Original Article

Prevalence of depression, anxiety and stress among healthcare professionals at tertiary care hospitals, Karachi – Pakistan

Yameema Ayub, Raheel Anjum, Shabana Margrat, Azeem Ashraf & Saira Qayyum
St. James Institute of Nursing and Health Science

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Abstract

Background: The prevalence and severity of mental health issues among the healthcare professionals (HPs) has escalated during the past few years. Depression, anxiety and stress are common complaints among the HP's, having a profound impact on their personal and professional life. The purpose of this study was to assess the severity level of depression, anxiety and stress among HPs at tertiary care hospitals of Karachi.

Methodology: A cross-sectional study was conducted from May to July 2019 at three tertiary care teaching hospitals of Karachi including Jinnah Post Graduate Medical Centre (JPMC), National Institute of Child Health (NICH) and National Institute of Cardiovascular Diseases (NICVD). Total 260 HPs (doctors, nurses, physiotherapist, pharmacist, laboratory technician and nursing technicians) were selected through convenience sampling method. In addition to the demographic details, the prevalence and severity score of depression, anxiety and stress was assessed using depression, anxiety and stress scale 42 (DASS 42). The collected data was analyzed using SPSS version 23.

Results: Among 260 HP's, 48.5% were males and 51.5% were females, moderate depression was found in 33(12.7%) HP's, 28(10.8%) had severe depression while 6(2.3%) were suffering from extremely severe depression. Anxiety levels were moderate in 67(25.8%), 32(12.3%) and 21(8.1%) reported severe and very severe anxiety respectively. Moreover, stress levels were moderate among 45(17.3%) HP's, while severe and very severe levels were observed among 13(5%) and 7(2.7%) responders respectively. There was no association in between the sociodemographic characteristics and depression, anxiety and stress (p>0.05).

Conclusion: It was observed that most of the HP's were suffering from mild to moderate depression, anxiety and stress. Further research is required to explore the possible contributing factors and methods for eradication of this health issue.

Keywords

Depression, Anxiety, Stress, DASS 42, Healthcare Professionals.

Introduction

Highly prevailing mental health condition of the era, depression along with anxiety and stress have become the major public health concern. Major etiological factors include unemployment, low socioeconomic status, long work hours, isolation, lack of socializing and substance abuse, etc[1]. These complaints are more frequent among females as compared to males which may be due to the pressure associated with their social roles in everyday life or it may also be linked to the hormonal imbalances associated with menstruation, childbirth, and menopause[1].

Depression, anxiety and stress significantly affects the individual's personal, social and as well as professional life. It is evident that regardless of age, gender or professional seniority, the HP's are frequently exposed to stressful conditions especially in their work setting[2-4]. Modulating the work life, depression and stress associated mood disorders greatly affect the HP's concentration at work and also compromises the quality of healthcare services they provide[5,6,7]. Based on the systemic review conducted in 2015 including 15 countries, the estimated prevalence of depressive symptoms among the physicians of four Asian, seven European and four Middle Eastern countries was 28.8%, it was suggested that the prevalence ranges in between 20.9% to 43.2% and excel each year[8].

The incidence rate varies among the different occupational categories i.e. nurses are more affected by depression, the increasing stress is mainly due to the overburdened work routine. A study reported high depression rate (18%) among nurses as compared to other HP's (9.4%)[9]. According to a local study including physiotherapists employed in major cities of Pakistan, 70.1% were suffering from depression, 53.17% from anxiety and 60.05% were in stress[10]. However, it is apparent that depression, anxiety and stress are primarily caused by workload while other secondary causes are financial status, job stress and dissatisfaction etc[10]. Nurses all around the world face it and it is linked to their long work hours, frequent night shifts and violence at work-place[11] and sometimes it even leads to intentions to quit job[12]. It not only alters the mental and physical health, also reported to increase the substance use, abuse and suicide risk among the HP's[7,13].

The aim of the present study was to estimate the prevalence of depression, anxiety and stress among the HP's at tertiary care hospitals of Karachi.

Methodology

This cross-sectional multicenter study was conducted at three tertiary care hospitals of Karachi including JPMC, NICH and NICVD from May to July 2019. A sample of 260 was calculated using open epi software version 2.3.1, including six different categories of HPs (doctors, nurses, physiotherapists, pharmacist, laboratory technicians and nursing technicians). The targeted population for this study was HP's involved in preventive, curative and rehabilitative healthcare services at the study setting. The HP's demographic details including age, gender, marital status, education and profession etc. were taken after attaining the written informed consent. Depression, anxiety and stress was assessed using DASS 42[14]. The sum of scores was obtained from the 14 items in each scale and the scale severity was interpreted as per the details shown in the table below.

Table 1: Cut-off score for severity ratings of DASS 42 severity scale

Grades	Depression	Anxiety	Stress
Normal	0 – 9	0 – 7	0 – 14
Mild	10 – 13	8 – 9	15 – 18
Moderate	14 – 20	10 – 14	19 – 25
Severe	21 – 27	15 – 19	26 – 33
Extreme severe	28 +	20 +	34 +

Depression, Anxiety & Stress subscales of DASS42

Ethical approval was obtained from St. James institute of nursing and health sciences. The collected data was analyzed using SPSS Version 23, where frequency and percentages were used to present the qualitative variables of the study like gender, marital status and socioeconomic status, etc.

Result

During the study period, 260 HP's from diverse professions and specialties were included in the study, majority were nurses i.e. 58.1% followed 18.1% were doctors and 9.6% were nursing technicians with female predominance 134 vs 126 males. 94.6% had a work experience of <15 years.

Table 1: Socio-demographic characteristics of study participants

Variables	Sub-categories	(n=260)
Gender	Male	126(48.5)
	Female	134(51.5)
Age Group	<35 years	224(86.15)
	>35 years	36(13.84)
Marital status	Married	169(65)
	Single/widow/separated	91(35)
Education	Undergraduate	56(21.5)
	Postgraduate	43(16.5)
	Others	161(61.9)
Socioeconomic status	<PKR 50,000	83(31.9)
	PKR 50,000 – 100,000	136(52.3)
	PKR 100,000 – 150,000	31(11.9)
	>PKR 150,000	10(3.8)
Professional Categories	Nurse	151(58.1)
	Nursing technician	25(9.6)
	Laboratory technician	7(2.7)
	Pharmacist	6(2.3)
	Doctor	47(18.1)
	Physiotherapist	24(9.2)
Affiliation	JPMC	73(28.1)
	NICVD	95(36.5)
	NICH	92(35.4)
Work Experience	<15 years	246(94.6)
	>15 years	14(5.38)

JPMC-Jinnah Post-Graduate Medical Centre; NICVD-National Institute of Cardiovascular Diseases; NICH-National Institute of Child Health

The mean DASS scores for the prevalence of depression, anxiety and stress are given in table 2. Out of the total sample, 51.5% HP's scored normal on depression subscale while 22.7% fell into the mild category followed by moderate 12.7% and 2.3% showed extreme scores. For Anxiety subscale, 39.6% HP's had normal scores and 25.8% had moderate scores for anxiety while 8.1% were having extremes severity scores. DASS42 Stress subscale displayed normal

scores among 58.1% HP's, 17.3% moderate scores, 16.9% mild scores and 2.7% extreme scores.

Table 2: Prevalence of depression, anxiety and stress in study participants

Score Severity Ratings	Depression	Anxiety	Stress
Normal	134(51.5)	103(39.6)	151(58.1)
Mild	59(22.7)	37(14.2)	44(16.9)
Moderate	33(12.7)	67(25.8)	45(17.3)
Severe	28(10.8)	32(12.3)	13(5)
Extreme	6(2.3)	21(8.1)	7(2.7)

* Depression, Anxiety & Stress subscales of DASS42
*Values are given as n(%)

The association of depression, anxiety and stress with various sociodemographic characteristics is given in table 3. No significant relationship observed between the observed variables and the prevalence of depression, anxiety and stress.

Table 3: Stratification of sociodemographic factors with depression, anxiety and stress.

Associated Factors		Depression	p-value	Anxiety	p-value	Stress	p-value
Gender	*Male*	63	0.630	76	0.983	49	0.279
	Female	63		81		61	
Age Groups	*<35 years*	111	0.707	136	0.525	98	0.250
	>35 years	15		88		126	
Marital status	*Single/widow/separated*	46	0.621	52	0.433	40	0.693
	Married	80		105		70	
Socioeconomic status	*<PKR 50,000*	41	0.957	52	0.537	37	0.809
	PKR 50,000 – 100,000	66		81		58	
	PKR 100,000 – 150,000	15		20		12	
	>PKR 150,000	4		4		3	
Professional categories	*Nurse*	74	0.436	95	0.063	64	0.08
	Nursing technician	15		14		6	
	Laboratory technician	3		5		2	
	Pharmacist	1		0		1	
	Doctor	20		23		20	
	Physiotherapist	13		20		17	

*Values are given as frequency

Discussion

The prevalence of depression, anxiety and stress was high among the HP's enrolled in the current study i.e. 48.46%, 60.38% and 41.92% respectively which is consistent with the findings of Alkhazrajy et al.[15] (70.25%) and Liezel[16](55%). While in contrast studies conducted in Japan, China and Germany showed decreased prevalence of depressive symptoms among HP's i.e. 11.3%, 8.8%, 31.7%, and 17%, respectively[17-19]. Moreover, a local study in Pakistan also showed similar results to the mentioned studies i.e. 25.8% prevalence only[20]. The high prevalence of depression among the study population may be due to the increasing workload, lack of working staff, limited number of HP's and low income.

Stratification of sociodemographic characteristics of the study population with depression, anxiety and stress showed insignificant results i.e. no significant association was observed between age and depression levels (p=0.707) which is also supported by other studies concluding age as a nonsignificant contributing factor for depressive symptoms in medical profession[21,22]. Moreover, working hours are the significant contributing factors for depression, anxiety and stress as indicated by a number of studies[5,21]. The physicians who were working for more than 60 hours/week and in double shifts were more likely to experience depressive symptoms as compared to counterparts[22]. A study indicated that low income was also a common factor among the HP's with depressive symptoms[23] which is contradictory to other studies indicating no significant relationship between the two variables. Also supported by our results I indicating contradictory results (p=0.957) to the study conducted by El-Hamrawya[23].

The current study indicated a higher rate of depression among males as compared to females i.e. 63/126 vs 63/134. While globally it is an evident fact that the prevalence of depressive symptoms is higher among females irrespective of professions, also showed by several studies where females were more depressed than males[24-26]. Furthermore, the marital status also plays a significant role in the prevalence of depression, anxiety and stress. It was reported by a study that married doctors are more likely to develop depression as compared to unmarried[23]. No significant associations observed in the current study which is also supported by Gu et al.[27], Alkhazrajy et al.[15], Becker et al.[21] and Fahrenkopf et al.[5], concluding that no significant association exist between gender, marital status and prevalence of depressive symptoms.

There are several studies conducted both at national and international level determining the prevalence of depression, anxiety and stress among single category of HP's but our study is unique in the way that it brought various categories of HP's under one umbrella, like nurses, doctors, laboratory technicians, physiotherapist and pharmacist were all included in this study. Moreover, DASS 42 is valid tool for depression analysis and three major hospitals of Karachi were included for the study but sample size is very limited due to shortage of time and answers of some behaviour questions might be doubtful because participants might have lied about it. Therefore, our results do not provide a generalized view. It is recommended that hospitals should be aware of the increasing prevalence of depression, anxiety and stress among HP's, and assessments should be carried out periodically. Moreover, firm policies and campaigns must be designed and implemented to eradicate this health issue so that continuous and balanced services could be provided to the patients. It is also suggested that further studies with more participants from both government and private sectors should be conducted so the results can be properly estimated at whole community level.

Conclusion

The HP's enrolled in the study were mostly affected by moderate to severe level of depression, anxiety and stress. Periodic, monthly or bimonthly assessment of these measures are recommended to control this health concern among the HP's. As their physical and mental health status plays a very significant role in their practicing environment and also affects the quality of services they are providing. Programs and campaigns must be driven in order to increase the knowledge of these concerns among the HP's and in order to improve the mental health of the employees the

healthcare sectors must take effective measures focusing on better health and healthy working environment.

Acknowledgement

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