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A COMPARATIVE STUDY OF WORK STRESS, MENTAL WELLBEING AND FUNCTIONAL IMPAIRMENT AMONG PHYSICIANS IN PAKISTAN

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Abstract: The current study investigated the relationship and differences between work stress, mental wellbeing and functional impairment in medical and house officers. This cross sectional study included a total of 100 medical officers (males n=25 and females n=25) and house officers (males n=25 and females n=25) employed at various hospitals. Outcome measures included: Work Stress Scale, Warwick-Edinburgh Mental Wellbeing Scale, Weiss Functional Impairment Rating Scale and a self-reported demographic questionnaire. Questionnaires were administered after taking informed consent. SPSS version 20 was used to analyze the data. Findings revealed a significant positive relationship between work stress and functional impairment in terms of self-concept and social functioning. Also there was a significant negative relationship between mental wellbeing and functional impairment in terms of family relations, work adjustment, life skills, self-concept and social functioning. The findings suggest a greater emphasis to improve the work environment in order to reduce stress in a hospital settings.

Key words: work stress; mental wellbeing; functional impairment; medical officers; house officers; Pakistan

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Introduction

Work-related stress is defined as any harmful reaction that individuals usually have against excessive pressures and demands at working place (Health and Safety Executive, 2015). Individuals within the health care profession are widely regarded as a group vulnerable to high risk of work-related stress (Yang et al., 2017). Medical professionals have a demanding role and have to respond to needs of patients and their families in a swift manner. However, medical knowledge and procedure usually include some uncertainties and ambiguities that create stressful work conditions as any minor mistake can be costly, irreversible and harmful to individual's life (Chou, Li & Hu, 2014). Contemporary researchers suggest that work stress has increased many folds and is linked with national recession globally (Evans-Lacko et al., 2013). It has been suggested that whenever individuals tend to put an effort to deal with everyday jobs, tasks, or some type of force that are associated with their jobs; yet face complexity, strain, unease and worry in an attempt to manage, it is at this moment work stress tends to appear (Stranks, 2015).

Work and job stressors are linked with negative physical and mental health that poses a burden on individual and society at large (Ganster & Rosen, 2013). There are several theories outlining the causes of work stress, one explanation describes that people have different characteristics, in terms of individual

characteristics and coping styles and these specific characteristics are not predict that all individuals are not affected equally by the same stress (Pearlin, 2009). Another theory describes that particular conditions of work biologically induce stress, such as fear of job loss, high work load, burden, lack of control, unclear direction, risky physical working environment, long work hours, and incompatible job potential (Randall & Bodenmann, 2009).

Individuals with ideal mental health and wellbeing can apprehend their abilities, can cope well with normal stresses of life, work productively and effectively, and are able to contribute to society and country's economy (WHO, 2014). Mental wellbeing contains the mental ability to cause wellness and contentment that improve relations with others (Slade, 2010; Dillon, 2010) that otherwise can leads to inability to perform normal activities (Abdel-Rehman, Merrick & Balogun, 2012). Maximum level of stress can produce low level of accomplishment and workplace stress. Three sources of stress such as feeling choked and its consequence on life; feeling of poor management and resourced; and commencing with patients' despair all are associated to stress and psychiatric illness (Cruz & Abellan, 2015).

A management's lack of interest in emotional state of their employees is considered a notable lack of workplace stress management strategies (Koins et al., 2015). Recent evidence suggested that stress and

mental health has negative relationship and also, stress in the field of humanities is found to be more as compared to technological fields (Mustafae, 2012). Indigenous literature on this topic is scarce. Therefore, the primary objective of the study was to explore the relationship and differences between work stress, mental wellbeing and functional impairment in medical and house officers. Secondary objective of the study was to assess gender differences in this population.

Methodology

This cross sectional research study used a convenient sampling strategy to collect the study data. The sample consisted of (N=100) medical officers (males n=25 and females n=25) and house officers (males n=25 and females n=25) working in different hospitals in Lahore, Pakistan. Medical Officers (MOs) in Pakistan are those who have completed degree of Bachelor of Medicine/Bachelor of Surgery (MBBS) accountable for care and management of patients in the hospital wards. They are immediate responsible or trainings of House Officers (HOs) for handling cases and performing procedures. A house officer also called resident physician is a student of MBBS who received further training in any medical or surgical specialty while caring for patients under the supervision of a medical officer.

Assessment Measures

Demographic information questionnaire: A questionnaire was

used to collect demographic information such as age, gender, education, marital status, family system etc.

Work Stress Scale (WSS): Hargreaves (2007) is a standardized questionnaire to measure work stress. The questionnaire consists of 15 items pertaining to work stress. The questionnaire has responses of the participants measured through a five point Likert scale, (1) Never, (2) Rarely, (3) Sometimes, (4) Often, (5) All the time. The questionnaire has good psychometric properties.

The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS): This is a validated measure of mental wellbeing that has been used widely and seen as an effective tool. There is a 7-item (SWEMWBS) questionnaire that produces a single score. It is self-reported measure (for people aged 13+) to record 'statements about their thoughts and feelings. The reliability estimates for the SWEMWS is .79.

Weiss Functional Impairment Rating Scale Self-Report (WFIRS-S): The scale was developed by Weiss (2000) which evaluates how an individual is actually able to function. The questions are formed to assess not only symptoms, but also to what degree an individual's behavior or emotional problems have impacted various clinical relevant domains of functioning. It comprises of 70 items which are rated of impairment ranges 0 to 5. There are seven subscales named as; family, work, school, life skill, self-concept, social

and risk. Each subscale defines the functionality of individual on a particular domain. All items are rated on five point Likert scale, (1) Never, (2) Sometimes, (3) Often, (4) Very often, (5) Never applied. The reliability of the scale was .81.

Procedure

Study ethical approval was taken from DDPC (Departmental Doctoral Program Committee) of University of the Punjab. Permission was also obtained from the authors of the scales. Similarly, permission was obtained for data collection from the Medical Supritendent (MS) for the participating hospitals. Before data collection, researcher explained the importance of the research and also the nature of the tools to participants. Informed consent was obtained from study participants and it was explained that their participation is completely voluntary. After taking informed consent, participants were provided with questionnaires and they completed assessment measures. Participants were then thanked for their participation.

Statistical Analysis

Data was entered and analyzed by using SPSS software version 20. Reliability of the assessment scales was calculated through Cronbach's Alpha reliability measure. Frequencies and percentages were calculated for demographic variables. Pearson Product Moment correlations and Independent Sample t-test's were computed to assess the relationship and differences of demographic variables, work stress, mental

wellbeing and functional impairment in MOs and HOs.

Results

Descriptive statistics showed that mean age of Medical officers and house officers was $M=29.26$ and $M=25.26$ respectively. A total of 46% MOs belongs to nuclear family system while 54% were living in joint family system. Whereas, 58% of HOs were from nuclear family system and 42% were from joint family system. Majority of 56% MOs were single and 44% were married. Similarly, majority of 80% HOs were single and only 20% were married (see table 1).

Table I should be inserted here

Results described in table 2 indicated that work stress, mental wellbeing and functional impairment exhibited certain correlations. The results demonstrated that mental wellbeing had a significant negative relationship with functional impairment in domains of social concept and social functioning. Moreover, work stress was positively correlated with functional impairment in domains of family relations, work adjustment, life skills, self-concept and social functioning.

Table II should be inserted here

Findings from T-tests revealed that there was a significant difference in mental wellbeing within medical and house officers. The mental wellbeing of medical officers was better in comparison to house

officers. Further, there was no significant difference between work stress and functional impairment in medical and house officers.

Table III should be inserted here

Similarly, t-test results also revealed that there were no gender differences in work stress, mental wellbeing and functional impairment in medical and house officers (see table 4).

Table IV should be inserted here

Discussion

The study found that there was a significant positive relationship between work stress and functional impairment (self-concept and social functioning) illustrating medical and house officers with higher work stress have more impairment in self-concept and social functioning. Existing literature also confirmed the present findings, as Ramirez, Graham, Richards and Gregory (2000) highlighted that low job stress significantly protected consultants' mental health. Similarly, sources of stress were associated with burnout, overloaded feelings and its effect on home life, psychiatric morbidity fee, and feeling of poor management and resourced as well as dealing with patients' suffering.

Furthermore, mental wellbeing had a significant negative correlation with functional impairment. The results suggest that if one is functionally impaired in one domain of life it can also affect functional

impairment in other domains of life. This suggests that medical and house officers with poor mental wellbeing have more impairment in relationships, adjustment at workplace, life skills, self-concept and social functioning. Thus, doctors with more functional impairment reported poorer mental wellbeing. Similar results were also found in a study by Leonard et al., (2004) that showed prolonged periods of duty without sleep, can affect a doctor's wellbeing as well as their ability to carry out simple tasks.

There was a significant difference in mental wellbeing between medical officers and house officers. Medical officers had better mental wellbeing as compared to house officers however; there were no difference in work stress and functional impairment. There might be various other reasons for such results as house officers have long periods of duty hours that can affect their mental wellbeing (Rajgopal, 2010) due to poor sleep and work-life balance. Religion, culture, race, ethnicity and a person's own mindset plays an important role. Previous work suggested that junior doctors had poorer mental health than senior doctors (Tong, 2012) and work stress has disastrous effects and its impacts our wellbeing either positively or negatively (Burgess 2000; Mauno & Kinnunen, 2000; McVcar 2002; and Torkelson & Muhonen, 2003).

Moreover, findings from this study and previous literature indicated that both male and female

doctors have no significant difference in work stress, mental wellbeing and functional impairment. The present study provides evidence for the relationship of work stress, mental wellbeing and functional impairment in medical and house officers. However, a few limitations should be acknowledged.

As, a cross sectional research design was employed in the study, it was not possible to draw casual inferences from current research. Future research using longitudinal or experimental research design can help to identify a pathway of these variables over time on in different

conditions where causal direction can be clarified. The current research can only be implemented in the hospital settings and help us to understand how work stress and mental wellbeing affect functionality of doctors. The study suggests evaluation the most appropriate measures to improve the efficiency of work and reduce their work stress within a hospital setting.

Conflict of interest: There was no conflict of interest.

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Table I: Demographics Characteristics of Sample

Characteristics	Medical officers		House officers	
	(n=50)		(n=50)	
	<i>f</i> (%)	<i>M</i> (<i>SD</i>)	<i>f</i> (%)	<i>M</i> (<i>SD</i>)
Family system				
Nuclear	23(46)		29(58)	
Joint	27(54)		21(42)	
Marital status				
Single	28(56)		40(80)	
Married	22(44)		10(20)	
Age		29.26 (4.21)		25.2 (2.22)

Note. N=100, *f*= frequency, *M*= mean, *SD*= standard deviation

Table II: Correlation of Study Variables

Variables	1	2	3	4	5	6	7	8	9
1. Mental wellbeing	-	-.12	-.14	-.08	-.02	-.45**	-.27**	-.035	-.17
2. Work stress		-	.43**	.44**	.44**	.32**	.22*	.045	.58**
3. Family relations			-	.41**	.43**	.41**	.37**	.13	.57**
4. Work adjustment				-	.58**	.49**	.32**	.31**	.72**
5. Life skills					-	.58**	.32**	.32**	.74**
6. Self-concept						-	.51**	.27**	.68**
7. Social functioning							-	.17	.55**
8. Risk taking								-	.73**
9. Functional Impairment									-

Note. N=100, **p*<.05, ***p*<.01

Table III: Comparison of work stress, mental wellbeing and functional impairment in medical officers and house officers

Variable	Medical officers (n=50)		House officers (n=50)		<i>t</i>	<i>p</i>	95% CI of difference		Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>LL</i>	<i>UL</i>	
Work stress	43.26	8.51	43.24	7.54	.012	.99	-3.17	3.21	0.00
Mental wellbeing	26.36	4.94	24.36	4.15	2.18	.031	.18	3.81	0.43
Family	17.72	5.13	16.70	5.59	.95	.34	-1.11	3.15	0.19
Work	20.38	6.30	20.58	6.88	-1.15	.88	-2.80	2.40	-0.02
Life skills	26.34	6.72	26.46	6.47	-0.09	.92	-2.74	2.50	-0.18
Self-concept	9.16	3.40	9.68	4.04	-0.65	.49	-2.00	.963	-0.13
Social	14.24	4.62	15.64	5.12	-1.43	.15	-3.33	.537	-0.28
Risk	27.32	12.4	29.12	14.93	-0.65	.51	-7.25	3.65	-0.13
Functional impairment	1.15	26.8	1.18	29.32	-0.53	.59	.141	8.12	-0.01

Note. N=100, *M*= mean, *SD*= standard deviation, *LL*= lower limit, *UL*= upper limit

Table IV: Gender comparison in work stress, mental wellbeing and functional impairment of medical officers and house officers

Variable	Males		Females		<i>t</i>	<i>p</i>	95% CI of difference		Cohen's <i>d</i>
	(n=50)		(n=50)				LL	UL	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
Work stress	43.62	8.55	42.88	8.55	.46	.64	-2.44	3.92	0.08
Mental wellbeing	25.72	4.33	25.00	4.99	.77	.44	-1.13	2.57	0.15
Family	17.20	5.84	17.22	4.90	-.01	.98	-2.16	2.12	0.03
Work	21.78	7.15	19.18	5.59	2.02	.06	0.05	5.14	0.40
Life skills	25.70	6.97	27.10	6.13	-1.06	.28	-4.00	1.20	0.21
Self-concept	9.34	3.92	9.50	3.56	-.21	.83	-1.64	1.32	0.04
Social	15.44	4.91	14.44	4.89	1.01	.31	-.94	2.94	0.20
Risk	26.96	11.31	29.48	15.75	-.91	.36	-7.96	2.92	0.66
Functional impairment	1.16	30.74	1.16	25.21	-.08	.92	-11.6	10.65	0.0

Note. N=100, M= mean, SD= standard deviation,LL= lower limit, UL= upper limit