

## ASSESSING THE MENTAL HEALTH STATUS AND SLEEP QUALITY AMONG HOUSE OFFICERS IN PESHAWAR

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### INTRODUCTION

According to World Health Organization, "Mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community".<sup>1</sup> A good mental health status of doctors is not only important for the doctor as an individual but it is also important for delivering health care services to the population.<sup>2</sup> Previous studies have shown high rates of mental health problems among doctors which includes depression, anxiety and suicidal thoughts being at the top of the list and the main contributing factors are challenging working environment, long working hours and sleep deprivation.<sup>3,4</sup> Although depression levels are variable,

but the ratio is high among young doctors.<sup>5</sup> Nearly half of the newly graduate doctors under study were found to have significant distress. Female doctors were more distressed compared to males. Lack of leisure time and over-work were the main factors contributing to the high levels of mental distress. Other minor factors were migration from another country and gender differences.<sup>6</sup> Doctors are mostly found to be reluctant in getting treatment for their mental illness because they must meet up to the expectations around them that doctors cannot be patients, they fear that patients would not prefer to be treated by them if they are unwell themselves and they would be seen as less competent. Therefore, they keep their illness a secret.<sup>3</sup> They also have the fear of breach of confidentiality and privacy.<sup>4</sup> 70% of Pakistani healthcare professionals consider

### ABSTRACT

#### OBJECTIVES

*The aim of this study was to assess the mental health status and quality of sleep among house officers in Peshawar and to determine the correlation between their mental health status and quality of sleep.*

#### METHODOLOGY

*This was a cross-sectional study, conducted on house officers of four tertiary care hospitals in Peshawar. Data was collected through a self-administered questionnaire using convenience sampling technique. Pittsburgh sleep quality index (PSQI) scale was used for assessing the sleep quality and Warwick Edinburgh mental wellbeing scale (WEMWBS) was used for assessing the mental health status of the respondents.*

#### RESULTS

*Among the 276 house officers, the mean mental health score was 48.13±9.17, and mean sleep quality score was 6.39±3.27. In comparison, female House officers had poor mental health status (female: 45.72±9.32, male: 49.83±8.70,  $p < 0.05$ ) and sleep quality (female: 6.91±3.77, male: 6.03±2.82,  $p < 0.05$ ). The hospital status showed no significant association between sleep quality ( $p$  value: 0.778) and mental health score ( $p$  value: 0.573). Furthermore, quality of sleep had a positive correlation with mental health status of house officers ( $p < 0.01$ ).*

#### CONCLUSION

*Mental health status and quality of sleep among house officers was poor. Female house officers had a poor mental well-being and a poor sleep quality compared to male house officers. There was no significant difference between the mental health status and quality of sleep, of house officers working in public hospitals and those working in private hospitals. House officers having a poor sleep quality also had a poor mental health status showing a positive correlation between the two.*

**KEYWORDS:** *Mental Health, Sleep Quality, Public Hospitals, Private Hospitals*

themselves to be under occupational stress which not only harms the wellbeing of healthcare professionals but also results in a poor patient care.<sup>7</sup> According to the studies conducted in Peshawar, 10.9% doctors are facing various mental health issues and the stress levels among female doctors are 21%.<sup>8,9</sup> Lack of sleep is the most important factor contributing to stress followed by workload, working conditions, role overload, unrealistic demands of patients and night shifts.<sup>10</sup> Junior doctors were working 7 hour/week more as compared to senior doctors and they suggested for their working hours to be reduced by 20 hours and majority of them were under occupational stress.<sup>11</sup> Further research needs to be conducted on assessing mental health of doctors as this subject is mostly neglected in Pakistan.<sup>12</sup> Sleep quality measures whether the sleep of an individual is restful and restorative.<sup>13</sup> Poor sleep quality of medical residents is associated with fatigue, lack of concentration, along with chronic manifestations such as irritable bowel syndrome, heartburn and gastric ulcers.<sup>14</sup> Lack of adequate sleep also results in cardiovascular diseases and mental disorders.<sup>15</sup> Nightshift work can cause un-restful sleep leading to daytime somnolence, decreased alertness and an increase the risk of medical errors, occupational injuries and car accidents.<sup>16</sup> The general and physical fatigue, nightshift work, and increased working hours are predictors for doctors finding their patient irritating and for having less compliance in their relationship with patients.<sup>17</sup> A study conducted on house officers in hospitals of Pakistan showed 36.8% of the house officers had a poor sleep quality which had a positive association with female gender, excessive daytime sleepiness and sleep disturbances.<sup>18</sup> There is not much research done in Pakistan on these important issues and therefore there is a need to highlight the mental health status and sleep patterns of doctors. This study has been narrowed down to house officers working in public and private tertiary care hospitals in Peshawar. The study will consequently help in identifying the sleep patterns, and mental health issues faced by newly qualified doctors and in developing strategies to ensure a good mental health status and proper sleep patterns of doctors which will also have a positive impact on overall patient care. The aim of this study is to assess the mental health status and quality of sleep among house officers in Peshawar, to assess the association between gender and hospital status with the mental health and sleep quality of house officers, to determine the correlation between mental health status and sleep quality of house officers.

## METHODOLOGY

This is a cross sectional study conducted on house officers of Four tertiary care hospitals in Peshawar, two

of which were public sector hospitals i.e., Khyber teaching hospital and Hayatabad medical complex and two were private sector hospitals i.e., Rehman Medical Institute and Naseer teaching hospital. According to the formula sample size was calculated to be 276, taking population size of house officers in Peshawar to be 1200, with a confidence level of 95%. Convenience sampling technique was used to collect data.<sup>19</sup> After ethical approval/permission to conduct research was granted by the institute, an informed consent was taken from house officers who volunteered to participate in our study. Data was collected through a self-administered questionnaire. Pittsburgh sleep quality index (PSQI) scale was used for assessing the sleep quality and Warwick Edinburgh mental wellbeing scale (WEMWBS) was used for assessing the mental health of the respondents.<sup>20,21</sup>

## RESULT

Out of 276 house officers that participated in the study, 58.7% (162) were males and 41.3% (114) were females. 58.3% (161) of the participants were doing their house job in public sector hospitals while 41.7% (115) were from private sector hospitals. 22.5% (62) of the house officers were married and 77.5% (214) were unmarried. 66.3% (183) of them were living in homes while 33.7% (93) were living in hostel (Table 1). An independent t-test was conducted, and it showed a statistically significant difference between the mean sleep quality score of males ( $n=162$ ,  $x=6.03$ ,  $SD=2.82$ ) and females ( $n=114$ ,  $x=6.91$ ,  $SD=3.77$ ),  $p=0.036$ . No statistically significant difference was observed between the house officers of public hospitals ( $n=161$ ,  $x=6.35$ ,  $SD=3.25$ ) and private hospitals ( $n=115$ ,  $x=6.46$ ,  $SD=3.30$ ),  $p=0.778$  (Table 2). A one sample t-test was conducted, and it showed a statistically significant difference between the mean mental health score of house officers working in hospitals in Peshawar compared to the mean mental health of general population ( $x=48.13$ ,  $SD=9.175$ ,  $p<0.05$ ) (Table 3). A t-test was conducted, and it showed that there was a statistically significant difference between the mean mental health score of males ( $n=162$ ,  $x=49.83$ ,  $SD=8.70$ ) and females ( $n=114$ ,  $x=45.72$ ,  $SD=9.32$ ),  $p=0.000$ . No statistically significant difference was found between the house officers of public hospitals ( $n=161$ ,  $x=48.40$ ,  $SD=9.03$ ) and private hospitals ( $n=115$ ,  $x=47.77$ ,  $SD=9.39$ ),  $p=0.573$  (Table 4). Pearson product correlation of sleep quality score and mental health score of house officers was found to be low negative and statistically significant ( $r=-.216$ ,  $p<0.01$ ). This shows that a decrease in sleep quality score would lead to a higher mental health score Table 5.

**Table 1: Frequency and Percentages of Demographic Variables of the Study (N=276)**

Variable	Frequency	Percent	Valid percent	Valid percent	Cumulative percent
<b>Gender</b>					
Male	162	58.7	58.7	58.7	58.7
Female	114	41.3	41.3	41.3	100.0
<b>Hospital Status</b>					
Public	161	58.3	58.3	58.3	58.3
Private	115	41.7	41.7	41.7	100.0
<b>Marital Status</b>					
Married	62	22.5	22.5	22.5	22.5
Unmarried	214	77.5	77.5	77.5	100.0
<b>Residence</b>					
Home	183	66.3	66.3	66.3	66.3
Hostel	93	33.7	33.7	33.7	100.0

**Table 2: Comparison of Means of Sleep Quality Score among House Officers Based On Gender and Hospital Status**

Variables	N	Sleep Quality Score	
		Mean±SD	P-Value
<b>Gender</b>			
Male	162	6.03±2.82	0.036
Female	114	6.91±3.77	
<b>Hospital Status</b>			
Public	161	6.35±3.25	0.778
Private	115	6.46±3.30	

**Table 3: One Sample T Test Showing Mean Mental Health Score of the Sample in This Study**

	Mean	Standard Deviation	P-Value
<b>Mental Health</b>	48.13	09.175	0.000

**Table 4: Comparison of Means of Mental Health Score among House Officers Based on Gender and Hospital Status**

Variables	N	Mental Health Score	
		Mean±SD	P-Value
<b>Gender</b>			
Male	162	49.83±8.70	0.000
Female	114	45.72±9.32	
<b>Hospital Status</b>			
Public	161	48.40±9.03	0.573
Private	115	47.77±9.39	

**Table 5: Correlation between Mental Health Score and Sleep Quality Score among the Participants**

Sleep Quality Score	Mental Health Score
01	
-0.216**	01

## DISCUSSION

The aim of this study was to assess the mental health and quality of sleep among house officers and to further specify the study on the basis of gender and hospital status for further insights on the objectives of

our study. We also aimed to find a correlation between quality of sleep and mental health status of house officers. The average score of WEMWBS was found to be 48.13 which is lower than the general population score of UK ( $x = 51$ )<sup>22</sup> indicating a relatively poor mental health status of the house officers in our study. This finding is similar to that of (Waqas Ahmad et al., 2015) which also found the mean mental health score of health care providers in Pakistan to be 48.1.<sup>11</sup> In our study, the mean mental health score of male house officers ( $x = 49.83$ ) was found to be significantly higher than the mean score of female house officers ( $x = 45.72$ ) indicating a relatively lower mental health status of females as compared to males. This supports the studies by (Waqas Ahmad et al., 2015) and (Alami.Y.Z et al., 2018) who had similar findings. Our findings are, however, slightly lower than the mean scores found by (Wilson et al., 2015) which were 50.3 for men and 49.6 for women.<sup>11,23,24</sup> Our study found no significant difference between the mental well-being of doctors working in public sector hospitals compared to the doctors working in private sector hospitals. This contradicts the study by (Qaisar Suleman et al., 2013) which showed that doctors working in public sector hospitals were stressed more than doctors working in private sector hospitals and this study also elaborated on the factors contributing to increased stress among doctors working in public sector hospitals compared to private sector hospitals which is a limitation of our study as we did not take into account any confounding factors.<sup>10</sup> The analysis of our global PSQI score indicated that about 70% of the doctors as a whole had a poor sleep quality which is quite higher compared to the study by (Kolo et al., 2017) which found poor sleepers to be 54.2% and (Diaz Ramiro et al., 2020) which found 44.8% of the health care workers to have a poor sleep quality.<sup>25,26</sup> This contrast may be because the participants in these studies were all health care members (doctors, nurses, paramedics and other hospital staff members) while our study is specifically focused on house officers in their first year of training. A study by (Issa B.A et al., 2014)<sup>[27]</sup> supports our finding that gender is not a significant predictor of poor sleep quality although more females than males appeared to have a poor sleep quality. Our study, however, contradicts the findings by (Ghalichi et al., 2013) which found a significant association between female gender and poor sleep quality.<sup>28</sup> In our study, we found a positive correlation between the quality of sleep and mental well-being of house officers. Only a few studies have linked these two factors. Our finding is similar to that of (Zulqernain et al., 2021) and (Sarwan Shaikh et al., 2015).<sup>29,30</sup> Our findings also support the study by (Liu.Y et al., 2022) which found a positive correlation between sleep disturbance and

mental health problems concluding that sleep disturbance increases the risk of developing mental health problems.<sup>31</sup>

## LIMITATIONS

In our study, we did not include various factors that could have affected the overall mental health and sleep quality such as the specialty of ward of the doctor, working hours, patient load, night shifts, history of mental or physical illness, substance abuse, physical inactivity and monthly pay of the doctor.

## CONCLUSION

From the data we analyzed, we conclude that doctors have a poor mental well-being score, and majority of the doctors are sleep deprived during their training. Female house officers have poor mental well-being and a poor sleep quality compared to male house officers. There was no significant difference between the mental health status and quality of sleep, of house officers working in public hospitals and those working in private hospitals. However, house officers having a poor sleep quality also had a poor mental health status showing a positive correlation between the two.

**CONFLICT OF INTEREST:** None

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