



LEVEL OF STRESS, ANXIETY AND DEPRESSION AMONG NURSES WORKING AT HAYATABAD MEDICAL COMPLEX PESHAWAR PAKISTAN

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ABSTRACT

OBJECTIVE: To determine the level of stress, anxiety and depression among nurses working at Hayatabad Medical Complex, Peshawar, Pakistan

METHODS: This descriptive cross-sectional study was conducted on registered nurses working in Inpatient departments of Hayatabad Medical Complex, Peshawar, Pakistan. Sample size was calculated through Raosoft Software and the calculated sample size was 109. A non-probability consecutive sampling technique was used for data collection. Data was collected through a validated questionnaire, Depression, Anxiety and Stress Scale (DASS-21). Study was approved by Institutional Ethical Review Committee of the hospital. Questionnaires were distributed among the participants and got 100 complete and nine incomplete questionnaires. Incomplete questionnaires were excluded from analysis.

RESULTS: Out of 100 participants, 74 (74%) were females, 71 (71%) aged ≤ 30 years, 56 (56%) were single, 65 (65%) were diploma holders & 61 (61%) had work experience of ≤ 5 years. The mean score of anxiety and depression was 19.9 ± 3.5 while the mean score for stress was 13.5 ± 1.8 . Depression was found in 78% (severe/extremely severe=31%), anxiety in 78% (severe/extremely severe=40%) and stress in 54% (severe/extremely severe=13%) cases. Younger age ($p=0.03$), female gender ($p<0.01$), being married ($p<0.01$) and work experience ≤ 5 years ($p<0.01$) were associated with stress, anxiety and depression.

CONCLUSION: The level of stress, anxiety and depression were much higher among nurses working in a teaching hospital of Peshawar. Younger age, female gender, being married and work experience up to 5 years were significantly associated with stress, anxiety and depression.

KEY WORDS: Anxiety (MeSH); Depression (MeSH); Mental Health (MeSH); Nurses (MeSH).

THIS ARTICLE MAY BE CITED AS: Fatima A, Ali S, Ghani N, Shah BA. Psychological distress among nurses working at Hayatabad Medical Complex Peshawar, Pakistan. *Khyber Med Univ J* 2020;12(4): 321-5. DOI: 10.35845/kmu.2020.19214.

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[†]Deceased on October 16, 2019

Date Submitted: April 06, 2019

Date Revised: October 15, 2020

Date Accepted: October 31, 2020

and depression is epidemic in nursing as nurses experience depression twice (18%) compared to the general public (9%).^{9,10} Undoubtedly, these psychological disorders badly affect their physical health and social activities. Moreover, the quality of care provided by the nurses is drastically affected by their own mental health problems. In depression, one feels blue and down and usually unable to perform his/her duties optimally. Patients and their families heavily rely on health care professional particularly on nurses; hence it becomes essential for nurses to take good care of themselves in order to provide quality care to their client.

There are considerable evidences which have acknowledged the high prevalence of stress, anxiety and depression, among nurses working in hospital setting.¹¹⁻¹⁴ The prevalence of stress among nurses were found between 40%-90%^{15,16} which generally ranges from moderate to high level; 35%-41% and 11%-80% of nurses in USA and Iran respectively.¹⁷ Moreover, High incidence of anxiety among nurses was found, ranging from 32-43%, 40-46% and 44-66% among nurses working in China¹⁸, Iran¹⁹ and Brazil²⁰ respectively.

Considering the high prevalence of psychological issues among nurse's worldwide, limited literature on psychological wellbeing of nurses in Pakistan and severe shortage of nurses and their unfavorable work environment in Pakistan²¹, this current study was undertaken to identify the level of stress, anxiety and depression in

INTRODUCTION

Nurses are considered as a vital work force of health care system and expected to provide quality care to patients in all health care settings. They are exposed to, and deal with a wide range of stressful situations in their career, particularly in hospitals.^{1,2} Stress is an emotional or mental state that causes physiological and psychological tension, which is manifested through anxiety and depression^{3,4} and it may lead to maladaptive behaviors, such as eating

disorder, alcohol use and substance abuse.⁵

Literature indicates that being a woman in certain contexts is the risk factor for stress, anxiety and depression.⁶ In addition, various factors including the dearth of resources, high expectations and demands, workload, long hours, shift work and professional conflicts are thought to be responsible for certain psychological disturbances among nurses.^{7,8} Recent epidemiological statistics identified that stress, anxiety

TABLE I: DEMOGRAPHIC BASED DISTRIBUTION (N = 100)

Variables		Frequency n (%)
Age (Years)	≤30	71 (71%)
	31-40	24 (24%)
	41-50	05 (5%)
Gender	Male	26 (26%)
	Female	74 (74%)
Marital Status	Single	56 (56%)
	Married	44 (44%)
Education Level	Diploma Holder	65 (65%)
	Bachelor Degree	35 (35%)
Work Experience (Years)	≤5	61 (61%)
	6-10	28 (28%)
	11-15	06 (6%)
	Above 15	05 (5%)

TABLE II: MAGNITUDE OF STRESS/ANXIETY/DEPRESSION AMONG NURSES

Items	Extremely Severe	Severe	Moderate	Mild	Normal
Depression	6%	25%	37%	10%	22%
Anxiety	28%	12%	31%	7%	22%
Stress	2%	11%	26%	15%	46%

nurses working at one of the tertiary care hospitals, Peshawar, Pakistan.

METHODS

This cross-sectional study was conducted at Hayatabad Medical Complex, Peshawar, Pakistan. A non-probability consecutive sampling technique was used to assess the level of stress, anxiety and depression among nurses working in Hayatabad Medical Complex which has 418 nurses for 1200 admitted patients. Using the Rao soft sample size calculator software (with 95% CI; 5% margin of error) the calculated sample size was 109 nurses. Questionnaires were distributed among the participants and got 100 complete and nine incomplete questionnaires. The nine incomplete questionnaires were not included in the analysis.

Data was collected via short version of self-completed scale of DASS-21 (Depression, Anxiety and Stress Scale). This scale consists of 21 items; 7 for each construct that are: depression, anxiety and stress. These constructs are calculated on 4-point Likert scale scoring from 0-3 (0: did not apply at all,

1: applied to some degree; 2: applied considerable degree; 3: applied very much). Scores from each construct were categorized as "normal", "mild", "moderate", "severe" and "extremely severe" (normal = 1, mild=2, moderate=3, severe=4 and extremely=5) The higher the severity of the manifestation in each construct, the higher the score.²² In accordance with, DASS 21 manual, a cut off score > 10 in depression, > 8 in anxiety and > 15 in stress construct were measured as suffering from these psychological problems.²³

The tool has been widely used worldwide, having well established reliability in measuring depression, anxiety and stress (Cronbach's alpha 0.91, 0.84 and 0.90 respectively).^{1,13} The data was analyzed through SPSS Version-22. Chi-square test was applied on categorical variables to see an association between socio-demographic variables including age categories, gender, experience, educational level and marital status with level of stress, anxiety and depression.

The recruitment of the participants

started off after taking approval from Institutional Ethical Review Committee and Head of the Hospital. The questionnaires were distributed among the participants after briefing them about the purpose, risk and benefits of the study. Moreover, they were explained that their participation is voluntary. They were asked to complete the scale after their written consent.

RESULTS

Out of 100 participants, 74 (74%) were females, 71 (71%) aged ≤30 years, 56 (56%) were single, 65 (65%) had 3 years Diploma in General Nursing, & 61 (61%) had work experience of ≤5 years (Table I).

The mean score of anxiety and depression was 19.9 ± 3.5 while the mean score for stress was 13.5 ± 1.8 . Depression was found in 78% cases with severe & extremely severe depression was observed in 6% & 25% cases respectively. Anxiety was observed in 78% with severe & extremely severe anxiety in 28% & 12% cases respectively. Stress was present in 54% nurses; severe/extremely severe stress was present in only 13% of cases (Table II).

Younger age ($p=0.03$), female gender ($p<0.01$), being married ($p<0.01$) and work experience ≤5 years ($p<0.01$) were associated with stress, anxiety and depression (Table III).

DISCUSSION

Across the globe mental health issues such as stress, anxiety and depression are very significant among nurses working at bed side. Several factors are responsible for this including lack of resources, poor work environment, high workload and working in shift duty, which may directly affect in their provision of quality care to the patients. This study identified the prevalence as well as the levels of stress, anxiety and depression among nurses in a tertiary care hospital. The professional characteristics such as ratio of Diploma holder nurses verses BSc Nursing qualification and work experience of the

nurses in this study were compatible with the national profile of nurses. The prevalence of anxiety and depression was found more prevalent 78 % as compared to level of stress 54% among nurses. These psychological disorders affect not only the nurse's personal quality of life, but it can also negatively affect their work performance and ultimately their quality of nursing care.¹⁻⁶

Albeit with the variation in its level, stress was prevalent in 54% of participants in this study which is comparatively lower than the level of stress (81%) identified by Khan in similar settings in Pakistan.¹⁸ The difference of percentages between the two studies could be attributed to the difference in their data collection tools. In addition, it may be since from 2015-2018 the nursing profession has changed from stressful life to stress free life. However, the identified percentage of the stress in the current study is similar to the level of stress (41.1%, 41.2% and 62%) reported by other researchers in Asian region who have also used DASS 21 for their data collection.^{1,8,23} In general, these findings indicate that nearly 50 % or above nurses suffer from stress, which is quite alarming.

In contrast to stress, the anxiety level of the participants was higher 78% as majority of them scored higher on anxiety subscale. Although the mean score was 19.50%, of which 40% of nurses were suffering from severe or

highly severe level of anxiety. The identified level of anxiety among nurses in this study is higher than the prevalence of anxiety reported in the previous literature, which commonly ranges between 30–60%.^{11,23} Age and year of work experience were most influencing factors in anxiety.

Finally, this study also showed that 78 % of entire nurses were depressed, out of which 31% of the nurses were in the state of severe or extremely severe depression. This identified finding is comparatively higher than the level of depression reported in previous literature worldwide with depression level range between 29.2–53%.²¹⁻²³

Given the finding above, the level of stress, anxiety and depression were much higher than the levels reported in previous literature. Neglecting, these mental health disorders may lead to poor intellectual and social activity and eventually in turn, resulting in low quality patient care. A positive/significant relationship was found between anxiety and depression, which shows that, the anxiety is directly related to depression. Moreover, more the stress, more the depression was found and the more anxiety the more depression was found in this study which claims that all the three psychological problems are directly related with each other. It was verified that the total points obtained by the participants in the anxiety subscale

presented a direct and statistically significant correlation with the subscale depression points those who are anxious also shows some degree of depression.^{11,24,25} The result also confirms that those who were single; suffer more from anxiety and depression as compared to married couples.

LIMITATIONS

DASS-21 is a screening Instrument and screened positive patients were not thoroughly evaluated by psychiatrist. In addition, the DASS-21 was not previously validated in our population and study was conducted in a single centre. Hence the results may be read with caution. The study should be replicated in other setting with mixed method approach to identify the reasons/causes of stress, anxiety and depression among nurses and detailed evaluation of the screened positive cases by psychiatrist.

CONCLUSION

The level of stress, anxiety and depression were much higher among nurses working in a teaching hospital of Peshawar. Younger age, female gender, being married and work experience up to 5 years were significantly associated with stress, anxiety and depression. Neglecting, these mental health disorders may adversely affect the performance of nursing staff, leading to compromised quality of patient care.

TABLE III: SOCIO-DEMOGRAPHIC VARIABLES AND PSYCHOLOGICAL DISTRESS

Variable	Stress (n=54)	Anxiety (n=78)	Depression (n=78)	p-value
Age (years)	20-30	30 (56%)	40 (51.28%)	0.03
	31-40	15 (28%)	25 (32.05%)	
	41-50	09 (16%)	13 (16.67%)	
Gender	Female	32 (59.26%)	46(58.97%)	<0.01
	Male	22 (40.74%)	32(41.03%)	
Marital Status	Single	24 (44.45%)	31(39.74%)	<0.01
	Married	30 (55.55%)	47 (60.26%)	
Education level	Diploma Holder	30 (55.55%)	55 (70.51%)	<0.01
	Bachelor's degree	24 (44.45%)	23 (29.49%)	
Work Experience (years)	≤5	25 (46.30%)	35 (44.87%)	<0.01
	6-10	15 (27.78%)	23 (29.49%)	
	11-15	07 (12.96%)	12 (15.38%)	
	>15	02 (9.26%)	08 (10.26%)	

Health care delivery settings should need to provide more respectful and less stressful workplaces to their nurses, which will eventually support their mental, emotional and physical health in a responsive and proactive manner. Further research is needed required to explore the causes in order to prevent its implications on nursing work force and consequently the quality of care provided by nurses.

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AUTHORS' CONTRIBUTIONS

Following authors have made substantial contributions to the manuscript as under:

AF: Study design, analysis and interpretation of data, drafting the manuscript,

[**Note:** author approved revised version after initial editorial review- Final version to be printed was not approved as author died on October 16, 2019]

SA & BAS: Acquisition of data, drafting the manuscript, approval of the final version to be published

NG: Acquisition of data, critical revision, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

Authors declared no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE

NIL

DATA SHARING STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.



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