will follow.
- Efforts to reduce workplace pressure by concentrating on enabling peer teamwork, refining resource accessibility, and increasing employment ratios.
- Furthermore, the following is suggested:

✓ Examine the reasons behind staff nurses' low

emotional intelligence.

- ✓ Nurses' emotional response and coping strategies in the workplace should be examined.

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