



Original Article

Risk Factors for Depressive Symptoms among Nurses of Pediatric Wards

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Abstract

Objectives: To identify risk factors related to depressive symptoms including family history, psychological factors, genetic factors, and environmental factors among nurses; and to explore the most factors linked to ongoing depressive symptoms.

Methodology: A survey cross-sectional of (119) nurses of age between (20-50) years who working in pediatric wards in six hospitals in Mosul city, Iraq, for the duration from 1st November 2024 to 5th January 2025 in which depressive symptoms and risk factors were assessed.

Results: shows that the highest percentage of age categories was (35%) between the age (25-29) and the, psychological factors p-value 0.045, total answer was participant answer Yes number 694 was percentage 55%, psychological factors as risk factors in nurses to get depressive symptoms. also show the physical and health factors the total nurses said Yes 426 was percentage 51%, genetic factors at the macro level the nurses said Yes 93 was percentage 39% and the total nurses said No 145 was percentage 61% the p-value 0.001 indicate that risk factors of genetic factors. show the environmental factors p-value 0.018.

Conclusion: Nurses are at higher risk for depression than other occupational personnel due to insufficient daily sleep, long weekly working hours, and poor physical health. This finding is valuable for creating targeted interventions to prevent depression in nurses.

Recommendations: Change your beliefs by transforming the way you think, allowing you to reshape your mental outlook, which will ultimately alter your physical reality. This process won't happen instantly. You must consistently monitor your thoughts and make quick adjustments when you recognize distortions in your thinking. Be mindful of your own negativity (avoid blaming others), and bring compassion, empathy, forgiveness, and authenticity into your life by being attuned to others' needs and struggles, staying true to yourself, and adopting a kind and non-judgmental attitude towards others. Allow life to flow naturally, without forcing anything into it.

Key words: Risk factors, Depressive symptoms, Nurses, Pediatric wards.

Introduction

Depression is one of the most common mental health disorders globally, impacting approximately 350 million individuals and contributing to 5% of disability-adjusted life years (DALYs) ⁽¹⁾. Before 2020, depressive disorders were among the leading causes of the global disease burden in terms of years lived with disability (YLD) and DALYs ⁽²⁾. However, the World Health Organization (WHO) forecasts that by 2030, depression will become the primary cause of disability worldwide ⁽³⁾. Depressive disorders are associated with adverse life events, such as poor health outcomes, an increased risk of self-harm, strained relationships, reduced work productivity, substance abuse, a sedentary lifestyle, and a decreased life expectancy ⁽⁴⁾. Various risk factors, including low socioeconomic status, single status, a personal or family history of mental health disorders, gender, substance use, night shift work, and long working hours, are linked to the onset of depressive symptoms among healthcare workers (HCWs) ^(5,6). However, this issue is rarely addressed in the region, and there is a lack of research on the prevalence of depressive symptoms among HCWs across Africa ⁽¹⁾. Depression is characterized by a lack of positive emotions and can significantly disrupt social relationships, leading to issues such as divorce, social distancing, limited support, workplace challenges, and health problems ⁽⁷⁾. It may also result in suicidal thoughts. Even those who recover from depression often continue to experience difficulties in social and occupational settings ⁽⁸⁾. According to the Global Burden of Disease study ⁽⁹⁾, depression cases worldwide rose from 172 million in 1990 to 258 million in 2017, marking a 49.86% increase during this period. A survey of over 50,000 medical staff in Australia revealed a higher incidence of depression, along with a two-fold increased rate of suicidal ideation compared to the general population ⁽¹⁰⁾. Nurses, in particular, seem to face a higher risk of mental disorders, possibly due to extended working hours, separation from their families, and caring for large numbers of patients ⁽¹¹⁾. Depression affects both psychological and physical health,

impairing professional performance, diminishing the quality of patient care, and leading to conflicts with patients or colleagues ⁽¹²⁾. As a result, depression is a critical concern not only for nurses themselves but also for the health and safety of the patients they care for ⁽¹³⁾.

Methodology

A cross-sectional survey was conducted with 119 nurses aged 20 to 50 years, working in pediatric wards across six hospitals in Mosul, Iraq. The hospitals included Mosul General Hospital, Ibn-Alatheer teaching Hospital, Al-Khansaa Teaching Hospital, Al-Salam Teaching Hospital, Alba Tool Teaching Hospital, and Ibn Ceina Teaching Hospital. The survey took place from November 1, 2024, to January 5, 2025. Depressive symptoms and risk factors were assessed by using a constructed questionnaire by the researcher. The samples were chosen randomly by the researcher within the hospitals, every nurse included in the study provided informed consent. Inclusion criteria: nurses with high risk factors aged between (20-50) years old and nurses with depressive symptoms. Exclusion Criteria: the pilot study participants were excluded from the final analysis. Nurses age below 20 years and those above 50 years old. Nurses with less than six months of experience. Anyone who did not wish to participate was excluded. Data collected from an interview was conducted to fill out the questionnaire. Some nurses filled the questionnaire on their own, and the researcher or their companions provided assistance to participants who were illiterate. The time taken for each participant is (15-20 minutes) to complete the questionnaire. The questionnaire consisted of two sections. The first section collected demographic information, while the second focused on assessing risk factors, using a Yes or No format. To ensure the validity and content of the questionnaire, the study's instruments were reviewed by a panel of 14 experts from various fields. The internal consistency of the instrument was measured using Cronbach's alpha test, yielding a result of ($r = 0.78$). Data analysis was performed using descriptive statistics with the Statistical Package for the Social Sciences (SPSS) version (27).

Results:**Table (1): Distribution of the study participants according to their demographical characteristic. (N=119)**

Demographical Information	Categories			
			No.	%
Age	20-24		16	13
	25-29		41	35
	30-34		24	20
	35-39		12	10
	40-44		15	13
	45and more		11	9
Gender	Male		49	41
	Female		70	59
Place of Residence	Rural		24	20
	Urban		95	80
Housing Type	Ownership		86	72
	Rent		33	28
Marital Status	Single		19	16
	Married		89	75
	Divorced		4	3
	A widower		7	6
Profession	Wife profession	Employee	20	41
		Not employed	29	59
	Husband Profession	Employee	67	96
		Not employed	3	4
The total number of people in the household.	1-5		69	58
	6-10		50	42
Educational Level	Nursing Preparatory School		18	15
	Diploma (Technician nurse)		51	43
	Bachelors (university nurse)		47	40
	Master		3	2
	Ph. D		0	0
Service Years	5 years or less		61	51
	6-10		16	14
	11-15		19	16
	16-20		17	14
	21 years and over		6	5
Daily Working Hours (Hours)	6 hours		38	32
	7 hours		60	50
	8 hours every 3 day 1		21	18
The name of the Hospitals where the Nurse work	Al salaam		8	7

	Ibn ceina	17	14
	Alba tool	13	11
	Mosul general	18	15
	Ibn alatheer	41	34
	Alkhansaa	22	19
The workplace (Unit)inside the hospital	Children lounges	55	46
	Emergency unit	26	22
	Intensive care unit	12	10
	Neonatal unit	26	22
Monthly Income (IQDs)	Less or equal to 500 thousand	27	23
	600-1000000	73	61
	More than 1000000	19	16

Table (1) illustrates that the largest proportion of age groups was (35%) between the age (25-29) and the percentage of age categories was (20%) between age (30-34) and the lowest categories was (9%) it over 45 years old.

Table (2): Psychological risk factors for depressive symptoms among nurses

A	Q	Response scale				One-Sample Binomial Test	
		Yes		No		Statistic	P-value
		No.	%	No.	%		
Psychological factors	Exposed to psychological violence	67	56	52	44	52	0.199
	Have you had anxiety before ?	62	52	57	48	62	0.714
	Have you lost someone dear to you?	64	54	55	46	64	0.463
	Have you experienced depression after pregnancy?	48	71	20	29	20	0.001
	Do you have difficulty performing work?	51	43	68	57	51	0.142
	Have you seen a mental health professional?	46	39	73	61	73	0.017
	Do you smoke cigarettes and hookahs?	78	65	41	35	78	0.001
	Do you compare your life to others?	71	60	48	40	71	0.044
	Are you satisfied with your job?	72	61	47	39	72	0.028
	Do you like working as a nurse?	69	58	50	42	50	0.099
Do you watch a lot of television and other websites?	65	55	54	45	54	0.359	
At the macro level							
Yes		No	One-Sample Binomial Test				
			Statistic			P-value	
No.	%	No.	%				
694	55	566	45	593		0.045	

Table (2) shows the psychological factors, at the total answer was participant answer Yes number 694 was percentage 55% the table show there is appears of psychological factors as risk factors to nurse to get depressive symptoms.

Table (3): Physical and health risk factors for depressive symptoms among nurses

A	Q	Response scale				One-Sample Binomial Test	
		Yes		No		Statistic	P-value
		No.	%	No.	%		
Physical and health	Exposed to physical violence?	64	54	55	46	64	0.463
	Suffered from obesity?	76	64	43	36	43	0.003
	Have health problems and constant pain resulting from a specific disease?	77	65	42	35	77	0.002
	Have a history of anorexia?	82	69	37	31	82	0.000
	Do you exercise?	37	31	82	69	37	0.000
	Suffer from sleep problem?	67	56	52	44	52	0.199
	Take medications and narcotics?	23	19	96	81	96	0.000
At the macro level							
Yes		No		One-Sample Binomial Test			
				Statistic		P-value	
No.	%	No.	%				
426	51	407	79	426		0.533	

Table (3) show the physical and health factors the total nurses said Yes 426 was percentage 51%.

Table (4): Genetic risk factors for depressive symptoms among nurses

A	Q	Response scale				One-Sample Binomial Test	
		Yes		No		Statistic	P-value
		No.	%	No.	%		
Genetic factors	Any of your family have depression?	58	49	61	51	61	0.855
	any of your family members commit suicide?	35	29	84	71	84	0.000
At the macro level							
Yes		No		One-Sample Binomial Test			
				Statistic		P-value	
No.	%	No.	%				
93	39	145	61	145		0.001	

The table (4) shows genetic factors at the macro level the nurses said Yes 93 was percentage 39% and the total nurses said No 145 was percentage 61% the p-value 0.001 indicate that risk factors of genetic factors, regarding the family member commit suicide the p-value 0.000 affect overall sample.

Table (5): Environmental risk factors related to depressive symptoms among nurses

Axis	Q	Response scale				One-Sample Binomial Test	
		YES		No		Statistic	P-value
		No.	%	No.	%		
Environment	Family history of Drinking alcohol	44	37	75	63	44	0.006
	Exposed to a harassment?	23	19	96	81	96	0.000
	Trouble in communicating with your co-workers?	39	33	80	67	80	0.000
	a problem in communicating and relationship with your family?	40	34	79	66	79	0.000
	Is the environment you work in competitive?	77	65	42	35	77	0.002
	suffer from bullying at work?	72	61	47	39	72	0.028
	depend on fast food?	87	73	32	27	87	0.000
At the macro level							
Yes		No		One-Sample Binomial Test			
				Statistic		P-value	
No.	%	No.	%				
382	46	451	54	382		0.018	

The table (5) show the environmental factors including seven question the total nurses said Yes 382 was percentage 46% and the total nurses said No 451 was percentage 54% the p-value 0.018.

Discussion

The age of nurses who were working in pediatrics wards of six hospitals in Mosul city was ranged between 20-50 years old, the study results revealed that the largest portion of the sample (35%) was in the age group of 25-29 years. table [1]. This considered a good result so that to have a more knowledge about his symptoms and can describe it more clearly than other age group, and it is more preferable age group because they fill a

questionnaire by self -report so the answers will be more accurate. other study found age less than 30 years was n60(33.71) ⁽¹⁴⁾. Regarding the study participants' gender. The results demonstrated that approximately male n49(41%), female n70(59%), This result compatible with study, halfway of the study participants were male (11.2%), while the majority were female (88.8%)¹⁵. Regarding the study. Concerning the study participants' place of residence. The results illustrated that more than half of the sample participants are residence in the

urban of the Mosul city was highest percentage (80%) while the rural (20%) Table [1]. This result is due to the proximity of the distance and the low cost of transportation within the city, and to estimate the nurses lived in poor areas. who mentioned that the most of participants were resident in urban areas. this result incompatible with study found Place of residence in urban was percentage (47.0%)⁽⁸⁾. Table [2], show psychological factors of depressive symptoms, the total the nurses being have psychological factors participant percentage 55%, said no 45%, Regarding exposed to psychological violence, the nurse's exposure to psychological violence participant was percentage n 67(56%), this result, compatible with study the frequency of conflicts and violence, with a 62.1% exposure rate, highlighted the connection between depressive symptoms and work-related factors. workplace violence emerged as a significant predictor of nurses' mental health.in our fully adjusted multivariable linear mixed model⁽¹⁶⁾. Regarding as a nurse, have you experienced depression after pregnancy, nurses show postpartum depression 71%, this result compatible with study in terms of risk factors related to depressive symptoms, our study found a notable connection between gender and depression among healthcare workers. Specifically, females were twice as likely to experience depressive symptoms compared to males⁽¹⁷⁾. Regarding do you smoke cigarettes and hookahs, nurses have great risk factors to depressive symptoms, 65%, p- value 0.001, this result incompatible with study found smoking habits the p-value before corona 0.451, and after corona the p-value 1.000⁽¹⁸⁾. Regarding are you satisfied with your job, nurses satisfied with their work 61%, the p-value 0.025, and do you like working as a nurse, nurses like their work, 58%, working as a nurse is another risk factors to have depressive symptoms the participant not like working as nurse because heavy working percentage was 58%, This result is compatible with study found nurses is the profession height risk to depressive symptoms at percentage 52.8%⁽¹⁷⁾. Table [3], the physical and health risk factors, regarding have you suffered from obesity, the

table show the nurses suffering from increased weight gain and obesity, 64%, is a height percentage, this result compatible with study found the obesity-related depressive symptoms identified in this study cannot be attributed to any established diagnostic symptom profiles⁽¹⁹⁾. Regarding do you have health problems and constant pain resulting from a specific disease, nurses have problems with pain,65%, the p-value 0.002 there is association between persistent pain and increase the risk of depressive symptoms among nurses, this result compatible with study found 90 (57.7%)⁽²⁰⁾ of them have had LBP within the last year Nurses are at a higher risk due to the nature of their work⁽²¹⁾. Regarding do you have a history of anorexia, nurses show 69%, have problems with sever anorexia nervosa, this result found relationship between anorexia nervosa and depression this compatible with study found Anorexia Nervosa is characterized by the refusal to sustain a body weight that is at or above the minimum normal range for one's age and height⁽²²⁾. Regarding do you exercise, this study found exercise another risk factors can be contributing to depressive symptoms among nurses the lack of doing exercise the whole percentage of nurses not doing exercise was (69%) while the nurses doing exercise percentage is (37%), this result compatible with study It was found that healthcare professionals who engaged in physical activity regularly had a significantly lower chance of experiencing depressive symptoms. The link between regular physical exercise and mental health, especially depression, is well-established in the general population⁽¹⁷⁾. Regarding, (do you take medications and narcotics), Another risk factors substance abuse nurses more risk to take medication and narcotics in this study found the nurse's not take drug the percentage said no was 81%, and who said yes was 19%, depression can elevate the risk of chronic conditions, including substance use disorders. As many as one-third of individuals with clinical depression may engage in drug use. This compatible with study the person use substance percentage was 12.5% and those said no percentage was (87.5%) based on the current study,⁽¹⁷⁾. Genetic factors may explain

part of the heterogeneity in depressive symptoms across development⁽²³⁾, table [4], show nurses has any one in your family suffered from depression before, 49% have mental health history, this result compatible with study found (15.7%) who have family history while (84.3%)⁽¹⁷⁾. A genetic tendency toward mental illness suggests an increased likelihood of developing psychological disorders⁽²⁴⁾. Regarding, did any of your family members commit suicide, Suicide attempt and thought can lead the nurses to depressive symptoms in our result (29%) the p-value 0.000, have history of suicidal attempt, table [4], this result compatible with study found A history of suicide is present in approximately 3% of individuals with chronic pain or illness who are at risk of contemplating suicide⁽²⁵⁾. Table [5], show environmental factors regarding, does anyone in your family have a history of drinking alcohol, the table show, 37% consuming alcohol, and the 63% not consuming, this result, compatible with study found Thirty-five point eight percent engaged in binge drinking, while twenty-one point two percent exhibited abusive alcohol use or were likely dependent on alcohol⁽²⁶⁾. Regarding, do you been exposed to harassment while working, exposure to harassment while working is another environmental risk factors can make problems in caring of patient was 19% of nurses this result a compatibility with study found Sexual assault is a prevalent form of trauma, experienced by 17–25% of U.S, depressive symptoms frequently occur following sexual assault⁽²⁷⁾.

Conclusion

Pediatric nurses are at heightened risk for depression due to insufficient sleep, long working hours, and poor physical health. This insight is valuable for creating effective intervention strategies to prevent depression among nurses, particularly those at Mosul Hospital. Factors such as being female, unmarried, having a family history of mental illness, and current substance use were significantly linked to depressive symptoms among healthcare professionals. As a result, they should be promptly screened and managed in healthcare settings.

Recommendations

Help the nurses by changing the way you think, you can transform your beliefs, which in turn will reshape your physical reality. Be mindful of your own negativity (rather than blaming others), and invite compassion, empathy, forgiveness, and authenticity into your life. Be attuned to the needs and suffering of others, stay true to yourself, and maintain a kind, non-judgmental attitude. talk to yourself with compassion and love. Focus on healthy eating and regular exercise. seeking professional help is crucial at this point.

Decelerations

Ethics approval and consent to participate

Not Applicable

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Conflicts of Interest

The authors declare no conflict of interest.

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