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Assessment of Bio Psycho Social Burden among Nurses Working at Emergency Unit in Cairo University Students' Hospital

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Abstract

Background: Bio-psychosocial is an approach includes the influences of biological, psychological and social factors when looking at overall health. The bio-psychosocial approach focuses on the biology or physiology underlying health; the psychology of thoughts, feelings, and behaviors influencing health; and the ways that society and culture all influence health. Aim: This study aimed to assess of bio psycho social burden among nurses working at emergency unit in Cairo university students' hospital. Research design: A descriptive study design was used to conduct the study. Setting: Emergency unit at Cairo university students' hospital. Sample: Convenient sample used to choose 50 nurses. Tool of data collection: One tool included five parts, 1st part: Demographic characteristics, 2nd part: Medical history, 3rd part: Nurses burden, 4th part: Knowledge of nurses about bio psycho social burden, and 5th part: Nurses' reported practices about prevention of bio psycho social burden. Results: 56.0% of the studied nurse had high total bio psycho social burden scores, and 60.0% of them had good total knowledge regarding bio psycho social burden scores. While, 62.0% of them had insufficient total scores and level of reported practices. There a relation between nurse' bio psycho social burden, knowledge, and reported practices towards bio psycho social burden Conclusion: More than half of the studied nurse had high total bio psycho social burden scores, and less two thirds of them had good total knowledge regarding bio psycho social burden scores. While, less two thirds of them had insufficient total scores and level of reported practices. There a relation between nurse' bio psycho social burden, knowledge, and reported practices towards bio psycho social burden. There is highly statistically significant relation between nurse' demographic data and their bio psycho social burden, knowledge, and reported practices towards bio psycho social burden. Recommendations: Provide health education program for nurse about bio psycho social burden to improve their condition.

Keywords: Assessment, Bio Psycho Social Burden, Emergency Unit, Nurses and Cairo University Students' Hospital. Introduction:

The burden of care refers to the physical, emotional, and social challenges experienced by individuals providing care to others, often in demanding or high-stress environments. It is commonly associated with caregivers in healthcare, such as nurses, or those supporting family members with chronic illnesses or disabilities. This burden arises from the continuous effort required to meet the needs of others, often at the expense of the caregiver's own well-being (*AlShatarat et al., 2022*). Physically, it may involve fatigue and health problems resulting from long hours and physically strenuous tasks. Emotionally, nurses can experience stress, anxiety, or guilt, especially when outcomes are unfavorable or when balancing care responsibilities with personal needs. Socially, the burden of care often disrupts relationships and limits opportunities for leisure and self-care, contributing to feelings of isolation (*Han & Yi, 2024*).

Many nurses globally suffer from anxiety (pooled prevalence between 32 and 37%), stress (41–43%), depression (32–35%) and sleep disturbances (38–43%). Nurses in long-term care facilities may be especially affected by the virus, due to factors like older age and comorbidities of the residents, location and size of the facility and insufficient or reduced staffing levels. Also, 22.8 % of United State (U.S) adults nurses experienced mental illness in 2022 equal 59.2 million nurses. In Egypt, Critical Care, Neurology and Emergency Unit nurses have the highest rate of burden at 55.7 % (*Adam et al., 2023*).

The emergency unit, often referred to as the Emergency Department (ED), is a critical area in healthcare facilities designed to provide immediate and life-saving care to patients with urgent and acute medical conditions. This fast-paced environment is the first point of contact for individuals suffering from trauma, accidents, heart attacks, strokes, and other emergencies (*Olive et al., 2023*). Staffed by a multidisciplinary team of healthcare professionals, including emergency physicians, nurses, and technicians, the unit operates 24/7 to address a wide range of medical needs. The dynamic nature





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of the emergency unit demands rapid decision-making, efficient communication, and teamwork to stabilize patients, manage crises, and prioritize care based on the severity of conditions. Despite its high-stress atmosphere, the emergency unit is a cornerstone of healthcare systems, ensuring timely intervention that often makes the difference between life and death (*Roussel et al., 2023*).

Several risk factors contribute to the bio-psycho-social burden experienced by individuals, particularly in caregiving professions like nursing. Biologically, prolonged physical exertion, irregular sleep patterns, and exposure to occupational hazards such as infections or workplace injuries increase the risk of physical strain. Psychologically, high job demands, exposure to traumatic events, and lack of access to mental health support elevate the likelihood of stress, anxiety, and emotional exhaustion (*Upton, 2022*). Socially, risk factors include insufficient social support, challenges in maintaining work-life balance, and isolation caused by demanding work schedules. Additional contributors may include gender roles, with women often disproportionately affected due to societal expectations of caregiving, and systemic issues like inadequate staffing or organizational inefficiencies (*Schauer et al., 2023*).

The biopsychosocial model is a holistic approach to understanding and addressing health and well-being by considering the interplay of biological, psychological, and social factors. Unlike traditional models that focus solely on biological causes of illness, this framework recognizes that mental and social conditions significantly influence health outcomes. For example, it is used in healthcare to assess how stress, lifestyle, and social support systems interact with physical health to affect recovery or disease progression (*Weber & Nørgaard, 2024*). The model is widely applied in areas like chronic disease management, mental health care, and patient-centered care. By integrating these dimensions, the biopsychosocial model promotes comprehensive assessment and treatment plans that address not only physical symptoms but the emotional and social needs of individuals. This approach fosters better patient outcomes, enhances provider-patient relationships, and encourages multidisciplinary collaboration in healthcare settings (*Zhou et al., 2024*).

Emergency Nurses (ENs) play a pivotal role in mitigating the bio-psycho-social burden faced by their peers in high-stress emergency units. As frontline healthcare providers, nurses can foster teamwork and communication, creating a supportive environment that reduces workplace conflicts and enhances collaboration. By modeling resilience and stress management techniques, ENs encourage their colleagues to adopt healthier coping strategies for psychological challenges (*Benish et al., 2023*). Nurses can advocate for peer support programs, mental health resources, and professional counseling, helping nurses address emotional stress and prevent burnout. Additionally, ENs contribute to addressing social burdens by promoting a culture of camaraderie, ensuring fair workload distribution, and advocating for organizational policies that support work-life balance. Through their leadership and proactive approach, emergency nurses help create a sustainable and supportive work environment that improves the overall well-being of nurses in the emergency unit (*Mahon & Rifino, 2024*).

Significance of the study:

Emergency services are the busiest and most stressful units of hospitals. Their staff might be at risk of burnout syndrome due to inadequate physical working conditions and emotional problems. Staff is under sustained stress owing to the crowded working environment, severity of cases treated and rotational work schedules that disrupt social and family relationships (*Halayem-Dhouib et al., 2021*). Nursing practice has been identified as one of the most stressful professions within the healthcare systems. The global prevalence of workplace stress among nurses was reported to be around 9 %–68 %, varying across different countries and specialty sectors within healthcare institutions. In United State (US) burden affects approximately 38% of nurses per year (*Al-Turki et al., 2021*).

In Egypt, Critical Care, Neurology and Emergency Room (ER) nurses have the highest rate of burden at 48 %. The major causes of stress among nurses at work include working shifts, long hours, a lack of control, poor relationships with coworkers, low pay, and unfavorable working conditions. An ER nurse is a nurse that works specifically in the emergency room. Nurses treat patients who are facing traumatic or severe, often life-threatening medical conditions. An ER nurse's primary responsibility is to identify medical issues, determine severity, and provide immediate support to minimize negative long-term effects and, if necessary, even sustain life (*Abdulla et al., 2021*). So, Therefore, it was important to assess of bio psycho social burden among nurses working at emergency unit in Cairo university students' hospital.

Aim of the study:

This study aimed to assess of bio psycho social burden among nurses working at emergency unit in Cairo university students' hospital through the following objectives:

1-Assessing nurses' knowledge about bio psycho social burden at emergency unit.

2- Appraising nurses' practices regarding bio psycho social burden at emergency unit.

3-Determine bio psycho social burden among nurses working at emergency unit in Cairo university students' hospital.





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Research questions:

1-What is the nurses' knowledge about bio psycho social burden at emergency unit?

2-What are the nurses' reported practices regarding the bio psycho social burden at emergency unit?

3-Is there relation between nurse's knowledge and practices?

4- Is there relation between nurse's knowledge, practices and their demographic characteristics?

5-What's the bio psycho social burden among nurses working at emergency unit?

Subjects& Methods

Research design:

A descriptive research design was used to achieve the aim of the study.

Study Setting:

The study was conduct in emergency unit at Cairo university students' hospital.

Sampling: Convenient sample used to choose all available nurses who working at ER unit equal 50 nurses.

Tool for data collection:

Data was collected using the following one tool:

Tool: A structured interviewing sheet: was used in the study, it's developed by investigator after reviewing the national and international related literature and contains five parts:

Part (I): Demographic characteristics of nurses consisted of 9 items as: Age, gender, residence, marital status.

Part (II): Medical history for nurses consisted of 3 closed ended questions as: Suffer from any chronic diseases, If the answer is yes, what is it.

Part (III): Nurses Bio Psycho Social burden included 5 sub-items as:

A- Psychological burden for nurses resulting from work at emergency unit consisted of 17 closed ended questions as: Suffer from anxiety, suffer from depression, suffer from increased psychological stress.

B- Physical burdens for nurses resulting from work at emergency unit consisted of 9 closed ended questions as: Suffer from stomach and intestinal disorders, suffer from constant nausea.

C- General job burden for nurses resulting from work at emergency unit consisted of 13 closed ended questions as: Suffer from having to work 12-hour shifts, suffer from working in a fast-paced environment.

D- Financial burdens for nurses resulting from work at emergency unit consisted of 4 closed ended questions as: Suffer from a lack of income, suffer from resorting to loans, suffer from increased debt.

E- Social burden for nurses resulting from work at emergency unit consisted of 5 closed ended questions as: Suffer from simple visits to relatives, friends and neighbors, prefer to sit alone with family.

Scoring system for bio psycho social burden:

Each statement was assigned score according to nurses' response were: Yes, answer was scored 2 grades, sometimes answer was scored 1 grade and no answer was scored 0. Total score were 96 grades from 48 questions. The total scores each item summed up and then converted into percent score as the following:

- Low bio psycho social burden (< 50 %) = < 48 grades.

- Moderate bio psycho social burden (50 - < 75%) = 48 - < 72 grades.

- High bio psycho social burden ($\geq 75\%$) = ≥ 72 grades.

Part (IV): Knowledge of nurses about bio psycho social burden consisted of 16 closed ended questions as: Meaning of the job burden of nurses, meaning of the psychological burden of nurses.

Scoring system for knowledge:

Each statement was assigned score according to nurses' response were: correct complete answer was scored 2 grades, correct incomplete answer was scored 1 grade and no answer and wrong answer was scored 0. Total score were 32 grades from 16 questions. The total scores each item summed up and then converted into percent score **as the following:**

- Poor knowledge (< 50 %) = < 16 grades.

- Average knowledge (50 - < 75%) = 16 - < 24 grades.

- Good knowledge ($\geq 75\%$) = ≥ 24 grades.

Part (V): Nurses' reported practices about prevention of bio psycho social burden included 3 sub-items as:

A- Nurses' reported practices about prevention of bio psycho social burden regarding general reported practices consisted of 22 closed ended questions as: Try to do things that are difficult to combine, set deadlines for completing unattainable tasks, keep taking adequate breaks.





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B- Nurses' reported practices about prevention of bio psycho social burden regarding personal protection measures to prevent infections consisted of 8 closed ended questions as: Use antiseptics such as alcohol when dealing with the patient, wash hands before dealing with the patient.

C- Nurses' reported practices about prevention of bio psycho social burden regarding protection measures to cope with workloads through daily practices that reduce stress consisted of 15 closed ended questions as: Eat healthy food, avoid smoking, avoid traveling for long periods, get enough sleep.

Scoring system for reported practices:

Each statement was assigned score according to nurses' response were scored done 1 and not done 0. Total score were 45 grades for 45 items. The scores of items summed up and then converted into percentage score **as the following:**

- (> 60) was considered insufficient = > 27 grades.
- (≤ 60) was considered sufficient = ≤ 27 grades.

I. Operational Item:

It was included preparatory phase, content validity and reliability, pilot study and field work.

A. Preparatory phase:

Prepare the study tool based on related literature review and develop the study tool and test its content validity and reliability.

Pilot study:

A pilot study conducted on 10% equal ° nurses under study to assess the feasibility, practicability, clarity and objectivity of the tool. Nurses in the pilot study were included in the main study sample because no modifications were done.

Content validity:

The revision of the tool for clarity, relevance, comprehensiveness, understanding and applicability done by a panel of five experts all of them from Faculty of Nursing from Community Health Nursing Department to measure the content validity of the tools and the necessary modification will be done accordingly.

Tool Reliability:

Reliability was tested statistically using the appropriate statistical tests to assure that the tools are reliable before data collection. Answers from the repeated testing were compared Test- re- test reliability was 0.82 for knowledge, Cronbach's Alpha reliability was 0.890 for reported practices and 0.860 for bio psycho social burden.

Ethical Considerations:

The research approval was obtained from the Scientific Research Ethical Committee in the Faculty of Nursing, Helwan University before starting the study, the investigator was clarified the objective and aim of the study to patients included in the study, The investigator assured anonymity and confidentiality of subjects' data. Patients informed that they are allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time.

Field work:

- An official letter issued from the dean of Faculty of Nursing Helwan University, and nurses, emergency unit at Cairo university students' hospital -Egypt including the aim of the study to obtain permission after establishing a trustful relationship, each subject interviewed individually by the investigator to explain the study purpose.
- Data collected within 3 months from first of January until end of March 2023 two days /week (Tuesday- Wednesday), from 9am 2pm, till the needed sample completed, interview of nurses, informed consent obtained from nurses after the investigator introduce herself for each nurse, then explain the purpose of the study to assess bio psycho social burden, knowledge, and reported practices of nurses. Study collected through structure face to face interview and the entire tool filled by the investigator.
- The investigator utilizes one tool, was need 20 -30 minutes.
- The investigator about 16-17 nurses per month, total number of nurses = 50 nurses.

III- Administrative Item:

An official Permission was obtained from Dean of Faculty of Nursing Helwan University and official Permission from nurses, in emergency unit at Cairo university students' hospital in which the study was conducted. This letter included a permission to collect the necessary data and explain the purpose and nature of the study.





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IV- Statistical Item:

The collected data from the studied sample was revised, coded and entered using Personal Computer (PC). Computerized data entry and statistically analyzed using SPSS program (Statistical Package for Social Science) version 24. Data were presented using descriptive statistics in the form of frequencies and relative percentages. Chi square test (X^2) was used to calculate difference between qualitative variables.

Degrees of Significance of the results were:

- Non-Significant (NS) if p > 0.05.

-Significant (S) if p < 0.05.

-High Significant (HS) if p < 0.01.

Results:

Table (1): Frequency Distribution of Demographic Characteristics for studied Nurses (n=50).

Demographic data	The studied sample (N=50)				
Demographic data	No.	%			
Age:					
25-<30	26	52			
≥30 - <35	17	34			
≥35 -	7	14			
Range		14			
Mean ± SD	29.840	0 ± 4.17162			
Gender					
Male	30	60			
Female	20	40			
Marital status					
Single	7	14			
Married	37	74			
Absolute	4	8			
Widower	2	4			
Academic qualification:	N				
Nursing Diploma	7	14			
Nursing Technical Institute	13	26			
Bachelor of Nursing	26	52			
Postgraduate	4	8			
Number of family members:					
≤4 people	44	88			
≥5 people	5	10			
≥6 people	1	2			
Monthly income:					
Enough and saved	4	8			
Sufficient for basic needs	38	76			
Not enough for basic needs	8	16			
Number of years of experience in the emergency unit:	·				
less than one year	16	32			
From one year to less than five years	14	28			
From five to less than ten years	18	36			
More than or equal to ten years	2	4			
Obtain training courses related burden resulting from	n work at emergency unit				
Yes	23	46			
No	27	54			

Table (1): Reveals that, the mean \pm SD age of the studied nurses was 29.8400 \pm 4.17162 years, 60.0 % of them were males, 74.0 % of them were married and 88.0 % of them were number of family members were \leq 4 people. Also, 52.0 % of them had bachelor's nursing.





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Table (2): Frequency Distribution of Studied Nurses regarding Medical history (n=50).

Items	No.	%				
Suffer from any chronic diseases						
- Yes	22	44				
- No	28	56				
If yes, what is it						
- Diabetes mellitus	6	12				
- Hypertension	5	10				
- Heart	1	2				
- Kidney	1	2				
- Liver	1	2				
- Gastro	2	4				
- Asthma	6	12				
Take some medications for a specific disease						
- Yes	21	42				
- No	29	58				
If the answer is yes, what is it (N=42)						
Losartan	20	47.6				
Enalapril	22	52.4				
Were physically or psychologically injured as a result of work in the emergency	v unit?					
- Yes	27	54				
- No	23	46				
If yes, please mention: (N=27)						
- Wound	6	12				
- Fracture	1	2				
- Burns	1	2				
- Psychological	1	2				
- Respiratory	3	6				
- Depression	15	30				

Table (2): Illustrate that, 56.0 % of the studied nurses hadn't suffer from chronic diseases while, 12.0 % of them suffer from diabetes mellitus, 58.0 % of them hadn't take some medications for a specific disease and 54.0 % of them had physically or psychologically injured as a result of work in the emergency unit.



Figure (1): Percentage Distribution of Total Bio Psycho Social Burden Level among Studied Nurses (n=50).

Fig (1): Shows that, 56.0 % of the studied nurses had high total bio psycho social burden level. Also, 28.0 % of them had moderate total bio psycho social burden level. While, 16.0 % of them had low total bio psycho social burden level.





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Figure (2): Percentage Distribution of Total Knowledge Level Among Studied Nurses Regarding Bio Psycho Social Burden (n=50).

Fig (2): Shows that, 60.0 % of the studied nurses had good total knowledge level of bio psycho social burden level. Also, 12.0 % of them had average total knowledge level of bio psycho social burden level. While, 27.0 % of them had poor total knowledge level bio psycho social burden level.



Figure (3): Percentage Distribution of Total Scores and Level of Reported Practices among Studied Nurse (n=50).

Fig (3): Shows that, 62.0 % of the studied nurses had insufficient total reported practices level of bio psycho social burden level. Also, 38.0 % of them had average total reported practices level of bio psycho social burden level.

Table	(3):	Relations	between	Total	Burden	Levels	of	The	Studied	Nurses	and	Their	Socio-Demo	ographic
Chara	cteris	stics $(n=50)$	0).											

	Total Burden score levels of the studied sample (N=50)						
Socio demographic Characteristics	Low (8)		Modera	Moderate (14)		h (28)	
	No.	%	No.	%	No.	%	
Age:							
- 25-<30 (26)	5	10	13	26	8	16	
- ≥30 - <35 (17)	2	4	1	2	14	28	
- ≥35 - (7)	1	2	0	0	6	12	
χ2		• •	1	5.965			
P value			0	.001*			
•Gender							
- Male (30)	8	16	6	12	16	32	
- Female (20)	0	0	8	16	12	24	
χ2	7.143						
P value			0	.007*			
•Residence							
- Rural (13)	0	0	11	22	2	4	
- Urban (37)	8	16	3	6	26	52	
χ2	28.096						
P value	0.000**						
•Marital status							
- Single (7)	5	10	0	0	2	4	
- Married (37)	3	6	13	26	21	42	
- Absolute (4)	0	0	1	2	3	6	
- Widower (2)	0	0	0	0	2	4	





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χ2	20.941					
P value	0.000**					
Academic qualification:						
- Nursing Diploma (7)	0	0	0	0	7	14
- Nursing Technical Institute (13)	0	0	0	0	13	26
- Bachelor of Nursing (26)	8	16	12	24	6	12
- Postgraduate (4)	0	0	2	4	2	4
χ2			2	8.709		
P value			0.	.000**		
•Number of family members:						
$- \leq 4$ people (44)	8	16	13	26	23	46
$- \geq 5$ people (5)	0	0	1	2	4	8
$- \geq 6$ people (1)	0	0	0	0	1	2
χ2			-	2.492		
P value				0.461		
Monthly income:					1	
- Enough and saved (4)	0	0	0	0	4	8
- Sufficient for basic needs (38)	8	16	14	28	16	32
- Not enough for basic needs (8)	0	0	0	0	8	16
χ2			1	2.406		
P value			0.	.002**		
•Number of years of experience in the emergency unit:				0		
- less than one year (16)	5	10	6	12	5	10
- From one year to less than five years (14)	1	2	7	14	6	12
- From five to less than ten years (18)	2	4	1	2	15	30
- More than or equal to ten years (2)	0	0	0	0	2	4
χ2	17.212					
P value	0.009**					
 Obtain training courses related burden resulting from 	den resulting from work at emergency unit					
- Yes (23)	2	4	4	8	17	34
- No (27)	6	12	10	20	11	22
χ2				5.573		
P value	0.057*					

*Significant (P<0.05)

****Highly significant (P<0.000)**

Table (3): Shows that, there were highly statistically significant relation between studied nurse's total burden levels and all items of socio-demographic characteristics, where (P = < .0001).

Table (4): Relations between Total Level Knowledge and Their Socio-Demographic Characteristics (n= 50).

	Total scores and level information of the studied sample (N=50)							
Socio demographic Characteristics	Poor	(14)	Avera	ıge (6)	Good (30)			
	No.	%	No.	%	No.	%		
Age:				•		•		
- 25-<30 (26)	12	24	2	4	12	24		
- ≥30 - <35 (17)	2	4	2	4	13	26		
- ≥35 - (7)	0	0	2	4	5	10		
χ2		10.377						
P value			0	.018*				
•Gender								
- Male (30)	8	16	5	10	17	34		
- Female (20)	6	12	1	2	13	26		
χ2			1	1.548				
P value		0.423						
•Residence								
- Rural (13)	7	14	1	2	5	10		
- Urban (37)	7	14	5	10	25	50		
χ2		5.821						





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P value		0.065					
•Marital status	•						
- Single (7)	4	8	1	2	2	4	
- Married (37)	9	18	5	10	26	46	
- Absolute (4)	1	2	0	0	3	6	
- Widower (2)	0	0	0	0	2	4	
χ2				5.560	-n		
P value				0.367			
Academic qualification:							
- Nursing Diploma (7)	0	0	0	0	7	14	
- Nursing Technical Institute (13)	0	0	0	0	13	26	
- Bachelor of Nursing (26)	14	28	5	10	7	14	
- Postgraduate (4)	0	0	1	2	3	6	
χ2		•	2	27.244	•	•	
P value			(.000*			
•Number of family members:							
$- \leq 4$ people (44)	14	28	6	12	24	48	
$- \geq 5$ people (5)	0	0	0	0	5	10	
$- \geq 6$ people (1)	0	0	0	0	1	2	
χ2				4.545			
P value				0.154			
• Monthly income:							
- Enough and saved (4)	0	0	0	0	4	8	
- Sufficient for basic needs (38)	14	28	6	12	18	36	
- Not enough for basic needs (8)	0	0	0	0	8	16	
χ2				10526			
P value			(.005*			
•Number of years of experience in the emergency u	mit:						
- less than one year (16)	7	14	2	4	7	14	
- From one year to less than five years (14)	5	10	1	2	8	16	
- From five to less than ten years (18)	2	4	3	6	13	26	
- More than or equal to ten years (2)	0	0	0	0	2	4	
χ2		6.659					
P value		0.258					
•Obtain training courses related burden resulting f	rom work at en	nergency u	ınit				
- Yes (23)	11	22	3	6	13	26	
- No (27)	3	6	3	6	17	34	
χ2		4.816					
P value				0.079			
ignificant (P<0.05) **	Highly signifi	ghly significant (P<0.000)					

Table (4): Shows that, there were highly statistically significant relation between studied nurse's total knowledge levels and all items of socio-demographic characteristics, where (P = < .0001).

Table (5): Relations between Total level Reported Practices and their socio-demographic data (n=	50)
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	Total scores and level Reported Practices of the studied sample (N=50)					
Socio demographic characterístics	Insufficie	nt (31)	Sufficient (19)			
	No.	%	No.	%		
Age:						
- 25-<30 (26)	10	20	16	32		
- ≥30 - <35 (17)	1	28	3	6		
$- \geq 35-$ (7)	7	14	0	0		
χ2	13.394					
P value	0.000*					
•Gender						
- Male (30)	24	48	6	12		
- Female (20)	7 14 13 26					





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	-					
χ2	10.31					
P value	0.002**					
•Residence						
- Rural (13)	0	0	13	26		
- Urban (37)	31	62	6	12		
χ2		28	.663			
P value		0.	000*			
Marital status						
- Single (7)	7	14	0	0		
- Married (37)	19	38	18	36		
- Absolute (4)	3	6	1	2		
- Widower (2)	2	4	0	0		
χ2		7	.54			
P value		0.	014*			
Academic qualification:						
- Nursing Diploma (7)	7	14	0	0		
- Nursing Technical Institute (13)	10	20	3	6		
- Bachelor of Nursing (26)	13	26	13	26		
- Postgraduate (4)	1	2	3	6		
χ2		9.	433			
P value		0.0	008*			
Number of family members:						
$- \leq 4$ people (44)	26	52	18	36		
$- \ge 5$ people (5)	4	8	1	2		
$- \ge 6$ people (1)	1	2	0	0		
χ2		1.	459			
P value		0.	393			
Monthly income:						
- Enough and saved (4)	8	16	0	0		
- Sufficient for basic needs (38)	22	44	16	32		
- Not enough for basic needs (8)	1	2	3	6		
χ2		7.	499			
P value		0.0	006*			
•Number of years of experience in the emergency unit:						
- less than one year (16)	7	14	9	18		
- From one year to less than five years (14)	7	14	7	14		
- From five to less than ten years (18)	15	30	3	6		
- More than or equal to ten years (2)	2	4	0	0		
χ2		7.	820			
P value		0.	031			
•Obtain training courses related burden resulting from work	at emergency un	nit				
- Yes (23)	14	28	13	26		
- No (27)	17	34	6	12		
χ2	2.566					
P value	0.095					

*Significant (P<0.05)

**Highly significant (P<0.000)

Table (5): Shows that, there were highly statistically significant relation between studied nurse's total reported practices levels and all items of socio-demographic characteristics, where (P = <.0001).

Table (6): Correlation between Total Bio Psycho Social Burden Scores, Total Knowledge Scores and Total Scores and Level of Reported Practices among Studied Nurses (n=50).

Variables	Total knowledge scores				
V at fables	r	Р			
- Total Bio Psycho Social Burden	0.765	0.000*			
- Total scores and level of Reported practice	0.838	0.000*			
*Significant (P<0.05)	**Highly significant (P<0.000)				

r= Pearson Correlation Coefficient





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Table (6): Shows that, there were highly statistically significant correlation between studied nurse's total bio psycho social burden scores, total knowledge scores and total scores and level of reported practices, where (P = < .0001).

Discussion:

Burden of care is a concept emerging in the literature that describes physical, emotional, social, and financial problems that can be experienced by emergency nurse. Emergency Department (ED) of internal medicine, triage and treatment of patients deserve first priority. However, biopsychosocial case complexity may affect nurse health outcome (*An et al., 2020*). The work environment and job characteristics are important determinants of occupational stress leading to a variety of health-related and organizational consequences. Nurses are particularly vulnerable to many consequences as continuously exposed to a variety of important work stressors. Emergency care nursing differs from other specialties due to exposure to severe stressors as traumatic events, constantly changing, hectic and hardly predictable work conditions (*Clark et al., 2021*).

Emergency services are the busiest and most stressful units of hospitals. Their staff might be at risk of burnout syndrome due to inadequate physical working conditions and emotional problems. Staff are under sustained stress owing to the crowded working environment, severity of cases treated and rotational work schedules that disrupt social and family relationships (*Fekonja et al., 2023*).

Regarding age of studied nurses, the current study result revealed that, mean age of studied nurses were 29.8400 \pm 4.17162years. This result in the same line with **Alanazy & Alruwaili (2023)** who carried out a study conducted in Saudi Arabia about " The global prevalence and associated factors of burnout among emergency department healthcare workers and the impact of the COVID-19 pandemic ", they found that, mean \pm SD were 27.8 \pm 2.2 years for studied nurse. **From the investigator point of view,** young nurses are often chosen to work in emergency departments due to the physical and mental demands of the role. Emergency care requires rapid decision-making, quick reflexes, and the ability to adapt to fast-paced, high-pressure situations, qualities often associated with younger professionals.

Concerning marital status of studied nurses, the current study result revealed that, more than two thirds of the studied nurses were married. This result in the same line with **Muir et al.**, (2023) who carried out a study conducted in United state about " The association of the emergency department work environment on patient care and nurse job outcomes ", they found that, 72.1 % of studied nurses had married. From the investigator point of view, societal norms and expectations play a role, as marriage has historically been more common among patients, who now make up a significant portion of the nursing educator workforce. Furthermore, having a supportive partner can help manage the work-life balance required in the demanding field of nursing education, providing emotional and practical support that contributes to career satisfaction and stability.

Regarding gender of studied nurses, the current study revealed that, less than two thirds of studied nurses were male. This finding was accordance with **Komsan et al.**, (2023) who conducted a study in Egypt about " Emergency Nurses' Core Competencies in the Management of Critically III Patients in Emergency Departments" they found that, 60.6 % of studied samples were male. From the investigator point of view, male nurses are often preferred in emergency departments due to the physically demanding and high-pressure nature of the work. Emergency care frequently involves tasks like lifting, repositioning patients, and managing aggressive or combative individuals, where physical strength can be an advantage. Male nurses may also be perceived as more capable of handling physically intense situations, such as during trauma care or disaster response, where quick physical action is often required.

Regarding medical history of studied nurses, the current study revealed that, less than half of the studied nurses hadn't suffer from any chronic diseases. This finding wasn't agreed with **Fathy Khatab et al.**, (2024) who conducted a study in Egypt about " Practice of Nurses Caring for Patients with Acute Poisoning in Emergency Unit: Effect of Educational Guidelines" they found that, 60.9 % of studied samples weren't suffer from any chronic diseases. From the investigator point of view, due to more than half of nurses in the age range of 25 to 30 are generally less likely to suffer from chronic diseases because nurses are still in the early stages of adulthood when the risk for many chronic conditions, such as heart disease, diabetes, or arthritis, is relatively low.

Concerning physically or psychologically injured as a result of work in the emergency unit of studied nurses, the current study revealed that, more than half of the studied nurses hadn't physically or psychologically injured as a result of work in the emergency unit. This finding was agreed with **Daba et al.**, (2024) who conducted a study in Ethiopia about " Job performance and associated factors among nurses working in adult emergency departments at selected public hospitals in Ethiopia" they found that, 53.1 % of studied samples hadn't physically or psychologically injured as a result of work in the emergency unit. **From the investigator point of view**, nurses aged 25-30 are often in the prime of their physical health, which can make them more resilient to the physical demands and stresses of working in high-intensity





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environments like emergency units. At this age, nurses typically have more energy, stamina, and better overall fitness, which helps them handle the physical exertion required, as lifting patients or managing long shifts.

Concerning total bio psycho social burden, the current study revealed that, more than half of the studied nurses had high total bio psycho social burden, and more than quarter had moderate total bio psycho social burden. This finding was agreed with **Abdou et al.**, (2023) who conducted a study in Egypt about " The relation between occupational stress, social support and the work engagement among nurses" they found that, 55.5 % of the studied nurses had high total bio psycho social burden, and 25.9 % had moderate total bio psycho social burden. **From the investigator point of view,** reducing workloads can alleviate stress and improve interaction quality.

Part (IV): Studied nurse's knowledge regarding bio psycho social burden. (Answer research questions Q1).

Concerning total knowledge regarding bio psycho social burden, the current study revealed that, less than two thirds of the studied nurses had good total knowledge about bio psycho social burden, and more than quarter had poor total knowledge regarding bio psycho social burden. This finding was agreed with **Strudwick et al.**, (2023) who conducted a study in Iran about " Identifying and adapting interventions to reduce documentation burden and improve nurses' efficiency in using electronic health record systems" they found that, 59.5 % of the studied nurses had good total knowledge about bio psycho social burden, and 26.4 % had poor total knowledge regarding bio psycho social burden. **From the investigator point of view**, emergency nurses often experience severe physical exhaustion and emotional stress, making the types of burdens they face more apparent and memorable.

Part (V): Studied nurse's reported practices regarding bio psycho social burden. (Answer research questions Q2)

Concerning total reported practices regarding bio psycho social burden, the current study revealed that, less than two thirds of the studied nurses had insufficient total reported practices about bio psycho social burden, and more than one third had sufficient total reported practices regarding bio psycho social burden. This finding was agreed with **Strudwick et al.**, (2023) who conducted a study in Iran about "Identifying and adapting interventions to reduce documentation burden and improve nurses' efficiency in using electronic health record systems" they found that, 61.5 % of the studied nurses had insufficient total reported practices about bio psycho social burden, and 38.5 % had sufficient total reported practices about bio psycho social burden, and 38.5 % had sufficient total reported practices about bio psycho social burden, and safety practices approach that includes improving resources, enhancing education, fostering a positive workplace culture, and ensuring accountability to maintain high standards of patient care and safety.

Part (VI): Relation and correlation between the studied variables. (Answer research questions Q3,4)

Regarding to relations between total burden scores levels of the studied nurses and their socio-demographic characteristics, the current study result revealed that, there were highly statistically significant relation between studied nursing between total burden scores levels of the studied nurses and their socio-demographic data. This result in the same line with **Nasirizad et al.**, (2021) who carried out a study conducted in Iran about " Nursing physical workload and mental workload in intensive care units: Are they related?", they found that there was highly statistically significant relation between studied nursing between total burden scores levels of the studied nurses and their socio-demographic characteristics. From the investigator point of view, understanding how different demographic characteristics relate to work stress can help institutions tailor interventions and support systems. For example, younger nurses may experience different stressors compared to those with more experience, necessitating different approaches to support.

Concerning to demographic characteristics and their total knowledge, the current study result revealed that, there were highly statistically significant relation between studied nurse's total knowledge and all items of demographic characteristics. This result in the same line with **Samaei et al.**, (2017) who carried out a study conducted in Iran about " The effect of mental workload on occupational accidents among nurses in hospitals of Kerman, Iran ", they found there were highly statistically significant relation between studied sample total knowledge and all items of demographic characteristics. **From the investigator point of view,** connection between demographic characteristics and knowledge is robust and unlikely to be due to random chance. This indicates that specific groups may favor different coping strategies based on their demographic profiles.

Regarding total reported practices scores levels of the studied nurses and their socio-demographic characteristics, the current study result revealed that, there were highly statistically significant relation between studied nursing between total reported practices scores levels of the studied nurses and their socio-demographic data. This result in the same line with **Barpanda & Saraswathy**, (2023) who carried out a study conducted in India about " Challenges and policy opportunities in nursing in Saudi Arabia ", they found that there was highly statistically significant relation between studied nursing between total reported practices scores levels of the studied nurses and their socio-demographic characteristics. From the investigator point of view, understanding how different demographic characteristics relate to





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work stress can help institutions tailor interventions and support systems. Emergency situations disrupt planned workflows, causing delays in routine tasks.

Regarding correlation between total bio psycho social burden scores, total information scores and total scores and level of reported practice among studied nurses, the current study result revealed that, there were highly statistically correlation between total bio psycho social burden scores, total information scores and total scores and level of reported practice among studied nurses. This result in the same line with **Halms et al.**, (2024) who carried out a study conducted in Germany about " Higher Subjective Burden in Psychiatric Compared to Somatic Healthcare Workers in Germany During the first wave of the COVID-19 Pandemic ", they found that there was highly statistically correlation between total bio psycho social burden scores and total scores and level of reported practice among studied sample. From the investigator point of view, understanding how different demographic characteristics relate to work stress can help institutions tailor interventions and support systems. Emergency situations disrupt planned workflows, causing delays in routine tasks.

Conclusion:

Based on the results of the present study and research questions the following conclusion includes:

More than half of the studied nurse had high total bio psycho social burden scores, and less two thirds of the studied nurse had good total knowledge regarding bio psycho social burden scores. While, less two thirds of the studied nurse had insufficient total scores and level of reported practices. There a relation between nurse' bio psycho social burden, knowledge, and reported practices towards bio psycho social burden. There is highly statistically significant relation between nurse' demographic data and their bio psycho social burden, knowledge, and reported practices towards bio psycho social burden, knowledge, and reported practices towards bio psycho social burden.

Recommendations:

In the light of the result of this study, the following recommendations were suggested:

1. Provide health education program for nurse about bio psycho social burden to improve their condition.

2. Design booklets for nurse with bio psycho social burden about prevention of bio psycho social burden and how to reduce its exposure.

3.Make posters or banners about reported practices for nurse facing bio psycho social burden and put in emergency unit at Cairo university students' hospital that improve' knowledge, and reported practices for them under observation of community health nurse.

4. Encourage nurse to make group discussion regarding bio psycho social burden to exchange knowledge, and reported practice about adaptation methods used under observation from community health nurse.

5. Apply further research in large sample and other setting for generalization.

References:

- Abdulla, L; Al-Qahtani D.M; Al-Kuwari M.G (2021). Prevalence and determinants of burnout syndrome among primary healthcare physicians in Qatar. South African Family Practice Journal. 2021;53(4):380–3
- Abdou, T. G. A., Khedr, M. A. A., & Ibrahim, A (2023). The relation between occupational stress, social support and the work engagement among nurses. Plos one, 13(2), e0286308.
- Adam, R., Nair, R., Duncan, L. F., Yeoh, E., Chan, J., Vilenskaya, V., & Gallacher, K. I. (2023). Treatment burden in individuals living with and beyond cancer: A systematic review of qualitative literature. Plos one, 18(5), e0286308.
- Alanazy, A. R. M., & Alruwaili, A. (2023, August). The global prevalence and associated factors of burnout among emergency department healthcare workers and the impact of the COVID-19 pandemic: a systematic review and meta-analysis. In Healthcare (Vol. 11, No. 15, p. 2220). MDPI.
- AlShatarat, M., Rayan, A., Eshah, N. F., Baqeas, M. H., Jaber, M. J., & ALBashtawy, M. (2022). Triage knowledge and practice and associated factors among emergency department nurses. SAGE Open Nursing, 8, 23779608221130588.
- Al-Turki, H.A; Al-Turki RA, Al-Dardas H.A; Al-Gazal MR, Al-Maghrabi G.H; Al-Enizi, NH. (2021). Burnout syndrome among multinational nurses working in Saudi Arabia. Ann Afr Med. 2021 Oct-Dec;9(4):226–9. PMID:20935422
- An, Y., Yang, Y., Wang, A., Li, Y., Zhang, Q., Cheung, T., ... & Xiang, Y. T. (2020). Prevalence of depression and its impact on quality of life among frontline nurses in emergency departments during the COVID-19 outbreak. Journal of affective disorders, 276, 312-315.
- Barpanda, S., & Saraswathy, G. (2023). The Impact of Excessive Workload on Job Performance of Healthcare Workers during Pandemic: A Conceptual Mediation-Moderation Model. IJMAR, 10, 24-39.





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- Benish, A., Tarshish, N., Holler, R., & Gal, J. (2023). Types of administrative burden reduction strategies: who, what, and how. Journal of Public Administration Research and Theory, muad028.
- Clark, P., Crawford, T. N., Hulse, B., & Polivka, B. J. (2021). Resilience, moral distress, and workplace engagement in emergency department nurses. Western Journal of Nursing Research, 43(5), 442-451.
- Daba, L., Beza, L., Kefyalew, M., Teshager, T., Wondimneh, F., Bidiru, A., & Ketema, I. (2024). Job performance and associated factors among nurses working in adult emergency departments at selected public hospitals in Ethiopia: a facility-based cross-sectional study. BMC nursing, 23(1), 312.
- Fathy Khatab, R., Abd Elaty Ahmed, O., Elsayed Mahdy, N., & Faltas Marzouk Faltas, S. (2024). Practice of Nurses Caring for Patients with Acute Poisoning in Emergency Unit: Effect of Educational Guidelines. Egyptian Journal of Health Care, 15(2), 993-1002.
- Fekonja, Z., Kmetec, S., Fekonja, U., Mlinar Reljić, N., Pajnkihar, M., & Strnad, M. (2023). Factors contributing to patient safety during triage process in the emergency department: A systematic review. Journal of Clinical Nursing, 32(17-18), 5461-5477.
- Halayem-Dhouib, S; Zaghdoudi, L; Zremdini, R; Maalej, I; Béchir MB; Labbène, R; (2021). Burnout en psychiatrie: une expérience tunisienne [Burnout among mental health professionals: a Tunisian experience]. Rev Epidemiol Sante Publique. 2021 Dec;58(6):403–8. PMID:21094003
- Han, Y., & Yi, Y. (2024). Triage-related Challenges Faced by Emergency Nurses during the Peak and Plateau Periods of the COVID-19 Pandemic: A Focus Group Study. Korean Journal of Adult Nursing, 36(1), 74-83.
- Komsan, F. A. A. M., Abd Elbaky, M. M., Abouzied, W. R., & Ahmed, N. A. (2023). Emergency Nurses' Core Competencies in the Management of Critically Ill Patients in Emergency Departments. Tanta Scientific Nursing Journal, 30(3), 27-40.
- Mahon, S. E., & Rifino, J. J. (2024). Role of emergency medical services in disaster management and preparedness. In Ciottone's Disaster Medicine (pp. 12-18).
- Muir, K. J., Sloane, D. M., Aiken, L. H., Hovsepian, V., & McHugh, M. D. (2023). The association of the emergency department work environment on patient care and nurse job outcomes. Journal of the American College of Emergency Physicians Open, 4(5), e13040.
- Nasirizad, D., Lasalvia, A., Bonetto, C., Porru, S., Carta, A., Tardivo, S., Bovo, C., ... & Amaddeo, F. (2021). Nursing physical workload and mental workload in intensive care units: Are they related. Epidemiology and psychiatric sciences, 30, e1.
- Olive, P., Hives, L., Wilson, N., Ashton, A., O'Brien, M. C., Mercer, G., ... & Harris, C. (2023). Psychological and psychosocial aspects of major trauma care in the United Kingdom: A scoping review of primary research. Trauma, 25(4), 338-347.
- Roussel, M., Teissandier, D., Yordanov, Y., Balen, F., Noizet, M., Tazarourte, K., ... & FHU IMPEC- IRU SFMU Collaborators. (2023). Overnight stay in the emergency department and mortality in older patients. JAMA internal medicine, 183(12), 1378-1385.
- Samaei, S. E., Vosoughi, S., Taban, E., Bagheri Hossein Abadi, M., Zia, G., & Beheshti, M. H. (2017). The effect of mental workload on occupational accidents among nurses in hospitals of Kerman, Iran. International Journal of Hospital Research, 6(4), 63-75.
- Schauer, S. G., Rizzo, J. A., Walrath, B. D., Baker, J. B., Gillespie, K. R., & April, M. D. (2023). A conceptual framework for non-military investigators to understand the joint roles of medical care in the setting of future large scale combat operations. Prehospital Emergency Care, 27(1), 67-74.
- Strudwick, G., Tajirian, T., Kemp, J., Coombe, N., Haider, U., Kaur, S., ... & Jankowicz, D. (2023). Identifying and adapting interventions to reduce documentation burden and improve nurses' efficiency in using electronic health record systems. Nursing Leadership (1910-622X), 35(4).
- Upton, J. (2022). Psychosocial factors. In Encyclopedia of behavioral medicine (pp. 1795-1797). Cham: Springer International Publishing.
- Weber, C., & Nørgaard, B. (2024). Nurses' perspectives on patient involvement in an emergency department–An interview study. International Emergency Nursing, 72, 101401.
- Zhou, Q., Yang, L., Wan, Y., Li, X., Zhu, Z., Wang, J., & Fu, Y. (2024). Gender differences in symptom burden among people living with HIV/AIDS receiving antiretroviral therapy in Yunnan, China. AIDS care, 1-11.