Influence of Demographic and Work Characteristics on Post-Traumatic Stress Symptoms Among Emergency Nurses

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Abstract

Background: Background: Post-traumatic stress symptoms among emergency nurses are a significant concern, particularly due to their exposure to traumatic events and routine stressors in high-pressure environments. Demographic and work data variables of emergency nurses also affect post-traumatic stress symptoms. **Aim of the study:** to assess the influence of demographic and work characteristics on post-traumatic stress symptoms among emergency nurses. **Subjects and Methods: Research design:** Cross-sectional descriptive research design was used **Setting:** The study was conducted at the emergency departments of accidents hospital, at Zagazig University Hospitals, Sharkia Governorate, Egypt. **Subjects:** A purposive sample of 160 emergency nurses. **Tools of data collection:** Structured Interview Questionnaire, which composed of demographic and work data, and Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5). **Results:** The study findings demonstrated that 18,8 % of studied emergency nurses had sever level of post-traumatic stress symptoms and 35% of them had moderate level of post-traumatic stress symptoms. Also, there were statistically highly significant relations between studied nurses post-traumatic stress symptoms and their age, and gender. Additionally, there were statistically highly significant relations between studied nurses post-traumatic stress symptoms and working shift, working hours/week and experience in emergency department. **Conclusion**: The study results proven that less than one fifth of studied emergency nurses had sever level of post-traumatic stress symptoms and more than one-third of them had moderate level of post-traumatic stress symptoms. More increase in post-traumatic stress symptoms among nurses occurs when being female, aged between twenty and less than thirty, working at night shift, working more than 36 hours per week, and those who had experience in emergency department from 1 to 5 year. **Recommendations:** Structured training program should be conducted through periodical workshops for nurses to learn how to overcome traumatic events. Regular screening of nurses involved in emergency care should be done for evaluating stress level and burnout symptoms by using multidisciplinary psychiatry teams.

Keywords: *Characteristics, Demographic, Emergency Nurses, Post-traumatic Stress Symptoms, Work.*

Introduction

Emergency nurses are at the frontline of a demanding healthcare system; they take significant responsibility for the care of emergency patients. Because of the clinical nature of the emergency department, nurses are expected to possess skills, knowledge, and qualities that allow them to meet the high demands and expectations of patient care in this area **(Xu, Gu, and Dong, 2023)**. Nurses need to be able to prioritize those who require immediate treatment over those whose clinical conditions will not deteriorate if assessed at a later time. The emergency department relies on the quick thinking and problem-solving skills of its staff **(Ma *et al*., 2022).**

Emergency departments work 24 hours a day, 7 days a week. Most importantly, they deal with human health. Therefore, an error in emergency department procedures is likely to lead to disability or death; emergency departments serve as a crucial entry point for patients with acute illnesses and injuries that require immediate attention and life-saving measures **(Moslehi ,Masoumi and Barghi-Shirazi, 2022).**

Emergency nurses face many stress factors at the same time. These factors are physical factors as problems with ventilation, inappropriate lighting, and a poor temperature level. Psychological factor include job insecurity, heavy workloads, staff shortages, ineffective policies that support nurses in administrative systems, unstable work environments and inequity between work and individual life. Social factors are also critical and include a lack of social support from nursing co-workers, nursing supervisors, or hospital administrators' .These factors contribute to increased burnout and job dissatisfaction among nurses, which can lead to increase PTSS **(Javanmardnejad *et al*., 2021).**

Emergency nurses are at high risk of post-traumatic stress symptoms (PTSS) when they experience repetitive exposure to uncontrolled, trauma situations. As previously reported, approximately 57.2 ~ 97.0% of emergency nurses have at least one PTSS; such findings are consistent across various countries, and approximately 8.5 ~ 25.0% of these nurses meet clinical post-traumatic stress disorder (PTSD) criteria **(Kim and Yeo, 2020).**

The main characteristics of emergency nurses that increase post-traumatic stress symptoms (PTSS) include fewer working years, lower monthly income, and poorer personal health status, which significantly contribute to their susceptibility to severe traumatic stress following traumatic events **(Qian *et al* .,2023).**

Years of experience and burnout are significant predictors that increase the risk of secondary traumatic stress among emergency nurses. Additionally, the level of education and organizational support also correlate with the prevalence of secondary traumatic stress in this population **(Salameh *et al*.,2023).**

Post-traumatic stress disorder (PTSD) is one of the more common psychiatric disorders among adults in the general population. Initially, psychological trauma is a psychiatric injury that can occur in response to sufficiently stressful events and can become chronic if left untreated. Responses to trauma range from minor transient distress to acute adjustment reactions, partial but distressing states that do not meet full diagnostic criteria for (PTSD), and full criteria for PTSD **(Thompson *et al*., 2022).** Also, women are twice as likely to develop posttraumatic stress disorder (PTSD) following a traumatic event compared to men **(Rønning *et al*., 2025)**.

Significance of this study:

Health care professionals, including nurses working in emergency departments, are frequently exposed to stressful situations because of the increased demands of the work, managing critical trauma cases, and serious legal and death problems, which can influence mental state and general well-being, leading to the onset of anxiety, depression, and post-traumatic stress symptoms **(Carmassi *et al*., 2021)**. Several studies have found that emergency services personnel have higher incidences of PTSD. The prevalence of PTSD among emergency nurses was 82.96%, which was higher among nurses with lower educational levels and shorter work experiences **(EIkayal and Metwaly, 2022)**.

Demographic characteristics such as age, gender, and work experience significantly influence PTSD levels. For instance, younger nurses and those with chronic diseases reported higher symptom severity **(Yuan *et al*., 2022).**

Therefore, the present study was conducted to examine the influence of demographic and work characteristics on post-traumatic stress symptoms among emergency nurses.

Aim of the study:

The aim of the study was to assess the influence of demographic and work characteristics on post-traumatic stress symptoms among emergency nurses.

Research Questions:

- Do emergency nurses suffer from post-traumatic symptoms?
- Is there a relation between post-traumatic stress symptoms among emergency nurses and their demographic and work characteristics?

Subjects and Methods:

Research design:

A descriptive cross-sectional design was used to conduct this study.

Study setting:

The study was conducted at the Emergency Departments of accidents hospital, at Zagazig University Hospitals, Sharkia Governorate, Egypt

Study Subjects:

A purposive sample of 160 emergency nurses was randomly selected from the above-mentioned setting based on the following inclusion criteria;

- Both sexes.
- Accept to participate in the study.
- Direct contact with patients.
- Work in the previously mentioned settings for more than one month.

Tools of data collection:

Two tools were utilized to gather the required data:

Tool I: Structured Interview questionnaire: - consisted of two parts:

Part (I): Demographic Data Sheet: this part was used to assess the demographic characteristics of the studied emergency nurses, such as age, gender, residence, marital status, number of children, educational qualification, and monthly income

Part (II): Work Data Sheet: this part was used to assess the work characteristics of the studied emergency nurses, such as working shifts, working hours per week, experience in the nursing profession, and experience in the emergency department**.**

Tool II: Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5)

The scale was developed by **Weathers et al. (2013)** to determine the existence and severity of post-traumatic stress disorder symptoms over the past month. PCL-5 consists of 21 items that correspond with the DSM-5 criteria for PTSD and are categorized into four clusters of post-traumatic stress symptoms, including intrusive symptoms, avoidance symptoms, negative alteration in cognition and mood, and hyper arousal symptoms**.**

Scoring system:

Each item is rated on a 5-point Likert scale ranging from 0 to 4. The total scores ranged from 0 to 80. The level of post-traumatic stress symptoms can be evaluated as follows: (0–19) minimal symptoms; (20–30) mild symptoms; (31–40) moderate symptoms; (41–80) severe symptoms. The cut off used for the PCL5 is 31 or higher, which is considered a reasonable value to use for a probable diagnosis of post-traumatic stress disorder**.**

Content Validity and Reliability:

Tools were translated into Arabic, utilizing translation and back translation techniques to ensure their original validity. The tools were revised by five-person panels of experts through the distribution of the two tools with a covering letter and explanation sheet that explained the purpose of the study. Five –person panels of experts included: five assistant professors from the department of psychiatric and mental health nursing at Zagazig University. They revised the tools for clarity, relevance, applicability,

comprehensiveness, and recommendations were taken into consideration. The Cronbach's alpha test was used to evaluate the tools' reliability. They exhibit a high level of reliability.

Field work:

After obtaining the required permission to conduct this study, the researcher met with the hospital's manager and head nurse to explain the study's aim and procedures, as well as the information assortment forms, obtain their consent, and gain their cooperation to start gathering data. After that, the researcher interviewed the nurses who fulfilled the inclusion criteria of the randomly chosen sections, introduced herself, and explained to them the aim of the study. They were ensured of confidentiality and answered all related questions they raised.

Data collection period continued for 2 months from the beginning of august till the end of September 2024. The researcher allocated three days weekly: Sunday, Tuesday, Thursday and on various shifts, to collect the data (the nurse had busy work on Saturdays, Mondays, and Wednesdays because the University Hospital received cases on these days and the nurses were busy).

Pilot study:

Pilot study was carried out on 16 emergency nurses from the study setting, constituting about 10% of the calculated sample for the main study. The aim was to test the clarity and feasibility of the tools, the comprehension of items, and to estimate the exact time required for filling out the data collection forms. According to the pilot study results, the time needed to fill out the tools was about 25-30 minutes .The nurses who participated in the pilot study were included in the study sample, as no modification was needed in the data collection form.

Administration and Ethical consideration:

The study proposal was approved by the ethics committee of the faculty of nursing at Zagazig University with code M.DZU.NUR/224/10/6/2024.The nurses were given a verbal description of the aims of the study, the benefits, and non-participation or withdrawal rights at any time without giving any reasons. The nurses were informed that their participation in this study was voluntary, no names were included in the questionnaire sheet and anonymity of each participant was protected by the allocation of code number for each nurse. The nurses were assured about the confidentiality of the information gathered and its use only for their benefits and for the purpose of the study.

Statistical analysis:

All data were collected, tabulated and statistically analyzed using SPSS 25 for windows (IBM Corp., Armonk, NY, USA, 2017)). Quantitative data were expressed as the mean ± SD and qualitative data were expressed as absolute frequencies (number) & relative frequencies (percentage). 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 study variables, (+) sign indicate direct correlation & (-) sign indicate inverse correlation, also values near to 1 indicate strong correlation & values near 0 indicate weak correlation. Multiple linear regression (step-wise) was also used to predict factors which affect total mindfulness, inflexibility, and post- traumatic stress symptoms scores. Cronbach alpha coefficient was calculated to assess the reliability of the scales through their internal consistency. P-value < 0.05 was considered statistically significant, p-value < 0.01 was considered highly statistically significant, and p-value ≥ 0.05 was considered statistically non-significant.

Results:

Table (1) shows that, most of studied nurses (91.3%) were less than or equal to 30 years old with a mean15.8±40.0, more than two thirds of them(70.6%), (71.3%) ,(74.4%) were females ,married, and from rural areas respectivly.Also, the same table show that the most of studied nurses (95.6%) had less than or equal three children, more than half of studied nurses (53.1%) had technical institute level of education, and near two-thirds of studied nurses (62.5%) were having insufficient income.

Table (2) indicates that more than two-fifths of studied nurses (41.3%) were working in morning shift, the majority of them (85.6%) were working less than or equal 36 hours/week with a mean 37.01±6.37, more than half of them (56.3%) had 1 to 5 years of experience in nursing profession, and more than two-thirds of them (71.9%) had from 1 to 5 years of experience in emergency department.

Figure (1) reveals that (35%) of studied emergency nurses had moderate level of post-traumatic stress symptoms and (18.8) of them had severe levels of post-traumatic stress symptoms.

Table (3) shows that there were statistically highly significant relations between studied nurses post-traumatic stress symptoms and their age, gender ($p<0.001$). It is evident that post-traumatic stress symptoms was severe among female nurses and those with age was from 20-<30 years old.

Table (4) illustrate that there were statistically highly significant relations between studied nurses post-traumatic stress symptoms and (working shift, working hours/week and experience in emergency department ($p<0.001$). It is evident that post-traumatic stress symptoms was severe among nurses who were working at night shift, those who were working more than 36 hrs weekly ,and those who had experience in emergency department form 1 to5 year.

Table (1): Frequency distribution of the studied nurses according to their demographic characteristics **(n=160).**

Characteristics	No.	%
Age		
20-<30	146	91.3
≥30	14	8.8
Mean± SD	15.8 ±40.0	
Gender		
Male	47	29.4
Female	113	70.6
Residence		
Rural	119	74.4
Urban	41	25.6
Marital status		
Married	114	71.3
Single	43	26.9
Widow	3	1.9
Number of Children		
≤3	153	95.6
>3	7	4.4
Educational qualifications		
Diploma	23	14.4
Institute	85	53.1
Bachelors	49	30.6
Post graduate studies	3	1.9
Monthly income		
Insufficient	100	62.5
Sufficient	58	36.3
Sufficient and save	2	1.3

Table (2): Frequency distribution of the studied nurses according to their work characteristics **(n=160)**.

Work data	No.	%
Working Shift		
8am-2pm	66	41.3
2pm-8pm	55	34.4
8pm-8am	39	24.4
Working Hours/Week		
≤36	137	85.6
>36	23	14.4
Mean± SD	37.01±6.37	
Experience in Nursing Profession		
1-5	90	56.3
>5	70	43.8
Experience in Emergency Department		
1-5	115	71.9
>5	45	28.1

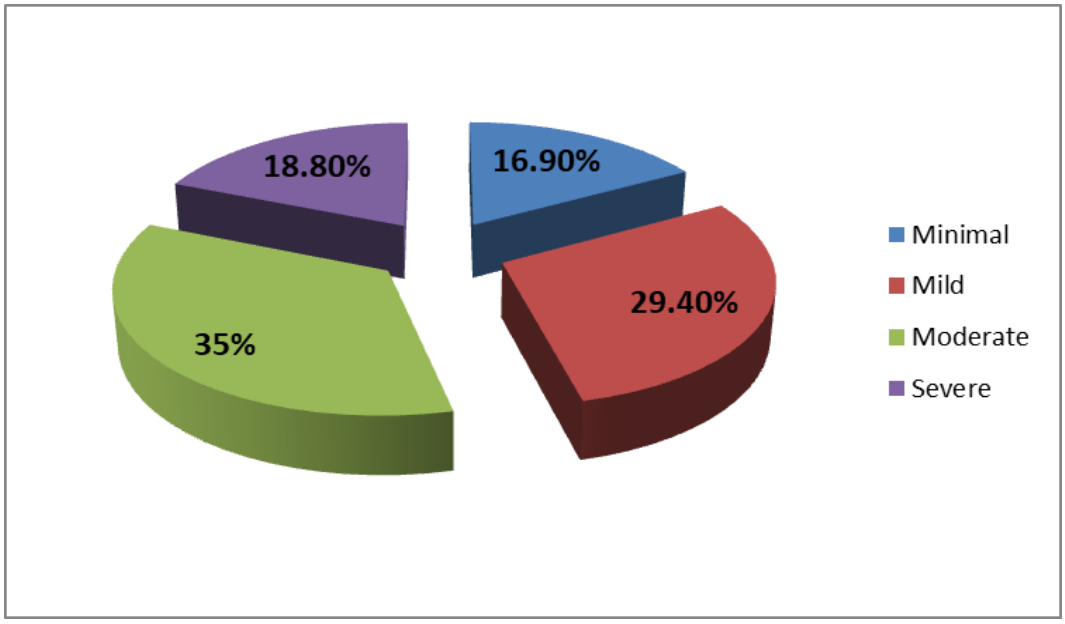

Figure :(1): percentage distribution of the studied nurses according to their total score of post-traumatic stress symptoms **(n=160).**

Table (3): Relation between total score of nurse's Post- traumatic stress symptoms and their demographic characteristics **(n=160).**

Characteristics	Post- traumatic stress symptoms								χ 2 (p-value)
	Minimal =27		Mild =47		Moderate=56		Severe =30		
	No.	%	No.	%	No.	%	No.	%	
Age									
20-<30	15	55.6	45	95.7	56	100.0	30	100.0	52.521 (0.001**)
≥30	12	44.4	2	4.3	0	0.0	0	0.0	
Gender									
Male	26	96.3	17	36.2	3	5.4	1	3.3	84.709 **(0.001**)**
Female	1	3.7	30	63.8	53	94.6	29	96.7	
Residence									
Rural	24	88.9	34	72.3	39	69.6	22	73.3	3.761 (0.288)
Urban	3	11.1	13	27.7	17	30.4	8	26.7	
Marital status									
Married	23	85.2	35	74.5	37	66.1	19	63.3	6.556 (0.364)
Single	3	11.1	12	25.5	18	32.1	10	33.3	
Widow	1	3.7	0	0.0	1	1.8	1	3.3	
Number of Children									
≤3	26	96.3	45	95.7	54	96.4	28	93.3	0.494 (0.920)
>3	1	3.7	2	4.3	2	3.6	2	6.7	
Educational qualifications									
Diploma	4	14.8	6	12.8	7	12.5	6	20.0	3.745 (0.927)
Institute	15	55.6	27	57.4	27	48.2	16	53.3	
Bachelors	7	25.9	13	27.7	21	37.5	8	26.7	
Post graduate studies	1	3.7	1	2.1	1	1.8	0	0.0	
Monthly income									
Insufficient	16	59.3	29	61.7	39	69.6	16	53.3	4.381 (0.625)
Sufficient	11	40.7	17	36.2	17	30.4	13	43.3	
Sufficient and save	0	0.0	1	2.1	0	0.0	1	3.3	

Table (4): Relations between work characteristics of the studied nurses and their total post -traumatic stress symptoms **(n=160).**

Work data	Post- traumatic stress symptoms								χ 2 (p-value)
	Minimal =27		Mild =47		Moderate=56		Severe =30		
	No.	%	No.	%	No.	%	No.	%	
Working Shift									
8am-2pm	23	85.2	30	63.8	11	19.6	2	6.7	73.895 (<0.001**)
2pm-8pm	2	7.4	14	29.8	30	53.6	9	30.0	
8pm-8am	2	7.4	3	6.4	15	26.8	19	63.3	
Working Hours/Week									
≤36	27	100.0	46	97.9	54	96.4	10	33.3	82.217 (<0.001**)
>36	0	0.0	1	2.1	2	3.6	20	66.7	
Experience in Nursing Profession									
1-5	14	51.9	29	61.7	34	60.7	13	43.3	3.267 (0.352)
>5	13	48.1	18	38.3	22	39.3	17	56.7	
Experience in Emergency Department									
1-5	2	7.4	35	74.5	51	91.1	27	90.0	70.751 (<0.001**)
>5	25	92.6	12	25.5	5	8.9	3	10.0	

Discussion:

Emergency nurses provide routine care within emergency departments and regularly face several distressing events. These distressing events involve deaths, severely injured victims of accidents, and physical assaults. Exposure to such distressing and traumatic events can lead to trauma-related mental health issues such as post-traumatic stress, depression, and anxiety **(Matthews *et al*., 2022).**

There for the present study aims to assess the influence of demographic and work characteristics on post-traumatic stress symptoms among emergency nurses. Regarding personal characteristics of the studied patients, the current study revealed that, that most of studied nurses were females less than or equal to 30 years old with a mean15.8±40.0, more than two thirds of them were married and were from rural areas. This may be explained by that larger number of female nursing schools than male nursing schools in Egypt and the common concept of the Egyptian community that the nursing profession is considered the profession of women leading to an increasing number of females admitted to the nursing profession than males. Also, the majority of them were from rural areas due to the hospital's location which is surrounded by rural areas.

Furthermore, the same result showed that the most of studied nurse had less than or equal three children, more than half of studied nurses had technical institute level of education, and near two-thirds had insufficient income. This may be because technical nurses start their working life early because of shorter educational time compared with baccalaureate nurses and subsequently start their social life early.

These finding is in congruence with the study made in Italy conducted by **Vitale *et al*., (2024)** who found that the majority of studied nurse were females less than 30 years old, married and had experience in nursing profession less than five years.

As well, this study result was supported by **Gökcek and Orak, (2025)** who showed that the majority of studied nurse were females less than 30 years old, married and had experience in nursing profession less than five years.

Also, this result in the same line with a study performed in Egypt by **Rabie El-Etreby, Zanaty and Abdelraof, (2021)** who showed that more than one-third of the studied nurses were females 20–30 years old. In addition, more than two-thirds of them were married and the majority of nurses lived in rural areas. In the same context, a study in Egypt by **Shafeek *et al* .,(2023)** demonstrated that half of studied nurses had technical institute degree , work in morning shift and work more than 36 hours weekly.

On the same way a study carried out in Egypt by **Bellizzi and Padrini, (2021)** reported that 85.0%of the nurses their salary were not enough. On the other hand, these results were disapproved by an Egyptian study performed by **Wadeaa, (2020)** who indicated that the majority of studied nurses were males and age range from 38-48 years old. Besides, an European study carried out by **Argyriadis *et al*., (2023)** indicated that the majority of them were single and had no children.

Regarding work data of studied nurses, the present study indicated that more than two-fifths of studied nurses were working in morning shift, the majority of them were working less than or equal 36 hours/week with a mean 37.01±6.37, more than half of them had 1 to 5 years of experience in nursing profession and more than two-thirds of them had 1 to 5 years' experience in emergency department. This might be due to the study inclusion criterion was 1 year of caring for patients. These results were in consistent with study carried out in Egypt by **Nasser-Rayan, (2024)** who revealed that the majority of nurses working in morning shift and more than half of them had experience in emergency department less than10 years.

In accordance with this finding, a study in Egypt by **Rabie, Mohamed and Ibrahim, (2021)** revealed that the majority of studied nurses work in morning shift. Also, these results were approved by study performed by **Awwad and Alqaissi, (2025)** indicated that the majority of nurses have less than 5 years' experience in emergency department.

These results were partially supported by a study conducted in Egypt by Ibrahim ***et al*., (2024)** indicated that the majority of studied nurses have less than 5 years' experience in profession. On the contrary it indicated that the majority of nurses working in rotating shift.

On the other hand, these results contradicted with a study in Turkey conducted by **Çınar *et al*., (2021)** showed that the majority of nurses had more than 10 years' experience in profession.

According *levels of post-traumatic stress symptoms* among the studied nurses the current study result revealed that less than one fifth of studied emergency nurses had sever level of post-traumatic stress symptoms and more than one third of them had moderate level of post-traumatic stress symptoms. It might be due to the emergency departments are stressful workplaces in which the nurses routinely confront several traumatizing conditions, cases with burns and broken bones, witnessing deaths, and life-threatening conditions. These results were confirmed with an Egyptian study carried out by **Abd Elnaeem, Abdelhafez and Tolba, (2021)** illustrated that the majority of nurses had moderate level of post-traumatic stress symptoms. Another supporting study was carried in china by **Qian *et al.*, (2023)** found that the most of studied nurse were reported moderate level of post-traumatic stress symptoms.

These results were incongruous with a study conducted in china by **Qi *et al* .,(2022)** revealed that there were high levels of PTSS among frontline health care worker in emergency department. Besides, a study in Iran conducted by **Fatemini *et al*., (2022)** showed that PTSD was severe among nurses.

The findings clarified that nurses' post-traumatic stress symptoms were statistically highly significant correlated with their (age, gender, working shift, working hours and experience in emergency department.

Concerning relation to gender, the current study result showed that there was statistically highly significant relations between studied nurses post-traumatic stress symptoms and their gender. It showed that post-traumatic stress symptom was severe among females. It might be due to females may have heightened physiological responses to stress due to hormonal differences which can increase vulnerability to PTSD.

This finding was consistent with those of a study in china by **Qi *et al*.,(2023)** suggested that female nurses were more associated with higher risk to post-traumatic stress symptoms. Another supporting study in Canada conducted by **Trudgill, Gorey and Donnelly, (2020)** revealed that females were much more likely to meet criteria for PTSD than men.

Concerning relation to age, the current study result showed that there was statistically highly significant relations between studied nurses post-traumatic stress symptoms and age. It show that post-traumatic stress symptom was severe among young nurses, due to older nurses can tolerate circumstances that cause trauma due to their greater experience in performing their tasks while strengthening their defense mechanisms or their habituation to stress.

This result was approved by a study in Iran conducted by **Khazaei *et al*.,(2021)** showed that age was negatively correlated with PTSD score, and emergency technicians with the age less than or equal 30 years could predict PTSD symptoms. In contrast with this result, a study was done in Egypt by **Abd Elnaeem, Abdelhafez and Tolba, (2021)** indicated that the nurses who were younger in age, show less stress score.

Concerning relation to working hours, the current study result showed that there was statistically highly significant relations between studied nurses post-traumatic stress symptoms and working more than 36 hour weekly. It indicated that post-traumatic stress symptom was severe among nurses working more than 36 hours weekly. This might be because the more working hours presents more time for exposure to work-related trauma.

This finding was in harmony with study in Egypt conducted by **Mansour *et al*.,(2025)** revealed that nurses who were working extra overtime hours within the ICU showed a significantly higher risk of compared to those without extra overtime hours. Another supporting study was carried by **Qian *et al*., (2023)** revealed that the longer the time spent in the emergency department, the higher the degree of PTSD the nurses experienced.

Regarding to relation to work shift, the current study result showed that there was statistically highly significant relations between studied nurses post-traumatic stress symptoms and working at night shift. It discussed that a post-traumatic stress symptom was severe among nurses working at night shift, explained by night shifts disturb natural sleep cycles, leading to chronic sleep deprivation, night shift workers often work with fewer staff and resources, and have less access to supervisory support, increasing feelings of isolation during traumatic or stressful events.

In accordance with this finding, **Taylor *et al*., (2022)** discussed that nurses working night shifts reported greater posttraumatic stress symptoms compared to day workers. As well, study conducted by **Yao *et al*.,**

(2024) indicated relationship between night shift work and increased post-traumatic stress symptoms among nurses.

Regarding to relation between post–traumatic stress symptoms and experience in emergency department, the current result showed that there was statistically highly significant relations between studied nurses post-traumatic stress symptoms and experience in emergency department. It indicated that post –traumatic stress symptoms were severe among nurses who had experience in emergency department less than 5years. This might be due to new nurses are inexperienced in coping with stress, more tasks, responsibilities and more stress, leading to a higher risk of PTSS.

Similar to this results study in China by **Li, Kuang and Tan, (2021)** showed that the incidence of PTSD was higher in those with less than 5 years of work experience. Likely, a study conducted in Iran made by **Hosseininejad *et al*., (2020)** revealed that the prevalence of PTSD was higher in nurses with a shorter working background less than 5 years. Correspondingly, study in china by **Li *et al*., (2023)** detected that the post-traumatic stress risk increased with decreasing years of experience.

Conclusion:

Based on the findings of the current study, it can be concluded that less than one fifth of studied emergency nurses had sever level of post-traumatic stress symptoms and more than one-third of them had moderate level of post-traumatic stress symptoms. More increase in post-traumatic stress symptoms among female nurses, aged between twenty and less than thirty, working at night shift, working more than 36 hrs weekly, and those had experience in emergency department from 1 to 5 years.

Recommendations:

Based on the results of this research, the following recommendations are suggested:

- Develop policy that supports the human resources availability to decrease the workload among emergency nurses.
- Proper management must be held at early stage of symptoms of burnout and PTSD.
- Future research should examine the relationship between PTSD and other mental health conditions commonly found in nursing populations, including burnout, depression, and anxiety disorders.
- Nursing intervention program should be provided to nurses with information on how to manage stress, reduce burnout, and increase resilience and quality of life during crisis.
- It is necessary to provide psychological support, training, and supervision to nurses and to help them reflect on how to react emotionally and psychologically to a catastrophic event.

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Author's contributions

The research methodology was designed and developed by all researchers. AA was suggested the research concept, and was a major contributor in data collection and writing the manuscript. Doctor HS analyzed and interpreted the patient data. Professor RF performed editing the manuscript and revising the data analysis. Each contributor read the final manuscript and approved it.

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