

Depression, Anxiety, and Stress in Female Doctors: A Cross-Sectional Study from Rawalpindi

Fatima Ali Raza Mughal¹, Hina Sharif², Raima Asif³, Mehwish Riaz⁴, Mariam Razzaq⁵, Naila Azam⁶

^{1,5} Resident, Foundation University Medical College, Rawalpindi.

² Senior Lecturer, Al-Shifa School of Public Health, Rawalpindi.

^{3,4} Demonstrator, Foundation University Medical College, Rawalpindi.

⁶ Professor and HOD, Foundation University Medical College, Rawalpindi.

Author's Contribution

^{1,2} Conception of study

^{1,3,4,5} Experimentation/Study conduction

^{1,2,3,4} Analysis/Interpretation/Discussion

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Corresponding Author

Dr. Fatima Ali Raza Mughal,

Resident,

Foundation University Medical College,

Rawalpindi

Email: fatimaaliraza@fui.edu.pk

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Abstract

Introduction: Studies have shown that toiling in the medical field, especially in comparison to other professions is stressful. There is evidence that depression leads to reduced productivity in the workplace. Poor clinical judgement, increased chances of error in patient care and absenteeism all lead to reduced quality of work. Female doctors, in particular, are vulnerable to mental health issues owing to elements such as bullying, workplace sexual harassment, long working hours, frantic shifts, and domestic commitments.

Materials and Methods: Over a six-month period (June 2020 to November 2020), we conducted a cross-sectional survey in three tertiary care hospitals in Rawalpindi, two of which were public sector and one private sector. We collected 328 samples by means of non-probability consecutive sampling.

We used the Depression, Anxiety, and Stress Scale (DASS), a 42-item questionnaire via Lovibond and Lovibond with a Cronbach's alpha of 0.89.

Mean and SD of DASS total and subscale scores were compared for subjects stratified by age, marital status, designation, hospital status, and monthly household income via Student t-test and ANOVA.

Results: The total mean DASS score reported by our participants was 31±26.92. Total mean DASS scores were significantly greater in House Officers and decreased as the designation rank increased ($p=0.007$). Mean DASS subscale scores showed that the junior female doctors were significantly more anxious ($p=0.004$) and depressed ($p=0.041$) compared to the senior doctors. However, there was no significant difference in stress scores, indicating that all the female doctors that participated were experiencing stress regardless of their designation. There was also no significant difference in DASS scores between private and public sector hospitals.

Conclusion: Female doctors working in tertiary care hospitals of Rawalpindi reported depression, anxiety, and stress. Steps need to be taken to reduce risk factors for these mental health issues in order to boost workplace satisfaction and productivity.

Keywords: Depression, Anxiety, Stress, Female Doctors, Rawalpindi.

Introduction

Studies have shown that toiling in the medical field, especially in comparison to other professions including teaching and engineering, is a stressful matter.¹ Substantial amount of work, great expectations, and continuing studies often pave the way for burnout, depression, and anxiety in doctors.^{2,3} In developing countries like our own, a dearth of resources, short-staffed hospitals, overcrowded working conditions and sometimes rapidly deteriorating patients can all negatively impact a doctor's mental health.⁴

There is evidence that depression leads to reduced productivity in the workplace.⁵ Poor clinical judgement, increased chances of error in patient care and absenteeism all lead to reduced quality of work.⁶ Doctors who work under stress not only pose a threat not only to patients but to the way they relate to their colleagues and personal connections as well, in the form of disintegrated relationships and broken commitments.^{2,4}

Female doctors, in particular, are vulnerable to mental health issues owing to elements such as bullying workplace sexual harassment, long working hours, frantic shifts, and domestic commitments.^{7,8} This can be a deterrent to their joining the workforce.⁹ Studies show that while nearly 80% to 85% of medical students are female, the number of female doctors working is under 50%.¹⁰ Both international and local studies show that a high number of female patients prefer to be examined and treated by lady doctors.^{11,12}

Although studies exist internationally that investigate the mental health issues of doctors, there is a paucity of these in our setup, especially with regard to female doctors, a greater number of whom are required in Pakistan due to our socio-cultural setup.¹²

Materials and Methods

Over a six-month period (June 2020 to November 2020), we conducted a cross-sectional survey in three tertiary care hospitals of Rawalpindi, two of which were public sector and one private sector. Utilising the Open Epi software, with a known population (n=1072), 95% CI, 5% margin of error, and a standard prevalence of 50%, our sample size came to 283. We collected 328 samples by means of non-probability consecutive sampling. Due to being incomplete, 27 of these were omitted from our analysis.

We included lady doctors who had held their posts for at least 03 months, designated as House Officers, Medical Officers/Post-Graduate Residents, Senior Registrars/Assistant Professors, and Associate/Full Professors. Those diagnosed with depression or anxiety were excluded from our study, as were those lady doctors who did not wish to participate.

After obtaining approval from the IRB of the relevant institutions, data was collected via both Google forms as well as physically. A pilot study was conducted using 10% of our calculated sample size to determine the Cronbach's alpha of our research instrument. Procurement of informed consent preceded filling out the form both online and physically. The confidentiality of participants was promised and was reinforced by the fact that giving their names was not required for filling out the form.

Data collection tools included a self-constructed demographic form, which included the participant's name, age, designation, monthly household income, hospital status, marital status, and perceived source of stress.

Our main instrument was the Depression, Anxiety, and Stress Scale (DASS), a 42-item questionnaire via Lovibond and Lovibond. This tool uses 42 items and three subscales to quantify depression (14 items), anxiety (14 items), and stress (14 items). Each item is graded from 0-3. Scores fall between 0 and 126. It has a high Cronbach's alpha, both as a whole (0.89) and for each subscale, i.e., depression (0.91), anxiety (0.84), and stress (0.90). Participants were asked to only enter incidents from the past one week.

SPSS version 26 was utilized for data entry and analyses. Descriptive statistics were presented as frequencies and percentages, mean and standard deviation.

Mean and SD of DASS total and subscale scores i.e. Depression, Anxiety and Stress compared for subjects stratified by age, marital status, designation, hospital status, and monthly household income via Student t-test (in case of 2 groups) and ANOVA (in the case on 3 or more groups). A P-value less than 0.05 was considered significant.

Results

From our sample of 301 participants, the majority were married (n=154, 51.2%), with 42.9% (n=143) unmarried. Participants included three widows and one divorcee. The number of House Officers was the largest, accounting for 41.8% of respondents (n=126), following which were Medical Officers/ Post

Graduate trainees at 35.9% (n=108). The number of Senior Registrars / Assistant Professors (n=49, 16.3%) and Associate/Full Professors (n=18, 6%) were the lowest.

About 52% of participants were from public sector hospitals, whereas nearly 48% of participants were working in the private sector.

The mean age was 30.12±7.8 years. The mean monthly household income was PKR 141129±125133, with the mean duration of the job being 4.15±5.05 years. (Table 1)

Most of the female doctors reported being stressed due to their job (72.09%) and personal life (54.15%). Only 39.87% reported being stressed due to home-related issues. (Figure 2)

After pilot sampling, we calculated Cronbach’s Alphas for the Depression, Anxiety, and Stress Scale, which came out to be 0.976. This indicates that the DASS is a highly reliable instrument.

The total mean DASS score reported by our participants was 31±26.92. Stress was reported as the greatest (mean score of 14.44) followed by Depression (mean score of 10.36). Anxiety was reported the least (mean score 7.64) by participants of this study.

Total mean DASS scores were significantly greater in House Officers and decreased as the designation rank increased ($p=0.007$). Mean DASS subscale scores showed that the junior female doctors were significantly more anxious ($p=0.004$) and depressed ($p=0.041$) compared to the senior doctors. However, there was no significant difference in stress scores, indicating that all the female doctors that participated were experiencing stress regardless of their designation. (Table 2)

There was no significant difference between the DASS total and subscale scores of female doctors working in private and public hospitals ($p=0.760$) (Figure 1), doctors younger and older than 30 years of age ($p=0.107$), doctors with different marital status ($p=0.163$) or doctors with different household incomes ($p=0.381$).

Table 1: Means & Standard Deviations of Demographic Variables

Demographic Information	Mean	Standard Deviation
Age (years)	30.12	7.80
Duration at Current Post (years)	2.00	2.39
Total Duration on Job (years)	4.15	5.05
Monthly Household Income (PKR)	141129	125133

Table 2: Comparison of DASS total and subscale scores for female doctors stratified for designation

DASS	N	Mean	SD	P-Value (ANOVA)
Depression	HO	126	11.90	0.041*
	MO/PGT	108	10.33	
	SR/AP	49	8.16	
	AsP/Prof	18	5.67	
	Total	301	10.36	
Anxiety	HO	126	8.84	0.004*
	MO/PGT	108	7.76	
	SR/AP	49	6.24	
	AsP/Prof	18	2.33	
	Total	301	7.64	
Stress	HO	126	15.17	0.305
	MO/PGT	108	14.72	
	SR/AP	49	13.39	
	AsP/Prof	18	10.44	
	Total	301	14.44	
Total DASS	HO	126	33.99	0.007*
	MO/PGT	108	31.43	
	SR/AP	49	27.45	
	AsP/Prof	18	17.39	
	Total	301	31.01	

HO- House Officer MO- Medical Officer PGT- Postgraduate Trainee SR- Senior Registrar AP- Assistant professor AsP- Associate Professor Prof- Full Professor

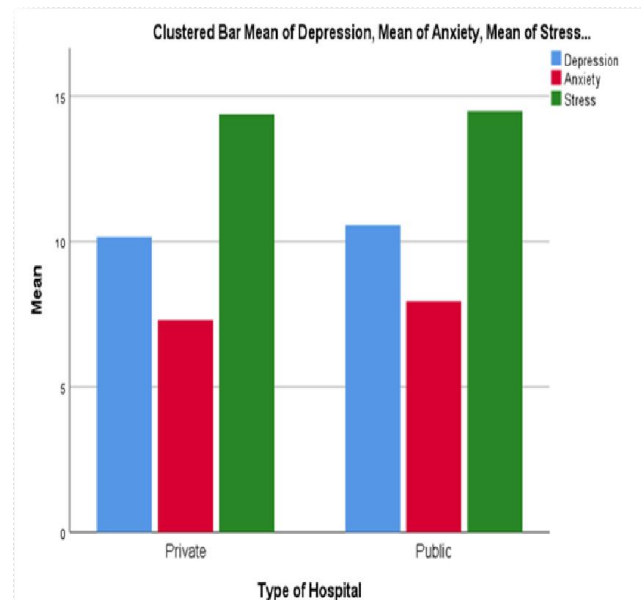


Figure 1: Bar chart showing mean depression, anxiety, and stress in public vs private hospitals

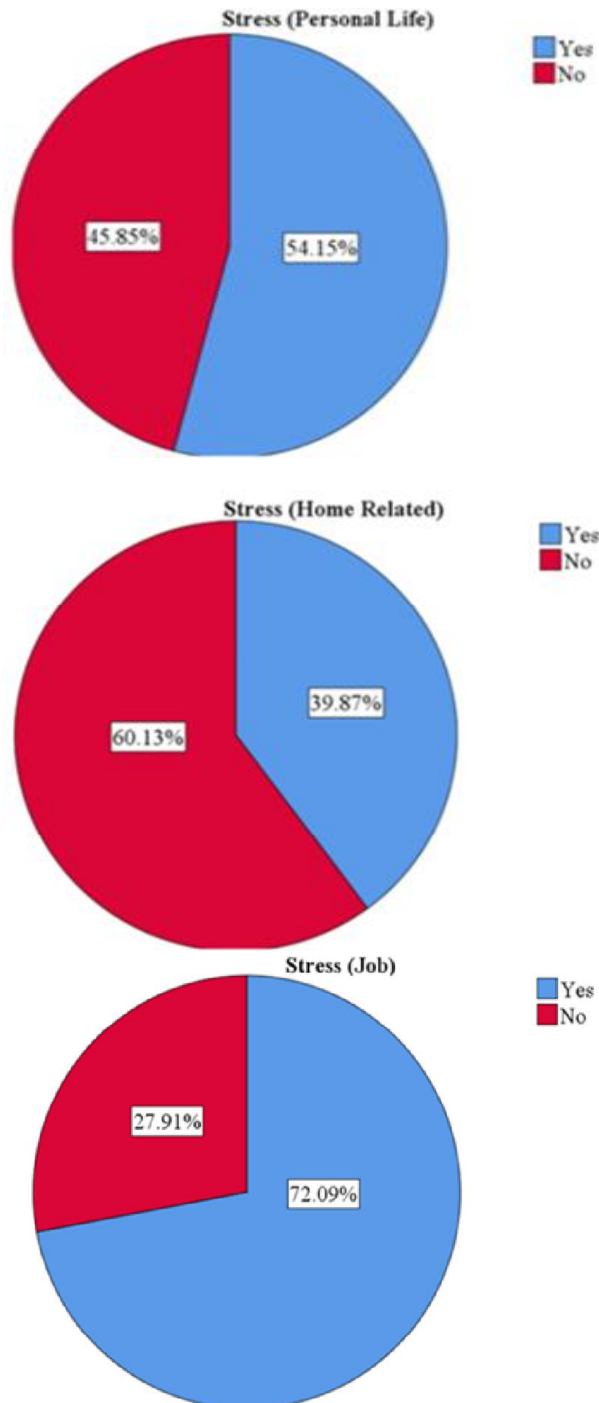


Figure 2: Pie charts showing the percentage of stress due to personal life, home-related, and job

Discussion

We found that most of the female doctors in our study reported being stressed due to their job, followed by personal life and home-related issues. This is consistent with studies which report that job stress and burnout are greater in female doctors as compared to

males, and that workplace issues contribute to increased stress in female doctors.^{13,14}

Our study did not show any significant difference in the DASS scores based on monthly household income ($p=0.381$). This differs from the findings of another Rawalpindi-based study, where a lower monthly income was significantly associated with depression, anxiety, and stress ($p=0.012$).¹⁵ This can be explained by the fact that our study participants included only females, who are culturally not the breadwinner of the family, whereas the other study had 80% male participants, who are traditionally expected to fulfil the family's financial needs.

Stress and depression were significantly greater than anxiety in our participants (Figure 2). This gelled with the findings of a study from Lahore, where there was a greater incidence of depression and anxiety among doctors working in a tertiary care hospital.¹⁶

Depression and Anxiety were high in younger doctors and gradually decreased with seniority (Table 2). This was consistent with international findings from Australia and Iran.^{17,18} The most probable reason is the high number of hours that junior doctors including House Officers and Postgraduate Trainees put in as opposed to the relatively relaxed working hours of consultants. This has also been particularly true during the COVID-19 pandemic when our sampling took place. Studies conducted in India in 2020 support this as well.¹⁹ Studies indicate that Postgraduate Trainees are also encumbered by high expectations and heavy workloads, which leads to their being more stressed than their senior counterparts.²

However, stress was high in all designations. (Table 2). This was in accordance with both local and international studies, including one from Norway and one from Rawalpindi.^{15,20} The fact that doctors, regardless of designation, are stressed has been documented in other studies as well.^{18,21}

There was no significant difference in depression, anxiety, and stress levels in public and private hospitals. This is consistent with international studies.⁴ Stress in doctors is a serious issue, as demonstrated by our study, as well as several international studies. Stress can lead to burnout and even suicidal ideation in junior doctors.^{4,22} It also leads to the development of burnout as well as somatic symptoms such as headaches and abdominal pain in senior doctors.²³

Strengths of our study include generalizability, as three tertiary care hospitals of Rawalpindi have been included, and the number of participants included is greater than our calculated sample size.

The limitations of our study include the element of recall bias, and efforts to minimize which have been taken, but which cannot be eliminated. Also, some people have personality traits that render them susceptible to mental health issues even in the absence of possible risk factors. This has not been taken into account.

Conclusion

In conclusion, it can be said that depression, anxiety, and stress are significant problems for female doctors, across all cadres, which may impact their productivity at the workplace.

Our recommendations are for deeper studies into the reasons for depression, anxiety, and stress in doctors, both male and female, and for the formulation and implementation of policies that protect the mental health of these doctors. This will lead to increased productivity at work, improved patient care, and a happy, healthy society in general.

References

- Husain W, Hassan S. The different levels of depression and anxiety among Pakistani professionals. 2020. DOI: 10.29328/journal.ida.1001014
- Sadiq MS, Morshed NM, Rahman W, Chowdhury NF, Arafat S, Mullick MSI. Depression, Anxiety, Stress among Postgraduate Medical Residents: A Cross Sectional Observation in Bangladesh. *Iran J Psychiatry*. 2019;14(3):192. /pmc/articles/PMC6778600/. Accessed September 6, 2021.
- TRAINEES' PERCEPTION OF LEARNING ENVIRONMENT IN PUBLIC TEACHING HOSPITALS OF RAWALPINDI: A MIXED METHODS STUDY | PAFMJ. <https://www.pafmj.org/index.php/PAFMJ/article/view/1539>. Accessed September 6, 2021.
- Yahaya SN, Wahab SFA, Yusoff MSB, Yasin MAM, Rahman MAA. Prevalence and associated factors of stress, anxiety and depression among emergency medical officers in Malaysian hospitals. *World J Emerg Med*. 2018;9(3):178. DOI: 10.5847/WJEM.J.1920-8642.2018.03.003
- Johnston DA, Harvey SB, Glozier N, Calvo RA, Christensen H, Deady M. The relationship between depression symptoms, absenteeism and presenteeism. *J Affect Disord*. 2019;256:536-540. DOI: 10.1016/j.jad.2019.06.041
- Hayes B, Prihodova L, Walsh G, Doyle F, Doherty S. What's up doc? A national cross-sectional study of psychological wellbeing of hospital doctors in Ireland. *BMJ Open*. 2017;7(10):e018023. DOI: 10.1136/BMJOPEN-2017-018023
- Umoeok F, Wyk JM Van, Madiba TE. Does gender impact on female doctors' experiences in the training and practice of surgery? A single centre study. *South African J Surg*. 2017;55(3):8-12. <https://www.ajol.info/index.php/sajs/article/view/159707>. Accessed September 8, 2021.
- Stone L, Phillips C, Douglas KA. Sexual assault and harassment of doctors, by doctors: a qualitative study. *Med Educ*. 2019;53(8):833-843. DOI: 10.1111/medu.13912
- Akram S, Haroon S, Haroon S, Shahid S, Akhtar B. Barriers Faced by Female Doctors in Career Development at King Edward Medical University. *Asian J Allied Heal Sci*. September 2020:22-27. DOI: 10.52229/AJAH.S.V3I4.351
- Mohsin M, Syed J. The missing doctors — An analysis of educated women and female domesticity in Pakistan. *Gender, Work Organ*. 2020;27(6):1077-1102. DOI: 10.1111/GWAO.12444
- Sun-Uck K, Kang TW, Kwon D. Gender Preferences for Urologists: Women Prefer Female Urologists. *Urol J*. 2017;14(2):3018-3022. DOI: 10.22037/UJ.V14I2.3655
- Sajid MJ, Feng L, Jawad Sajid M, Lian Z, Shuqin L. Female gynecologist preference: A viewpoint based on two scenario survey from Pakistan International Journal of Research Female gynecologist preference: A viewpoint based on two scenario survey from Pakistan. *Artic Int J Res*. 2018. <https://edupediapublications.org/journals>. Accessed September 6, 2021.
- Dastan I, Al-samarraie MAM, Ali Jadoo SA. Female doctors are more emotionally exhausted than their male counterparts in Iraq. *J Ideas Heal*. 2019;2(1):75-79. DOI: 10.47108/jidhealth.vol2.iss1.18
- Akanji B, Mordi C, Ajonbadi HA. The experiences of work-life balance, stress, and coping lifestyles of female professionals: insights from a developing country. *Empl Relations Int J*. 2020;42(4):999-1015. DOI: 10.1108/ER-01-2019-0089
- Khurshid S, Hisam A, Khurshid N, Khurshid M. Burnout among surgeons; depression, anxiety and stress between consultant versus post-graduate trainee. *Pakistan J Med Sci*. 2020;36(7):1745. DOI: 10.12669/PJMS.36.7.1415
- Atif K, Khan HU, Ullah MZ, Shah FS, Latif A. Prevalence of anxiety and depression among doctors; the unscreened and undiagnosed clientele in Lahore, Pakistan. *Pakistan J Med Sci*. 2016;32(2):294-298. DOI: 10.12669/pjms.322.8731
- Turner T, Tee QX, Hasimoglu G, et al. Mindfulness-based psychological interventions for improving mental well-being in medical students and junior doctors. *Cochrane Database Syst Rev*. 2020;(9).
- Kousha M, Bagheri HA, Heydarzadeh A. Emotional intelligence and anxiety, stress, and depression in Iranian resident physicians. *J Fam Med Prim Care*. 2018;7(2):420. DOI: 10.4103/JFMPC.JFMPC_154_17
- Pandey U, Corbett G, Mohan S, et al. Anxiety, Depression and Behavioural Changes in Junior Doctors and Medical Students Associated with the Coronavirus Pandemic: A Cross-Sectional Survey. *J Obstet Gynecol India*. September 2020:1-5. DOI: 10.1007/s13224-020-01366-w
- Rosta J, Bääthe F, Aasland OG, Isaksson Rø K. Changes in work stress among doctors in Norway from 2010 to 2019: a study based on repeated surveys. *BMJ Open*. 2020;10(10):37474. DOI: 10.1136/bmjopen-2020-037474
- Locke R, Lees A. A literature review of interventions to reduce stress in doctors. *Perspect Public Health*. 2020;140(1):38-53. DOI: 10.1177/1757913919833088
- Petrie MK, Crawford J, Shand F, Harvey SB. Workplace stress, common mental disorder and suicidal ideation in junior doctors. *Intern Med J*. November 2020:imj.15124. DOI: 10.1111/imj.15124
- Palacios Nava ME. Stress, Burnout, Somatic Symptoms, and Working Conditions in Residents and Senior Doctors. *A Epidemiol Public Heal*. 2020;3(1):1030. <http://meddocsonline.org/>. Accessed November 29, 2020.