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Psychological Well-being and Its Predictors among Doctors in Tertiary Care Hospitals of Rawalpindi and Islamabad, Pakistan

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ABSTRACT

Psychological well-being (PWB) is a very important aspect of doctors' lives since their work is associated with a lot of stress. In Pakistan, the area has not been frequently studied to understand how PWB, as a multidimensional concept, appears among the doctors. **Objectives:** To assess the psychological well-being and factors affecting it among medical professionals working in tertiary care hospitals of Rawalpindi and Islamabad, Pakistan. **Methods:** A cross-sectional study was carried out among 385 doctors recruited through convenience sampling from April to June 2025 online-based structured questionnaire comprising sociodemographic information and the Ryff Psychological Well-Being Scale. Participant characteristics and well-being scores were summarized using descriptive statistics. Predictors of psychological well-being were identified using multiple linear regression analysis (p<0.05). **Results:** Among 385 doctors, 52.7% were male, and 47.3% were female. Descriptive analysis showed higher psychological well-being scores for Personal Growth (14.1 ± 2.6), Autonomy (13.7 ± 2.8), and Self-Acceptance (12.9 ± 2.7), with a total well-being score of 65.8 ± 11.5. The regression analysis revealed that marital status (β = 0.19, 95% CI [0.96, 4.26], p=0.002) and duty hours per day (β = −0.25, 95% CI [−4.66, −1.28], p=0.001) emerged as significant PWB predictors. Gender, age, years of service, and department were found to be non-significant predictors. **Conclusions:** Moderate psychological well-being was reported by doctors working in tertiary care hospitals, which was impacted by marital status and duty hours. It is advised to improve doctors' well-being and their professional performance through the use of workload management, institutional support, and mental health programs.

INTRODUCTION

Psychological well-being (PWB) has come to be regarded more and more as one of the key indicators of mental health and general functioning. Besides, among all the medical professionals, doctors in particular are the ones who keep PWB as an integral part of their lives since their jobs are very stressful. Doctors get burnt out, suffer anxiety, and even go into depression brought on by long hours, a heavy load of patients, and daily exposure to emotionally draining situations, which, in turn, negatively affect the physicians' well-being and the quality of the patient care [1]. Consequently, the evaluation and support of doctors' mental health become very important for the sustainability of effective healthcare delivery. Psychological well-being is a reflection of an individual's emotional, cognitive, and social life, covering the individual's personal judgments about the quality of life, like life satisfaction and emotional experiences, which also include positive and negative impacts [2]. Psychological well-being is a powerful predictor of well-being, as it has been associated with, among others, reduced use of coping strategies, emotional exhaustion, and vulnerability [3]. The pandemic caused by the virus COVID-19 has caused these difficulties to be more

recognized and has led to higher levels of stress, burnout, and post-traumatic symptoms among healthcare professionals all over the world [4]. And as a result of this, studies have classified burnout as one of the top occupational issues in the health sector, recognizing its importance [5]. The main factors leading to burnout are excessive workloads, poor work-life balance, emotional strain, and the stigma surrounding mental health issues [2, 6]. Although there has been an increasing recognition of the fact that healthcare professionals undergo a lot of occupational stress, the multidimensionality in the assessment of psychological well-being has not been empirically researched in Pakistan [7, 8]. The bulk of local research has concentrated on stress and burnout, whereas a handful have made use of validated instruments to measure positive mental health indicators [9, 10]. The current research fills this void by assessing the psychological well-being of medical practitioners in Rawalpindi's tertiary care hospitals and its determinants by using a validated Psychological Well-being Scale [11]. Moreover, the understanding of the aspects that affect the psychological well-being of doctors is very important for the creation of interventions that are targeted, supportive work environments, and the reinforcement of institutional policies. The need for understanding the mental health status of doctors is now more than ever due to the high stress and demanding nature of tertiary care settings [12].

The current literature investigating the well-being of doctors in Pakistan is limited to examining burnout and stress levels in unidimensional scales, and no one has used the valid multidimensional scale by Ryff in the tertiary hospitals of Rawalpindi/Islamabad. This loophole constrains context-based interventions. This research will give baseline multidimensional statistics on psychological well-being and predictors in this population that is understudied. This study aimed to evaluate the mental health condition of the doctors working in the tertiary care hospitals of the twin cities of Pakistan in order to provide feedback for the development of strategies aimed at building resilience, promoting mental well-being, and finally, ensuring the doctors perform optimally in their profession.

METHODS

A cross-sectional study including both descriptive and analytical components was conducted from April to June 2025 among doctors working in tertiary care hospitals located in Rawalpindi and Islamabad, Pakistan. The Institutional Review Board granted ethical approval (Ref: 596-AAA-ERC-AFPGMI). It was a voluntary participation process, and the complete data were used exclusively for academic research purposes. The study aimed to assess the level of psychological well-being and its predictors

among medical professionals. The number of doctors taken as a sample was 385, which was determined using the sample size calculator (https://www.calculator.net/sample-size-calculator.html) at a confidence level of 95%, with a margin of error of 5%, and assuming the population proportion of 50%. The method of convenience sampling was employed for the selection of participants from different departments, such as medical, surgical, emergency, pediatrics, and so forth. Only full-time doctors with at least one year of clinical experience, working in tertiary care hospitals located in Rawalpindi and Islamabad, were eligible to participate. Whereas medical interns and house officers were excluded due to their temporary or transitional roles, and doctors on long-term leave were also not excluded. A self-administered questionnaire consisting of two sections was utilized for data collection. The first section collected sociodemographic and professional information such as gender, age, marital status, years of service, department, and daily duty hours. The second section included the 18-item short version of Ryff's Psychological Well-Being Scale (PWB) [13], which assesses six dimensions, each consisting of 3 items: Autonomy, Environmental Mastery, Personal Growth, Positive Relations, Purpose in Life, and Self-Acceptance. Items were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Subscale scores were computed by summing item responses. Each subscale comprised three items, yielding a possible score range of 3–21, with higher scores indicating greater psychological well-being. Negatively worded items were reverse-scored in accordance with standard scoring procedures. The total psychological well-being score, calculated as the sum of all subscales, ranged from 18 to 126, with higher scores reflecting better well-being. The scale proved to be very reliable as the Cronbach's alpha was 0.92 [14]. It was also cross-validated in Pakistan [11], and another study conducted in medical settings also reported that Cronbach's alpha was reported to be 0.94 [15]. Online as well as paper questionnaires were provided to the respondents in order to make participation easier. Electronic informed consent was obtained before accessing the online survey, where participants were provided the information and clicked on "I agree" in order to proceed. No personal identifiers were collected, and all responses were anonymous and stored securely.

The data analysis was done by using IBM SPSS Statistics version 27.0. In the study, descriptive statistics such as frequencies, percentages, means, and standard deviations were created in order to summarize participant characteristics and psychological well-being scores. In addition, the normality of the residuals was checked, and diagnostic tests for collinearity were carried out. As all VIFs were less than 5, this suggests the absence of

multicollinearity. So, the multiple linear regression analysis was performed to determine the psychological well-being predictors, and a p-value of less than 0.05 was regarded as statistically significant.

RESULTS

Results showed that 385 doctors working at tertiary care hospitals located in Rawalpindi and Islamabad were the ones to participate in this research. In the sample, male doctors were 52.7% and female doctors were 47.3%. The highest percentage of respondents was in the age group of 20 to 30 years (45.5%), followed by 31 to 40 years old (36.1%) and over 40 years old (18.4%). Single participants constituted 40.8% and married ones 59.2%. According to the years of professional service, 26.0% had more than 10 years of experience, 34.3% had 5-10 years, and 39.7% had less than 5 years of experience. Most of the responding doctors (29.9%) were from the medical specialties, followed by the surgical (23.9%), emergency (19.2%), pediatric (15.8%), and other (11.2%) groups. On the other hand, 44.9% of the participants reported working more than 8 hours a day, 36.1% worked 7-8 hours, and 19.0% worked less than 7 hours a day (Table 1).

Table 1: Sociodemographic Characteristics of the Study Participants (n=385)

Variables	Category	n (%)
Gender	Male	203 (52.7%)
	Female	182 (47.3%)
Age (Years)	20–30	175 (45.5%)
	31–40	139 (36.1%)
	41–50	71 (18.4%)
Marital Status	Married	228 (59.2%)
	Unmarried	157 (40.8%)
Years of Service	< 5 Years	153 (39.7%)
	5–10 Years	132 (34.3%)
	> 10 Years	100 (26%)
Departments	Emergency	74 (19.2%)
	Medical	115 (29.9%)
	Surgical	92 (23.9%)
	Pediatrics	61 (15.8%)
	Others	43 (11.2%)
Duty Hours (Per Day)	< 7 Hours	73 (19%)
	7–8 Hours	139 (36.1%)
	> 8 Hours	173 (44.9%)

Descriptive statistics for six subscales and the total psychological well-being score are depicted. Each subscale included three items, which were rated on a 1 to 7 scale (theoretical range 3–21); thus, the total score ranged from 18 to 126. The observed total scores were 36 to 120, and subscale scores were averaged over the observed ranges as shown. The predefined cutoffs (18–48 low, 49–78 moderate, 79–102 high, 103–126 very high) indicate that the mean total well-being score of 65.8 ± 11.5 is in the moderate range, which means that participants reported moderate psychological well-being across all dimensions (Table 2).

Table 2: Descriptive Statistics of Psychological Well-being Scores (n=385)

Subscales	Mean	Observed Range		Theoretical Range	
		Minimum	Maximum	Minimum	Maximum
Autonomy	13.7 ± 2.8	6	20	3	21
Environmental Mastery	11.0 ± 3.2	5	20	3	21
Personal Growth	14.1 ± 2.6	8	20	3	21
Positive Relations	12.8 ± 2.9	6	20	3	21
Purpose in Life	11.3 ± 3.1	5	20	3	21
Self-Acceptance	12.9 ± 2.7	6	20	3	21
Total Well-being Score	65.8 ± 11.5	36	120	18	126

To identify potential predictors, a multiple linear regression analysis was conducted using the total well-being score as the dependent variable and demographic/professional characteristics as independent variables. The model was statistically significant (F (7, 377) = 14.92, p<0.001) and explained 21.7% of the variance in psychological well-being ($R^2 = 0.217$). Among all variables, marital status (β = 0.19, 95% CI [0.96, 4.26] p=0.002) and duty hours per day (β = –0.25, 95% CI [–4.66, –1.28] p=0.001) emerged as significant predictors. Doctors who were married and those with shorter duty hours reported higher psychological well-being. Other variables, including gender, age, years of service, and department, were not statistically significant (Table 3).

Table 3: Multiple Linear Regression Analysis Predicting Psychological Well-being (n=385)

Side Effect	B	SE	Beta (β)	t	p-value
Gender (Male=1)	1.07	0.91	0.07	1.18	0.240
Age Group	0.58	0.49	0.06	1.18	0.240
Marital Status (Married=1)	2.61	0.84	0.19	3.10	0.002
Years of Service	0.43	0.39	0.05	1.09	0.280
Department	–0.21	0.26	–0.04	–0.82	0.410
Duty Hours	–2.97	0.86	–0.25	–3.45	0.001
Constant	70.12	3.47	—	20.18	<0.001

Model Summary: $R^2 = 0.217$, F (7,377) = 14.92. p<0.001.

DISCUSSION

The present study explored the level of psychological well-being and its predictors among doctors working in tertiary care hospitals located in Rawalpindi and Islamabad. The sample consisted of 385 full-time doctors from different areas of specialization, ages, and experience, which in a broad sense mirrored the demographics of urban tertiary hospital doctors in Pakistan. The study findings showed that the psychological well-being was at a moderate level (65.8 ± 11.5), which indicated that doctors have professional competence but still experience considerable emotional

and occupational challenges. These findings are consistent with previous national and international studies reporting moderate to low psychological well-being among doctors, primarily due to excessive workload, limited rest, and high emotional demands of clinical practice [16, 17]. Moreover, among the analyzed variables, marital status and daily working hours proved to be the most important factors influencing psychological well-being. The married medical professionals exhibited greater well-being scores (β = 0.19, p=0.002). The results of this research are consistent with earlier investigations, which also noted that healthcare professionals with marital status usually have better psychological health and quality of life than the unmarried ones [18, 19]. One possible explanation, as suggested by the literature, is that marriage as an emotional, practical support, along with family companionship, could potentially mitigate work stress [20]. But the current study did not take social support or similar factors into account; therefore, this interpretation is still a matter of speculation. On the other hand, longer duty hours were identified as a negative predictor of psychological well-being (β = –0.25, p=0.001), which means that long work shifts combined with almost no recovery time led to fatigue, burnout, and emotional exhaustion. The result corresponds with earlier studies, which pointed to heavy workload as the most significant factor causing poor mental health in healthcare workers [21, 22]. The negative correlation that was found stresses the importance of the introduction of the necessary measures in the health sector, such as optimal scheduling, rotation of duties, and wellness programs, which would help to keep a work-life balance [23]. Findings also have shown that other factors like gender, age, years of service, and department did not play a significant role in determining psychological well-being. These findings are consistent with previous literature, which also reported minimal or no association between demographic and well-being [24, 25]. This suggests that demographic variables might affect well-being less than factors related to the organization and the social environment, although the lack of diversity in our sample might have been a reason for these findings to be null. The current study findings point out the necessity of promoting mental health as a strategy in the hospital systems. Regular psychological screening, peer support programs, stress management workshops, and resilience training as interventions could increase the well-being and functioning of the doctors.

The cross-sectional design eliminates causality. The convenience sampling restricts generalizability. Self-reported information is prone to bias. The major confounders (social support, financial stress, and mental health history) were not measured. The dimensional depth is diminished in the short-form Ryff scale. City-single-time single-city design might not indicate seasonal or regional differences. Enact duty hour restrictions, institutional mental health programs, and frequent well-being screening. The following research must apply probability sampling, longitudinal, multicentric, and mixed-method designs. Add more predictors (workplace harassment, family support, coping strategies). Check the scale of Ryff against Pakistani healthcare population.

CONCLUSIONS

The research concludes that doctors working in tertiary care hospitals have shown a moderate level of psychological well-being, which is mainly affected by their marital status, long duty hours, and other sociodemographic factors, while marital status and duty hours are potential predictors of psychological well-being.

Authors' Contribution

Conceptualization: MAS, SQZ
Methodology: MAS, SHS, SQZ, SK
Formal analysis: SK
Writing and Drafting: MAS, SHS, SQZ, SK, AAM
Review and Editing: MAS, SHS, SQZ, SK, AAM

All authors approved the final manuscript and take responsibility for the integrity of the work.

Conflicts of Interest

All the authors declare no conflict of interest.

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