RESEARCH ARTICLE

Perceived stress score among doctors serving at various government and private hospitals in Faisalabad

Nazia Nazir,[1] Hafiz Amjad Hussain,[2] Umair Ahmed,[3] Ahmad Ayaz Sabri,[4] Nazir Ahmad,[5] Amna Gulam Rasool[6]

Abstract

Objective: To analyse the prevalence of stress among doctors serving at various public and private hospitals.

Methods: The cross-sectional study was conducted at four public and private hospitals in Faisalabad, Pakistan, from July to December 2019, and comprised doctors with at least one year of professional service. Data was collected using the Perceived Stress Scale Questionnaire and was analysed using SPSS 20.

Results: Of the 162 respondents, 87(53.7%) were males and 75(46.3%) were females. The females had significantly higher ($p<0.05$) perceived stress scores compared to the males. Age, number of years in job, and number of children had negative correlation with stress scores ($p<0.05$). Stress was significantly low in doctors who managed to usually get time-out for relaxation ($p<0.01$) and in those doing private practice ($p<0.05$). The effect of doctor's marital status, type of specialty and residence was not significant ($p>0.05$).

Conclusion: Younger doctors, particularly females, in their early career were found to have higher perceived stress scores compared to their senior colleagues with more children and well-established private practice.

Keywords: Psychological stress, Occupational stress, Life stress, Mental suffering. (JPMA 71: 1424; 2021)
(**DOI: https://doi.org/10.47391/JPMA.232**

Introduction

A doctor's job is hectic and stressful. Patient care, particularly in government hospitals, requires vigilant and efficient decision-making and prompt action which is further crucial due to high number of critical patients present at these hospitals. Stress level negatively affects efficiency and decision power which is directly hazardous for patient care.[1] Doctors are exposed to significant levels of stress during their jobs.[2]

High stress levels among doctors may result in aggressive attitude towards patients, poor decision-making and medical errors.[3]

The healthcare landscape is changing rapidly and so is the practice of medicine. In this technology-oriented era, new models of medical care are being introduced regularly to overcome the shortcomings in the existing models of care.[4]

Almost all doctors face stress owing to various factors, which affect the physical and mental health of doctors who face psychiatric issues, like anxiety disorders, depressive illnesses, adjustment disorders and even substance abuse.[5] Psychiatric illnesses among doctors are usually ignored not only by the common folks, but also by the doctors themselves.[6] In this scenario, gender may play a role in the experience of stress.[7] Females have to face a variety of more stressors, like gender discrimination, stereotyping, marriage-work balance and social stigma.[8]

Another study shows that women find workplace significantly more stressful than men.[9]

Also, studies have correlated age with perception of stress; some reporting a negative correlation,[10] while others found the difference non-significant.[11]

The current study was conducted to measure the level of perceived stress and its association with various factors, such as gender, age, number of years in job, number of children, time for relaxation and private practice among doctors.

Subjects and Methods

After approval from the institutional ethical review committee (ERC), the cross-sectional study was conducted from July to December 2019 in Faisalabad, Pakistan, and comprised doctors working at Allied Hospital, Divisional Headquarter (DHQ) Hospital, Government General Hospital and the Independent Hospital. All the four hospitals experience high patient load not only from Faisalabad, but also from nearby towns and cities, including Sargodha, Jhang, Toba Tek Singh, Samundari and Chiniot. The study sample was raised using convenience sampling technique from among doctors of either gender in service for at least

[1,6]Department of Psychiatry, [4,5]Department of Medical, Government General Hospital, Faisalabad Medical University, Faisalabad, [2]Department of Medicine, DHQ Hospital, Faisalabad Medical University, Faisalabad, [3]Department of Medicine, Allied Hospital, Faisalabad Medical University, Faisalabad, Pakistan.
Correspondence: Nazia Nazir. Email: naziatanveer@hotmail.com

one year. House officers and doctors serving on administrative posts were excluded.

The sample size was calculated in the light of literature[12] using online sample calculator[13] with confidence level 95%, margin of error 5%, population proportion 50%, and population size 277.

After taking informed consent, data was collected using Perceived Stress Scale (PSS-14) that has 7 positively-stated and 7 negatively-stated items which are scored on a five-point Likert scale. The score is calculated by reverse coding the negatively-stated items and then summing up the scores of all the 14 items, with final score ranging from 0 to 56. Higher scores indicate higher levels of perceived stress. The instrument was not intended by its developers[14] (Cohen, Kamarck & Mermelstein 1983) as a diagnostic tool, and, hence, there is no cut-off score.

Data was analysed using SPSS 20. One-way analysis of variance (ANOVA) was used for the comparison of all group means.

Results

Of the 162 respondents, 87(53.7%) were males and 75(46.3%) were females. Doctors responses to all the 14 items were noted (Table-1). The overall mean PSS score was 26.09±8.141.

The females had significantly higher ($p<0.05$) perceived stress scores compared to the males. Age, number of years in job, and number of children had negative correlation with stress scores ($p<0.05$). Stress was significantly low in doctors who managed to usually get time-out for relaxation ($p<0.01$) and in those doing private practice ($p<0.05$). The effect of doctor's marital status, type of specialty and residence was not significant ($p>0.05$) (Table-2).

Discussion

The study found higher mean perceived stress score of 27.56 among female doctors compared to their male colleagues 24.82. The finding is in line with previous studies.[15-17]

Conflict between professional responsibilities and social expectations related to home-life has been conjectured as one of the possible reasons of higher stress level among females.[18]

In the current study, stress among younger doctors was significantly higher compared to their older colleagues. A study in Indian hospitals showed higher stress levels among senior doctors.[18] However, the study linked their higher stress levels with administrative responsibilities in addition to their clinical duties. In the current study, doctors having additional administrative responsibilities were excluded. Our results in this regard are in agreement with a study done in African hospitals which showed lower stress levels among senior doctors compared to their junior counterparts.[19]

Our study did not show any significant difference in the stress levels of married and unmarried doctors, but the African study showed higher stress among single doctors compared to their married counterparts.[19]

Although a study among German hospitals found significant difference in stress levels among different medical specialties,[20] no significant difference was found

Table-1: Doctors' response to the perceived stress scale (PSS) questions.

No	Questions	Never	Almost Never	Sometimes	Often	Very Often
1	In the last month, how often were you upset because of something that happened unexpectedly?	17(10)	18(11)	74(46)	32(20)	21(13)
2	In the last month, how often did you feel that you were unable to control the important things in your life?	25(15)	26(16)	65(40)	26(16)	20(12)
3	In the last month, how often did you feel nervous and 'stressed'?	9(6)	14(9)	73(45)	48(30)	18(11)
4	In the last month, how often did you deal successfully with irritating life hassles?	29(18)	74(46)	48(30)	9(6)	2(1)
5	In the last month, how often did you feel that you were effectively coping with important changes that were occurring in your life?	28(17)	54(33)	61(38)	13(8)	6(4)
6	In the last month, how often did you feel confident about your ability to handle your personal problems?	31(19)	64(40)	45(28)	17(10)	5(3)
7	In the last month, how often did you feel that things were going your way?	17(10)	44(27)	65(40)	25(15)	11(7)
8	In the last month, how often did you find that you could not cope with all the things that you had to do?	16(10)	34(21)	74(46)	27(17)	11(7)
9	In the last month, how often were you able to control irritations in your life?	27(17)	56(35)	59(36)	14(9)	6(4)
10	In the last month, how often did you feel that you were on top of things?	16(10)	38(23)	73(45)	19(12)	16(10)
11	In the last month, how often did you get angry because of things that happened outside of your control?	13(8)	31(19)	62(38)	36(22)	20(12)
12	In the last month, how often did you find yourself thinking about things that you must accomplish?	2(1)	11(7)	29(18)	61(38)	59(36)
13	In the last month, how often were you able to control the way you spend your time?	15(9)	54(33)	68(42)	18(11)	7(4)
14	In the last month, how often did you feel that difficulties were piling up so high you could no longer overcome them?	24(15)	51(31)	49(30)	25(15)	13(8)

Table-2: Association between socio-work profile of doctors and Perceived Stress Scale (PSS) score (n=162).

Characteristics	Frequency N	Percentage %	PSS (Mean)	PSS (SD)	Statistical Test	p-value
Gender					F = 4.680	0.032**
Male	87	53.7	24.82	7.823		
Female	75	46.3	27.56	8.305		
Age Groups					F = 3.520	0.017**
21-30	74	45.7	27.20	8.188		
31-40	59	36.4	26.05	8.415		
41-50	20	12.3	25.65	5.860		
>50	9	5.6	18.11	6.604		
Marital Status					F = 0.216	0.643
Married	123	75.9	25.92	7.885		
Single	39	24.1	26.62	8.990		
No. of Children					F = 3.134	0.016**
0	61	37.7	26.93	8.089		
1	29	17.9	29.76	8.576		
2	25	15.4	24.04	6.798		
3	36	22.2	24.00	7.786		
>3	11	6.8	23.18	8.159		
Residence					F = 0.076	0.783
Own	109	67.3	25.96	8.340		
Rented	53	32.7	26.34	7.788		
Specialty					F = 1.302	0.213
Anaesthesia	3	1.9	22.33	7.371		
Cardiology	8	4.9	24.63	4.534		
Dermatology	8	4.9	26.87	10.616		
Ear Nose Throat	4	2.5	22.75	11.955		
Eye	2	1.2	12.50	3.536		
G. Medicine	43	26.5	27.58	9.016		
Gastroenterology	1	0.6	35.00	-		
Gynaecology	27	16.7	26.33	6.318		
Neurology	4	2.5	20.50	5.972		
Paediatrics	11	6.8	23.73	4.519		
Psychiatry	4	2.5	26.75	6.131		
Pulmonology	4	2.5	22.25	4.013		
Radiology	3	1.9	34.33	9.074		
Surgery	34	21	25.88	8.570		
Urology	6	3.7	29.50	9.975		
Years in Job					F = 2.357	0.056
1-5	87	53.7	27.16	4.748		
6-10	39	24.1	25.46	8.843		
11-15	16	9.9	26.25	7.289		
16-20	10	6.2	25.90	5.840		
>20	10	6.2	19.10	4.748		
Private Practice					F = 5.513	0.020**
Yes	97	59.9	24.28	7.110		
No	65	40.1	27.30	8.588		
Time-out for Relaxation					F = 5.594	0.001***
Always	6	3.7	18	6.450		
Not Usual	37	22.8	29.51	8.455		
Usually	34	21.0	23.68	8.355		
Whenever Possible	85	52.5	26.13	7.369		
Age					R-value = -0.246	0.002***
Years in Job					R-value = -0.187	0.017**
No. of Children					R-value = -0.178	0.023**
Private Practice Days/Week					R-value = -0.186	0.018**

**Significant at $p < 0.05$ level. ***Significant at $p < 0.01$ level. SD: Standard deviation.

in the current study.

The stress among doctors who had their private practice in addition to their government job was significantly lower compared to those with no private practice in the current study. It may be conjectured that private practice is not only a means of keeping oneself too busy to think about stressful issues, but it also reduces financial worries due to increased income, resulting in lower stress levels.

The results also indicated that those doctors who usually spare time for relaxation also had low stress.

Conclusion

Female doctors had higher perceived stress compared to their male colleagues. Doctors' age, number of years in service, number of children, private practice and time-out for relaxation showed a negative association with perceived stress. No significant association was observed of doctors' marital status, type of residence and specialty with the perceived stress score.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Atif K, Khan HU, Maqbool S. Job satisfaction among doctors, a multi-faceted subject studied at a tertiary care hospital in Lahore. Pak J Med Sci 2015;31:610-4. doi: 10.12669/pjms.313.7402.
2. Anjum A, Anjum A, Anjum U, Ming X. An empirical study exploring the determinants of stress among medical healthcare professionals. Afr Health Sci 2019;19:3091-9. doi: 10.4314/ahs.v19i4.31.
3. Kumar S. Burnout and Doctors: Prevalence, Prevention and Intervention. Healthcare 2016;4:37. doi: 10.3390/healthcare4030037.
4. 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:e018023. doi: 10.1136/bmjopen-2017-018023.
5. Nisar K, Khan KH, Shah M. Anxiety and depression in doctors undergoing postgraduate training courses at Armed Forces Postgraduate Medical Institute Rawalpindi. J Ayub Med Coll Abbottabad 2012;24:171-3.
6. 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. Pak J Med Sci 2016;32:294-8. doi: 10.12669/pjms.322.8731.
7. Martocchio JJ, O'Leary AM. Sex differences in occupational stress: a meta-analytic review. J Appl Psychol 1989;74:495-501. doi: 10.1037/0021-9010.74.3.495.
8. McDonald LM, Korabik K. Sources of stress and ways of coping among male and female managers. J Soc Behav Pers 1991;6:185-98.
9. Solanki CK, Parmar KN, Parikh MN, Vankar GK. Gender differences in work stressors and psychiatric morbidity at workplace in doctors and nurses. Int J Res Med Sci 2015;3:3840-7. doi: 10.18203/2320-6012.ijrms20151453
10. Stone AA, Schwartz JE, Broderick JE, Deaton A. A snapshot of the age distribution of psychological well-being in the United States. Proc Natl Acad Sci 2010;107:9985-90. doi: 10.1073/pnas.1003744107.
11. Scott SB, Jackson BR, Bergeman CS. What contributes to perceived stress in later life? A recursive partitioning approach. Psychol Aging 2011;26:830-43. doi: 10.1037/a0023180.
12. Yap AU, Qiu LY, Natu VP, Wong MC. Functional, physical and psychosocial impact of Temporomandibular Disorders in adolescents and young adults. Med Oral Patol Oral Cir Bucal 2020;25:e188-94. doi: 10.4317/medoral.23298.
13. Calculator.net. Sample Size Calculator. [Online] 2008-2021 [Cited 2019 June 20]. https://www.calculator.net/sample-size-calculator.html
14. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav 1983;24:385-96.
15. Shaw MP, Peart DJ, Fairhead OJW. Perceived stress in university students studying in a further education college. Res Post-Compulsory Educ 2017;22:442–52. doi: 10.1080/13596748.2017.1362534
16. Xu X, Bao H, Strait K, Spertus JA, Lichtman JH, D'Onofrio G, et al. Sex differences in perceived stress and early recovery in young and middle-aged patients with acute myocardial infarction. Circulation 2015;131:614-23. doi: 10.1161/CIRCULATIONAHA.114.012826.
17. Misigo BL. Gender difference in the perceived level of stress and coping strategies among university students in Kenya: A case of public universities. Int Acad J Soc Sci Educ 2015;1:44-52.
18. Rashid I, Talib P. Occupational stress and coping styles among doctors: role of demographic and environment variables. Vis J Bus Perspect 2015;19:263-75. doi: 10.1177/0972262915599473
19. Olatunji SO, Bolade MO. The Influence of Sex, Marital Status, and Tenure of Service on Job Stress, and Job Satisfaction of Health Workers in a Nigerian Federal Health Institution. African Res Rev 2014;8:126-133. doi: 10.4314/afrrev.v8i1.10
20. Bernburg M, Vitzthum K, Groneberg DA, Mache S. Physicians' occupational stress, depressive symptoms and work ability in relation to their working environment: a cross-sectional study of differences among medical residents with various specialties working in German hospitals. BMJ Open 2016;6:e011369. doi: 10.1136/bmjopen-2016-011369.