Anxiety and Its Associated Socio-Demographic Characteristics among Nurses in Tertiary Care Hospital Karachi

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ABSTRACT

OBJECTIVE: To find out the frequency of anxiety and its associated demographic factors among nursing workforce.

STUDY DESIGN: An analytical cross-sectional.

PLACE AND DURATION: Dow University Hospital and Dr. Ruth K.M. Pfau Civil Hospitals Karachi, 2nd May to 28th June 2017

METHODOLOGY: Data were collected through purposive sampling technique (only registered staff nurses) using Generalized Anxiety Disorder (GAD-7) scale. The GAD 7 scale consisted on 7 items scores ranging from 0 to 21.Collected data include socio-demographic variables such as, age, educational level, job nature, monthly income, duty shift etc. and anxiety score based on GAD 7 items.

RESULTS: There were 55.8% male participants and 71.42% belonged to age group of 26-35 years. From this study it was found that 63.63% nurses working in clinical area had any one of the anxiety level (mild (39%), moderate (18.2%) or severe (6.5%)) with score ≥ 5.Participants' age, monthly income and duty shift variables showed significant associations with anxiety (p-values < 0.05).

CONCLUSION: Among all study participants mild anxiety was found to be prominent. From this research study some significant factors of anxiety among nurses was also found which includes age, monthly Income and Duty Shift.

KEYWORDS: Nurse, Anxiety, Shift duty, Generalized Anxiety, Tertiary care, Psychological health

INTRODUCTION

Nurses are health care professionals who take part in care of patients with no limitation of time. Nurses are mostly locked

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into rotational duties with provision of care for 24 hours including night shift duties[1]. Shift work, specially working in night shift is the most recurrent cause of disturbance in circadian rhythm, which significantly causes alteration in biological function, including sleep that leads to influence physical and psychological health[2-3]. Literature showed that shift works are associated with different mental problems, such as depression, anxiety, fatigue and insomnia[4-6]. Shift work also affects physical health; currently Van Drongelen et al[7] have identified eight studies that showed the relationship of night shift worker (NSW) with increase body weight. Another study also provided evidence for the association between night shift workers and body gain; however, these relationships were significant for female gender only[8].

Nurses perform similar tasks in night duties as well as in morning and evening duties. The night shift duties cause in disturbance in circadian rhythm of human body, and body itself repairs and renew the changes[9]. Disturbance in circadian rhythm for long period of time can lead to chronic insomnia[10]. Hence, nurses who carry out duties in shift works can experience various physical, social and psychological effects which may lead to impact negatively on their performance in clinical area and also on their personal life[11, 12].

Anxiety significantly associated with shifting duties among nurses that can lead physical and psychological health problems[10, 11, 13]. Mild to moderate anxiety and depression were found among health care provider[14]. Psychiatric morbidities found among nurses[15]. Literature about prevalence

of anxiety and its association among nurses in Pakistani population are limited. Therefore, we felt imperative to conduct this study to make it possible to improve nurses' physical and psychological health and to be beneficial to enhance their performance. In that way enhancing the health status of nurses will contribute to quality care, safety of patients and better outcomes through utilizing institutional resources. The objective of this research study is to find out the frequency of anxiety, and its associated demographic factors among nursing workforce.

METHODOLOGY

This analytical cross-sectional study was conducted at Dow University Hospital and Dr. Ruth K.M. Pfau Civil Hospitals Karachi from 2nd May to 28th June 2017. Only registered nurses were included in this study, hence student nurses were excluded. Data were collected through purposive sampling technique using Generalized Anxiety Disorder (GAD-7) scale. The GAD-7 was developed by Spitzer et al[16] in 2006 for the screening of anxiety. This scale was used in many of researches including general population, elderly people and patients in clinic. The GAD-7 is a rapid, efficient, reliable, and valid method for detecting the presence of a common anxiety disorder[17, 18].The GAD-7 scale was calculated by score of 0,1,2,3 for each response categories of 'not at all', 'several days', 'more than half the days', and 'nearly every day', accordingly. Adding together the scores for the seven questions, minimum was "0" and maximum was "21". Scores of 5, 10, and 15 were taken as the cut-off points for mild, moderate and severe anxiety respectively. The data were collected from all the nurses who were working on contract or regular basis and in fixed and rotational duties. Novice and experienced nurses participated in this study. Age, BMI, education level, Job nature, designation, monthly income and duty shift were taken as demographic variables. Sample size calculation was carried on PASS software using descriptive statistics of psychological problem of nurses working in day time and rotation. Keeping level of significance as 0.05, power of the test as 80% the calculated sample size was 154. Principal investigator collected data from nurses after informed consent.

Data Analysis: Data Analyses were performed through SPSS version 21.0. Categorical variables were reported through frequencies and percentages and means, and standard deviations were calculated for quantitative variables. Individual with GAD-7 score less than 5 were considered as having no anxiety, whereas score ≥ 5 described individual as having mild, moderate or severe anxiety. The chi-square test of independence was used to explore the association of anxiety with other variables. Analysis of variance was also employed to identify any significance difference of anxiety scores among socio-demographic characteristics.

RESULTS

Data were collected from 154 participants working in fixed and rotational duties. Study findings showed that more than 50% of

the participants were males i.e. 86 (55.8%), nearly three fourth belonged to age group of 26-35 years. Most of the participants were staff nurses (66.9%) and above 70% participants were found with income level of 21000-40000. In this study 55.8% of participants were married, mostly graduated 65 (42.2%) and few of them were intermediate 43 (27.9%) the most prominent level of education was graduation i.e. 42.2%. Nearly three fourth of the nurses earned between 21000 to 40000 PKR. It was also observed that 63.63% have mild, moderate and severe anxiety.

Fig-1 shows frequencies of different levels of anxiety. It was observed that 39.0% experienced mild anxiety and 18.2 % had moderate anxiety, whereas only 6.5% nurses found to be having severe anxiety.
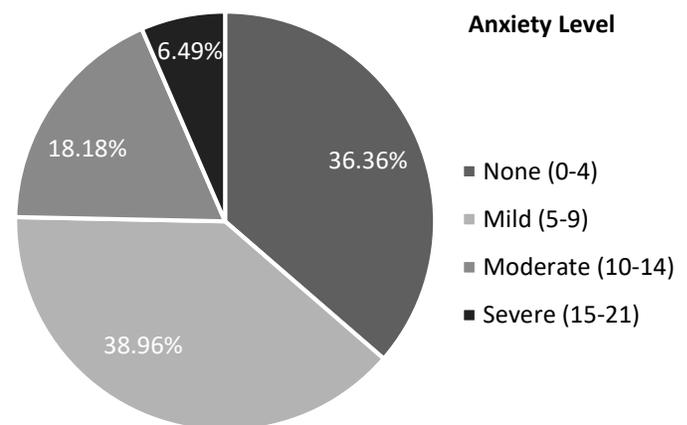

Fig - 1: Frequency of Severity of Anxiety level among nurses (n=154)

Table-I represents distribution and association of anxiety with nurses' characteristics. Three fourth of participants having age in between 26-35 were observed as anxious followed by age group of 15-25 in which 73% such participants were observed as anxious. With respect to income of the participants the highest percentage (75.4%) of anxious individual was found among income level of 21,000 to 40,000, and least for income level < 20, 000. When shift workers were compared with fixed duties workers, it was found that shift workers had higher percentage of anxiety than fixed duty workers had. It was found that age, monthly income and duty shift were statistically significantly associated with anxiety with p-values 0.002, 0.021 and 0.023 respectively. However, there were few other variables, such as BMI, educational level, job Nature and designation with p-values 0.138, 0.143, 0.188 and 0.574 respectively, which did not show any significant association with anxiety. Mean anxiety scores of study participants were compared among socio-demographic characteristics using analysis of variance (ANOVA). Anxiety score did not show significant mean difference among age, designation, monthly income and duty shift of the study participants (p-values > 0.05). Whereas, scores of anxiety varied significantly among BMI, education level and job nature (p-values < 0.05).

Table-I: Association of nurses' anxiety with socio-demographic characteristics (N=154)

Socio-demographic characteristics		Anxiety Outcome		Chi-square test	Anxiety score	ANOVA
		Yes n (%)	No n (%)	P-value	Mean ± SD	P-value
Age (Years)	15-25 (n=26)	19 (73.08)	7 (26.92)	0.002*	7.038 ± 4.870	0.069
	26-35 (n=110)	82 (74.54)	28 (25.46)		7.245 ± 4.597	
	> 35(n=18)	6 (33.33)	12 (66.67)		4.500 ±4.540	
Education level	Matriculation (n=18)	16(88.89)	2(11.11)	0.143	10.111 ±5.166	0.011*
	Intermediate (n=43)	32(74.42)	11(25.58)		7.093 ±3.630	
	Graduate (n=65)	42(64.61)	23(35.39)		6.276 ±5.038	
	Post-graduate (n=28)	17(60.71)	11(39.29)		5.928 ±4.276	
Job nature	Permanent (n=73)	47(64.38)	26(35.62)	0.188	6.150 ±4.433	0.010*
	Contract (n=69)	53(76.81)	16(23.19)		8.072 ±4.884	
	Others (n=12)	7(58.33)	5(41.67)		4.583 ±3.396	
Monthly Income (PKR)	< 20000 (n=10)	4(40)	6(60)	0.021*	4.900 ±3.478	0.123
	21000-40000 (n=110)	83(75.45)	27(24.55)		7.354 ±4.794	
	>40000 (n=34)	20(58.82)	14(41.18)		5.970 ±4.468	
Duty Shift	Morning/fixed (n=77)	47(69.04)	30(30.96)	0.023*	6.376 ±4.504	0.175 (t test)
	Rotation/Shift (n=77)	60(77.92)	17(22.08)		7.402 ±4.842	

*P-value < 0.05 were considered as significant (chi-square)

DISCUSSION

The aim of this research study was to determine the prevalence of anxiety and its association with socio-demographic characteristics among nurses in Karachi. The Generalized Anxiety Disorder (GAD-7) scale has been used in several research studies[17, 18]. The GAD-7 is a 7-item questionnaire which was developed to identify probable cases of GAD and measure the severity of GAD symptoms[19]. It assesses the most prominent diagnostic features (diagnostic criteria A, B, C, D and F from the *Diagnostic and Statistical Manual of Mental Disorders,* fourth edition [DSM-V]) for GAD[20].

Study findings revealed that anxiety was found as 63.63% among nurses. Furthermore, proportion of mild, moderate and severe anxieties among nurses were 38.96%, 18.18% and 6.49% respectively. Similar finding was found in study conducted among nursing faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka, where 59.8% study participants found to have mild to severe anxiety symptoms [21]. Results of another study conducted among 129 student nurses at School of Nursing of a tertiary care Government teaching hospital of Kolkata did not differ notably from finding of our study where 56.59% participants reported to have moderate to extreme level of anxiety[22]. Slightly higher percentage of anxiety (moderate to high) 71.18 %was found[23] among nurses in the study conducted in Iran. However, literature also shows few research studies which are not consistent with findings of our study. For example, study conducted in Hong Kong[24] reported percentage of anxiety among nurses as 37.3%. Another study[14] conducted among doctors in Lahore, Pakistan showed anxiety level as 41.2% and another study also conducted in Lahore[25] reported anxiety level of 45.5%. A cross-sectional study conducted among nurses reported percentage of anxiety as 19.2 %[26].

Current study shows that age and salary were significantly associated with anxiety; this finding was supported by studies conducted in Sri Lanka and Ethiopia[21, 26]. Other variable, shift duties which also showed significant association, was also supported by study conducted in Jordon[27]. These finding were not supported by study conducted at Iran in 2017, where the shift duties were not significantly associated with anxiety[23].

Finding revealed from this study that mild anxiety level was found to be Prominent (39%) among nurses. Although studies conducted among nurses in Iran and Kolkata did not support this finding where moderate anxiety level was prominent 38.98% and 56.56% respectively[23].

CONCLUSION

Among all study participants, mild anxiety was found to be prominent. From this research study some significant factors of anxiety among nurses was also found which includes age, monthly Income and Duty Shift.

LIMITATIONS

Since this was a cross-sectional study, causality between identified factors and anxiety could not be established. Other longitudinal studies would be conducted to confirm the present conclusions. Moreover, the sample was taken from nurses working in two public hospitals in Karachi, Pakistan, and the findings must be tested in other and different types of health facilities in Karachi.

CONTRIBUTION OF AUTHORS

Ali A: Conceived the idea, Designed research methodology, Manuscript writing
Rasheed A: Statistical Analysis, Interpreted data and Manuscript finalization
Naz S: Data Collection, Literature review
Awan MF: Manuscript drafting and Proof reading

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