Original Article

Depression, Anxiety and Stress Symptoms among Afghan Healthcare Workers: A Cross-Sectional Analytical Study

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Abstract

Background: Decades of conflict and cycles of disasters in Afghanistan have caused enormous impacts on health, the economy, and even national security. **Objectives:** We aimed to assess the levels of depression, anxiety, and stress symptoms and their determinants among Afghan healthcare workers. **Methods:** A cross-sectional study of 830 Afghan healthcare workers working in public and private hospitals was conducted between May and July 2021. We employed a non-probability sampling method to select our subjects. The questionnaire was composed of sections on sociodemographic information, working conditions, and Depression, Anxiety, and Stress Scale-21 (DASS-21). Multivariable linear regression models were fitted using SPSS 21 to identify determinants of mental health symptoms among Afghan healthcare workers at a 5% significance level. **Results:** Of all participants, 52.3% (435) had symptoms of depression, 48.8% (405) anxiety, and 46.9% (389) stress. The likelihood of mental health symptoms was higher among those who worked in an urban setting (P = 0.001), were physically inactive (P = <0.001), had a decrease in income or an unpaid salary in the past six months (P = <0.001), thinking of leaving Afghanistan (P = <0.001), had medical comorbidity (P = <0.001), and being single (P = 0.048)]. **Conclusion:** This study highlights the important findings about the psychological health of healthcare workers in Afghanistan. These findings suggest rapid, actionable, and locally relevant interventions to assure potential improvements in working and living conditions for the health staff.

Keywords: Afghanistan, healthcare workers, mental health, post-conflict settings

Introduction

Decades of conflict and cycles of disasters in Afghanistan have caused enormous impacts on health, economy, and even national security.[1,2] Following the fall of the Islamic Republic of Afghanistan, Afghan assets in the United States and around the world were frozen.[1] Additionally, international donor funding for healthcare markedly decreased.[3,4] Moreover, the recent evolving socioeconomic circumstances contribute to the adversities of healthcare workers in Afghanistan.[2,3] The multiple impacts of these challenges on the quality of healthcare services, compounded with threats posed by COVID-19, are worrisome.[4,5]

The resulting crises have devastating effects on the mental well-being of the general population and the working healthcare staff.[6-8] Anxiety and depression are pressing public health problems because of their high prevalence and are associated with lower quality of life.[6,7] Globally, studies have reported inconsistent levels of anxiety and depressive symptoms among healthcare workers, ranging from 21.3% to 33.03%.[5-8] The prevalence of these stress-related conditions is reported to be higher among healthcare workers affected by conflict and other disasters, ranging from 29.5% to 73.6%.[9-14] The level of these stress-related conditions in Afghanistan, which has endured a series of disasters over the past 50 years, can be alarming.

Decades of war, poverty, and political instability have resulted in high rates of mental health conditions in the Afghan population.[3,4,15] Aside from the mentioned risk factors,

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financial difficulties, insecurity, workplace violence, and unprecedented unemployment, to name a few, are potential contributors to the poor mental health of Afghan healthcare workers.[15,16] Likewise, a study conducted in Herat province has revealed that 73.6% of healthcare workers experienced symptoms of depression.[16]

The evolving sociopolitical circumstances may critically affect the psychological well-being of healthcare workers in Afghanistan. Hence, we aimed to assess the levels of depression, anxiety, and stress symptoms and their determinants among Afghan healthcare workers. Such information could be of paramount importance in policy advocacy and planning aimed at mitigating the complications associated with these disorders.

Methods

We conducted this cross-sectional study involving Afghan healthcare workers in public and private hospitals from May to July 2021. The study was conducted following relevant regulations. The three provinces selected purposively for our data collection included Kandahar (Mirwais Regional Hospital, Momand International Hospital, and Kandahar Teaching Hospital), Zabul (Zabul Provincial Hospital), and Helmand (Bost University Hospital). Healthcare workers aged 18 years or older who consented to participate were enrolled but excluded those too sick to participate.

We calculated our sample size of 850 based on the current data of the provincial Directorates of Public Health. Our sample size calculation accounts for the desired confidence level (95%), expected design effect (2), allowable error (5%), and a 10% nonresponse rate. The final sample size was 830, and the response rate was 97.5%. We used the no-probability sampling method to recruit potential participants for our study.

We developed and structured our study questionnaire based on the existing literature and experiences of Afghan medical staff with their stressors. The sociodemographic information of Afghan healthcare workers was collected using close-ended questions including their age, sex, marital status, working settings, education, type of occupation, and income.

This study employed the Depression, Anxiety, and Stress Scale-21 (DASS-21) to explore the mental health symptoms of Afghan healthcare workers over the past two weeks. DASS-21 is an abbreviated version of DASS-42.[17,18] It contains three indicators that are depression, anxiety, and stress. Each indicator consists of seven items, with a total of 21 items. DASS-21 is a 4-point scale from 0 (not at all) to 4 (extremely) that yields a total score from 0 to 84. Adding relevant items and multiplying them by two determined the final scores for each mental health symptom.[17-19] The total scores were grouped into different categories based on the following ranges: for depression as normal = 0–9, mild = 10–13, moderate = 14–20, severe = 21–27, and extremely severe = ≥ 28; for anxiety the scores were classified as normal = 0–7, mild = 8–9, moderate = 10–14, severe = 15–19, and extremely severe = ≥ 20, and for stress as normal = 0–14, mild = 15–18, moderate = 19–25, severe = 26–33, and extremely severe = ≥ 34.[17,19] The Cronbach's Alpha of the Pashtu version for depression, anxiety, and stress subscales were 0.89, 0.81, and 0.91, respectively.

Later, the study questionnaire was translated into Pashtu (local language), after which the translation was reviewed by principal investigators and language experts and was agreed upon a consensus translation. It was pilot-tested in a nonparticipating department in Kandahar Teaching Hospital.

The self-administered paper questionnaires were provided to Afghan healthcare workers to be completed in the presence of the survey team. Daily, we checked the questionnaires for completion.

The data were entered into Microsoft Excel 2019 and analyzed using SPSS version 21.00.[20] We employed descriptive statistics to understand the demographic, educational, employment, and DAS-21 variables. For univariate analyses, we carried out linear regression models. We performed a multivariable linear regression model to adjust for potential confounders (age and sex). The model accounts for the required assumptions of linearity, non-collinearity, independence of observation, homoscedasticity, unusual points, and normality of residuals. Statistical significance was set at $P < 0.05$.

Ethical approval

This study adheres to the Helsinki Declaration of 1975, as revised in 2008. The study received ethical approval from the Committee for Ethics and Research of Kandahar University (Certificate #75). We discussed the nature and objectives of the study with the provincial authorities of Public Health Departments and obtained their permission. We received written informed consent from all participants.

Results

We approached 850 participants, and 20 who cited pressing clinical responsibilities declined participation. The mean age of healthcare workers was 30.4 ± 7.3 years, ranging from 20 to 60 years, and 646 (77.8%) were male. The vast majority of the subjects 708 (85.3%) were employed in urban settings, and about 548 (66%) were married. Of the 830 healthcare workers, there were 368 (44.3%) medical doctors and 252 (30.4%) nurses. The detailed sociodemographic information of the healthcare workers is presented in Table 1.

Table 2 portrays the working conditions and other related information of the healthcare workers. Of the 830 healthcare workers, 338 (40.7%) were public employees, and nearly half (46.5%, 386) had working experience of 1–5 years. During the past six months, half (50.6%, 420) of the participants reported either a decrease in income or an unpaid salary. Of the 393 (47.3%) healthcare workers who were thinking of leaving Afghanistan, an uncertain future (44%) and a low standard of living (24.4%) in Afghanistan were the leading reasons given by participants. In terms of healthcare workers' health, 94

Table 1: Sociodemographic information of the healthcare workers (*n*=830)

Variables	Categories	Frequency (%)
Age (M=30.4, SD=7.3)	20–30	513 (61.8)
	31–40	240 (28.9)
	41–50	65 (7.7)
	51–60	12 (1.4)
Sex	Male	646 (77.8)
	Female	184 (22.2)
Work settings	Urban	708 (85.3)
	Rural	122 (14.7)
Marital status	Single	262 (31.6)
	Married	548 (66.0)
	Widowed	20 (2.4)
Education	Undergraduate degree	269 (32.4)
	Graduate degree	376 (45.3)
	Postgraduate degree	56 (6.7)
	Clinical specialization	129 (15.6)
Occupation	Doctor	368 (44.3)
	Nurse	252 (30.4)
	Pharmacist	40 (4.8)
	Midwife	63 (7.6)
	Lab technicians	36 (4.3)
	Others	71 (8.6)
Income (Monthly)	Below average	298 (35.9)
	Average	487 (58.7)
	Above average	45 (5.4)

Table 2: Working conditions and other information of the healthcare workers (*n*=830)

Variables	Categories	Frequency (%)
Employment type	Public	338 (40.7)
	Private	212 (25.5)
	Public and Private	164 (19.8)
	Non-Governmental Organizations	116 (14.0)
Experience (in years)	<1	184 (22.2)
	1–5	386 (46.5)
	>5	260 (31.3)
Sleep duration	below 7 h	577 (69.5)
	7 h or above	253 (30.5)
Daily physical activity	Yes	401 (48.3)
	No	429 (51.7)
Decrease in income or unpaid salary	Yes	420 (50.6)
	No	410 (49.4)
Thought of leaving Afghanistan	Yes	393 (47.3)
	No	437 (52.7)
Reasons for leaving Afghanistan (*n*=393)	Low standard of living	96 (24.4)
	Security concerns	56 (14.4)
	Further studies	55 (13.9)
	Family pressure	13 (3.3)
	Uncertain future	173 (44)
Self-perceived health status	Good	258 (31.1)
	Pair	513 (61.8)
	Poor	59 (7.1)
Pre-existing medical condition	Yes	94 (11.3)
	No	736 (88.7)
Body Mass Index (BMI)	Healthy weight	613 (73.9)
	Overweight	138 (16.6)
	Obese	79 (9.5)
Smoking	Yes	84 (10.1)
	No	746 (89.9)

(11.3%) had a pre-existing medical condition, 217 (26.1%) were overweight/obese, and 84 (10.1%) were smoking [Table 2].

Mental health symptoms of the participants

The participants' mean and standard deviation values for the DASS-21 total scores were 37.06 ± 13.8. Of all participants, 435 (52.3%) had symptoms of depression, 405 (48.8%) anxiety, and 389 (46.9%) stress [Figure 1].

Factors associated with mental health symptoms in healthcare workers

The results of multiple linear regression revealed that the likelihood of mental health symptoms was higher among those who worked in urban settings (P = 0.001), physically inactive (P = <0.001), had a decrease in income, or an unpaid salary in the past six months (P = <0.001), thinking of leaving Afghanistan (P = <0.001), had comorbidity (P = <0.001), and being single (P = 0.048)] [Table 3].

Discussion

To our knowledge, this study is one of the first national assessments of the mental health of Afghan healthcare workers employed at public and private hospitals. From this study, we found that the prevalence of mental health symptoms was high, suggesting there is a need for rapid, actionable, and locally relevant interventions. There were significant differences in healthcare workers' mental health status based on their working settings, physical activity, marital status, income in the past six months, intention of leaving the country, and presence of pre-existing medical conditions.

The present study suggests that our subjects had lower rates of symptoms of anxiety (48.8%), stress (46.9%), and depression (52.3%) compared to the findings of other studies from Afghanistan.[9,16] However, the findings on mental health symptoms in our study are still worrisome. Several studies from other developing nations showed mixed results on the levels of mental health symptoms in healthcare workers.[7,11,13,14] The inconsistent findings are not surprising since the exceptional severity and length of the ongoing conflict, future uncertainty, and financial constraints may have resulted in such overwhelming rates of mental health symptoms in healthcare workers.

In our study, we found different working locations had different effects on mental health symptoms, and there were urban-rural differences in the association between working location and mental health symptoms of healthcare professionals in

Table 3: The results of multivariable linear regression

Variables	B	SE	B	*t*	95% CI	*P*
Place of work[1]	3.8	1.15	0.10	3.35	1.6–6.15	0.001
Daily physical activity[2]	4.09	0.82	0.16	4.94	2.46–5.71	<0.001
Income lessened or unpaid salary[3]	3.49	0.83	0.13	4.18	1.85–5.13	<0.001
Thought of leaving Afghanistan[4]	5.78	0.84	0.22	6.86	4.13–7.44	<0.001
Smoking status	1.37	1.40	0.32	0.98	−1.37–4.12	0.325
Pre-existing medical condition[5]	5.17	1.3	0.12	3.96	2.61–7.73	<0.001
Marital status[6]	1.73	0.87	0.64	1.98	1.01–3.45	0.048

B=Unstandardized beta coefficient; SE=Standard error; B=Standardized beta coefficient; CI: Confidence Interval. [1]1=Urban; 0=Rural, [2]1=No; 0=Yes, [3]1=Yes; 0=No, [4]1=Yes; 0=No, [5]1=Yes; 0=No, [6]1=Single; 0=Married

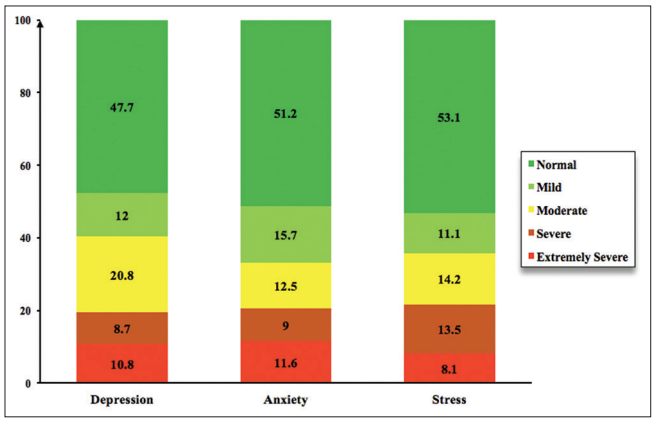

Figure 1: Depression, anxiety, and stress symptoms in healthcare workers

Afghanistan. The results of the present study showed that those working in urban areas had significantly scored higher in the DASS-21 total than those working in rural areas. Some studies conducted in developing countries are inconsistent on this aspect.[12-14] This variation may be due to disparities in sociodemographic characteristics, limited social networks and social interactions in urban settings, and other non-explored factors warranting further investigations.

Consistent with the literature, single marital status was more likely to report higher levels of mental health symptoms than married status.[8,11,14] The higher susceptibility to mental health symptoms in this subgroup may be due to low social and emotional support and limited social interaction at both the familial and societal levels. We recommend the provision of biopsychosocial support to this vulnerable group.

Our study also revealed that healthcare workers with a pre-existing medical condition and those not regularly participating in physical activity were more likely to experience mental health symptoms than their counterparts. These are well-documented risk factors for poor mental health.[8,12,14] These findings further confirm the role of physical inactivity and comorbidity on the risk of mental health symptoms.

In this study, about half (50.6%) of the participants either had a decrease in income or had not received a salary in the past six months. Our data indicate a fairly strong association between financial losses with mental health. Healthcare workers who either had a decrease in income or were unpaid their monthly salary significantly scored higher in the DASS-21 total than their counterparts. This potential stressor can be due to the deterioration of international donor funding for healthcare and the freezing of Afghan assets around the world.[1,2]

Finally, this study reported higher levels of mental health symptoms in healthcare workers who thought of leaving the country. The low standard of living and uncertain future in Afghanistan were the main reasons behind this thought.[21-23] Pertinent literature from other conflict-affected countries reports that financial crises, uncertainties, and low standards of living in the host countries are the principal reasons for the fleet of working health staff.[23,24] Hence, the current Afghan government should develop certain strategies to avoid financial adversities and the exodus of experienced healthcare workers.

Limitations

This study has limitations. Firstly, we employed the non-probability sampling method, thereby restricting the extent to which our findings can be generalized. Secondly, the scarcity of studies on mental health symptoms in Afghanistan limits our benchmarking. Thirdly, our data were only of the currently employed healthcare workers. Therefore, its generalizability is limited in terms of not including healthcare workers who are unemployed and could have more worrisome mental health conditions. Finally, our results are not conclusive about the causes of mental illness in healthcare workers because we did not have a comparison group.

Implications for practice/policy and future research

The increasing burden of mental health symptoms among Afghan healthcare workers creates a growing need for innovative and evidence-based interventions. Future investigations should help to clarify the root causes of poor mental health in Afghan healthcare workers using quantitative and qualitative research methods.[25] Another venue to explore will be workplace violence against healthcare workers in Afghanistan.

Conclusion

This study highlights the important findings about the psychological well-being of healthcare workers in Afghanistan. These findings suggest rapid, actionable, and locally relevant

interventions to assure potential improvements in working and living conditions for the health staff.

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Conflicts of interest

There are no conflicts of interest.

References

1. Quadri SA, Ahmadi A, Madadi S, Qaderi S, Lucero-Prisno DE. Taliban takeover of Afghanistan: What will be its impact on healthcare? Med Confl Surviv 2022;38:109–15.
2. Ahmad A, Rassa N, Orcutt M, Blanchet K, Haqmal M. Urgent health and humanitarian needs of the afghan population under the Taliban. Lancet 2021;398:822e825.
3. Stanikzai MH, Hashim-Wafa M. Tuberculosis (TB) care challenges in post-conflict settings: The case of Afghanistan. Indian J Tuberc 2022;69:383–4.
4. Essar MY, Hasan MM, Islam Z, Riaz MMA, Aborode AT, Ahmad S. COVID-19 and multiple crises in Afghanistan: An urgent battle. Confl Health 2021;15:70.
5. Britten S, Amer M. Preventing collapse of the Afghan health service. Lancet 2021;398:1481.
6. PLOS Medicine Editors. Health care in danger: Deliberate attacks on health care during armed conflict. PLoS Med 2014;11:e1001668.
7. Gangat SA, Islam Z, Nchasi G, Ghazanfar S, Muzzamil M, Abbas S, *et al*. Impact of ongoing conflict on the mental health of healthcare workers in Palestine. Int J Health Plann Manag 2022;37:1855–9.
8. Muller AE, Hafstad EV, Himmels JPW, Smedslund G, Flottorp S, Stensland SØ, *et al*. The mental health impact of the covid-19 pandemic on healthcare workers, and interventions to help them: A rapid systematic review. Psychiatry Res 2020;293:113441.
9. Cardozo BL. Mental health, social functioning, and disability in Postwar Afghanistan. JAMA 2004;292:575.
10. Busch IM, Moretti F, Mazzi M, Wu AW, Rimondini M. What we have learned from two decades of epidemics and pandemics: A systematic review and meta-analysis of the psychological burden of frontline healthcare workers. Psychother Psychosom 2021;90:178-90.
11. Elhadi M, Msherghi A, Elgzairi M, Alhashimi A, Bouhuwaish A, Biala M, *et al*. Psychological status of healthcare workers during the civil war and COVID-19 pandemic: A cross-sectional study. J Psychosom Res 2020;137:110221.
12. Palgi Y, Ben-Ezra M, Langer S, Essar N. The effect of prolonged exposure to war stress on the comorbidity of PTSD and depression among hospital personnel. Psychiatry Res 2009;168:262–4.
13. Elhadi M, Khaled A, Malek AB, El-Azhari AE-A, Gwea AZ, Zaid A, *et al*. Prevalence of anxiety and depressive symptoms among emergency physicians in Libya after civil war: A cross-sectional study. BMJ Open 2020;10:e039382.
14. Ben-Ezra M, Palgi Y, Wolf JJ, Shrira A. Psychiatric symptoms and psychosocial functioning among hospital personnel during the Gaza war: A repeated cross–sectional study. Psychiatry Res 2011;189:392-5.
15. Rahimi MP, Wafa MH, Stanikzai MH, Rahimi BA. Post-traumatic stress disorder (PTSD) probability among parents who live in Kandahar, Afghanistan and lost at least a child to armed conflict. Sci Rep 2023;13:3994.
16. Mohammadi AQ, Neyazi A, Rangelova V, Padhi BK, Odey GO, Ogbodum MU, *et al*. Depression and quality of life among Afghan healthcare workers: A cross-sectional survey study. BMC Psychol 2023;11:29.
17. Osman A, Wong JL, Bagge CL, Freedenthal S, Gutierrez PM, Lozano G. The depression anxiety stress scales-21 (DASS-21): Further examination of dimensions, scale reliability, and correlates. J Clin Psychol 2012;68:1322–38.
18. Stanikzai MH, Wahidi MW. Bio-psycho-social profile of people with substance use disorders treated in locally assigned treatment facilities in Kandahar, Afghanistan. Subst Abuse Rehabil 2023;14:89–98.
19. Henry JD, Crawford JR. The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. Br J Clin Psychol 2005;44:227–39.
20. International Business Machines Corporation, IBM SPSS Statistics for Windows, Version 21.0, IBM Corporation, Armonk, NY, USA. 2012.
21. Stanikzai MH, Wafa MH, Akbari K, Anwary Z, Baray AH, Sayam H, *et al*. Afghan medical students' perceptions, and experiences of their medical education and their professional intentions: A cross-sectional study. BMC Med Educ 2023;23:569.
22. Burnham G, Malik S, Dhari Al-Shibli AS, Mahjoub AR, Baqer AQ, Baqer ZQ, *et al*. Understanding the impact of conflict on health services in Iraq: Information from 401 Iraqi refugee doctors in Jordan. Int J Health Plan Manag 2011;27:e51-64.
23. Stanikzai MH. Need for rapid scaling-up of medical education in Afghanistan: Challenges and recommendations. Indian J Med Ethics 2023;8:342–3.
24. Misau YA, Al-Sadat N, Bakari Gerei A. Brain-drain and health care delivery in developing countries. J Public Health Afr 2010;1:e6.
25. Stanikzai MH, Wafa MH, Rahimi BA, Sayam H. Conducting health research in the current Afghan society: Challenges, opportunities, and recommendations. Risk Manag Healthc Policy 2023;16:2479–83.