

## The prevalence of burnout syndrome and depression in relation to workability among physicians, Jeddah, Saudi Arabia

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### Abstract

**Introduction:** Workability described when a person is adept to work as most of the people, who are at the same age group and gender, are able to practice after a period of training. Burnout is a syndrome of emotional exhaustion, depersonalization, and lack of personal accomplishment. Lastly, depression is a mental illness that causes constant low mood and a sense of despair in the suffering person. This study aimed to improve workability in order to enhance the quality of medical care.

**Material and Methods:** Analytic cross-sectional study conducted to assess the relation between work ability index and burnout and depression, targeting physician working in Jeddah city.

**Result:** Of 930 physicians 288 completed the survey, the prevalence of moderate to severe burnout is 76.4%, 77.2%, 73.1% EE, DP, and lack of personal accomplishment respectively. While the prevalence of depression was 74.7%. There is a statistically significant association between WAI and DP (P=0.006) Lack of personal accomplishment (P= 0.019) and depression (P<0.001).

**Conclusions:** High level of depersonalization and lack of personal accomplishment and depression has evolved to poorer work ability.

**Keywords:** Burnout, Depression, Physician, Saudi Arabia, Workability index.

### Introduction

Workability described when a person is adept to work as most of the people, who are at the same age group and gender, are able to practice after a period of training, with respect to the work environment and that person can stand for the job. A person is able to work only if the essential occupational elements are provided as well as physical, mental and social well-being. Also, a person with more flexibility, coping strategies, will have higher workability.<sup>1</sup>

Burnout is a syndrome of emotional exhaustion, which people feel drained and not able to handle work stressors and do not have enough energy, second main area of burnout is alienation from work-related activities, people who find their work stressful and unbearable, they may also distance themselves and start feeling emotionless about their work. Third area of burnout syndrome is reduced performance; it mainly affects everyday tasks at work, home or caring for family members. People with burnout are very pessimistic about their tasks, find it difficult to concentrate, are uninspired and lacks vision.<sup>2</sup>

Globally, the healthcare organizations have realized the need to address physician's burnout as it not only affects the suffering doctors but also reflects the quality of care provided by these doctors. It is therefore very crucial to comprehend the factors that contribute to the increase in burnout in physicians as well as to try to decrease them.

Depression is a mental illness that causes constant low mood and a sense of despair in the suffering person, it makes a person feel sad, self-loathing, frustrated, hopeless, have low self-esteem and lose interest in things one usually enjoy, it is a considerable public health concern. It is troublesome to the workplace, with increased risk for physical health problems, poor job performance.<sup>3</sup>

Better understanding of factors that contribute to depression in the workplace could have important implications for public health and economic growth.

### Literature Review

In 2015 study issued that there is a significant association between workability index and anxiety "sleep loss". on another hand poorer mental demands correlate to workability.<sup>4</sup> The WAI has been used as a screening tool for long-term sickness absenteeism (LTSA), the lower the WAI the higher the chance of LTSA, where it was higher in manual worker compare to the office worker.<sup>5</sup> in another hand, The sickness absence predicted by 1.19% in a worker with decreased WAI.<sup>6</sup> WAI could be affected with numerous factors, BMI has significantly affect WAI, as well as depression, high workload, working hours, poor health status, physical exercise, age, work experience, weekly leisure time and financial problems. While there was no effect of age and job experiences,<sup>7-10</sup> A study was done in 2017 to assess WAI in nurses working in morning time in comparison with nurses working in shifting work, they conclude that there is no significant difference in there ability to work, and 75% of them have good to excellent WAI.<sup>11</sup> WAI was in the level of excellence to good in the worker with vigorous-intensity to moderate- intensity physical activity.<sup>12</sup> Depression is affecting WAI, in a way that a high level of depression will decrease the workability, exposing them to lose their jobs in comparison with those who preserved their workability.<sup>13</sup> The ability to work, altered by authority support, skilled and trained professional, sleep quality, job nature and level of education.<sup>14</sup> A meta-analysis study of 17 randomized control trial concludes that workplace has a positive effect on workability.<sup>15</sup>

Burnout is a psychological syndrome, that can arise in professions with high stress sitting. It is a triad of emotional exhaustion, depersonalization, and reduced personal accomplishment.<sup>16</sup> The physician burnout has serious sequels, which can disturb the physician wellbeing in either emotional, physical or social aspects. Also, it would adversely affect the work dynamic and quality of care.<sup>16</sup>

A considerable amount of literature has been focused on burnout syndrome within healthcare providers. Survey results of these studies have found that 25.2% of primary health care physicians, working under Minster of Health (Jeddah), experienced burnout syndrome that ranges from moderate to severe emotional exhaustion. Comparing between the general practitioners and family medicine physicians it has been shown that they had following prevalence of 76.8% and 67.3% respectively.<sup>17</sup> Moreover, study held in Brazil 2014 have found that 71% of Pediatrics intensive care residents are suffering from burnout syndrome while the prevalence among the general pediatric resident was lower by 29%.<sup>18</sup>

Burnout syndrome can be affected by either environmental factors (e.g. gender, age, marital status) and/or personality factors which include the neuroticism, extraversion, openness, consciousness, and agreeableness.<sup>19</sup>

Depression is a psychological condition where is person withdraws from his/her life. It manifests with depressed mood, diminished interest, significant weight loss, trouble sleeping, fatigue, feelings of guilt, unable to concentrate and thoughts suicide. It has an effect the person's function, which may have a large impact on the quality of work and job satisfaction. A local study estimated the prevalence of depression among adult visiting primary health care center as 49.9%.<sup>20</sup> Factor preceding to depression is variable, it could be affected by person personality, marital conflict, workload, and workplace violence.<sup>21,22</sup>

## Objectives

To Estimate the prevalence of burnout among physicians in Jeddah

To Estimate the prevalence of depression

To identify the association between burnout, depression and workability.

## Materials and Methods

### Study Design

Analytic cross-sectional study includes physicians working at governmental hospitals, and its linked Primary Health Care Centers and private hospitals.

### Sampling

Two stages sample techniques was adopted. Stage one Random sample from private and governmental hospitals include three governmental and two private hospital. All Primary Health Care Centers related to the governmental hospitals were included

Stage two all physicians working in the selected hospitals and PHCCs were recruited.

## Instruments

Following personal information questionnaire, A three instruments has been used the study: Workability Index, Patient health Questionnaire 9 items (PHQ-9) and Maslach Burnout Inventory (MBI).

WAI established by the Finish Institute of Occupational Health in the 1980s. It is a questionnaire-based method to measure how well a worker is able to fulfill his/her work. Seven Questions use to appraise current workability in seven aspects, at first in comparison with the lifetime best, then in relation to the demands of the job, a number of current diseases. Also, the estimated of work impairment due to diseases and sick leave during the past 12 months. Furthermore, the personal prognosis of workability two years from now, and mental resources. Each question is assessed with the specific score, then it is calculated by the sum of the points given of each question [7-27 poor, 28-36 moderate, 37-43 good, and 44-49 as an excellent]. It's reliable method as calculated by Cronbach's alpha of 0.8.<sup>19</sup> PHQ-9, it's a self-administrated questionnaire used to assess the presence and also the severity of depressions. The results of the PHQ-9 can be used to diagnose the depression according to DSM-IV criteria and takes less than 3 minutes to complete. The nine questions responses range from "0" (Not at all) to "3" (nearly every day). Questions to assess the interest in doing things, feeling down or depressed, difficulty with sleeping, energy levels, eating habits, self-perception, ability to concentrate, a speed of functioning and thoughts of suicide.<sup>23</sup> Its reliability is excellent with Cronbach's alpha of 0.93.<sup>24</sup> The result interprets accordingly, 0-4 minimal, 5-9 mild, 10-14 moderate, 15-19 moderately severe, and 20-27 severe.

MBI, Developed in 1997 by Christina Maslach And Susan Jackson. It's a reliable method to assess burnout syndrome, by estimate three components; emotional exhaustion, depersonalization, and reduced personal accomplishment. 22 items divided into three sub-scale, each item responses in a range from "0, never" to "6" every day". It takes 10 to 15 minutes to fill it up. The questionnaire to assess EE with nine items, five items for DP and eight for lack of personal accomplishment. The reliability is 0.90 for emotional exhaustion 0.79 for depersonalization and 0.71 for personal accomplishment. The result of the questionnaire will be interpreted as the following: in emotional exhaustion of more than 27, more than 10 in depersonalization and less than 33 in a low sense of personal accomplishments.<sup>6</sup> the score interpreted as following: IN EE;  $\geq 27$  as high, 19-26 moderate, 0-18 low. DP;  $\geq 10$  high, 6-9 Moderate, 0-5 low, while the lack of personal accomplishment, 0-33 high, 34-39 Moderate,  $\geq 40$  is low.

### Data collection techniques

After obtaining ethical approvals and permission from each hospital, an online questionnaire has been distributed to each medical specialty through head of department.

### Data analysis

This study was analyzed using IBM SPSS version 23. A simple descriptive statistics was used to define the

characteristics of the study variables through a form of counts and percentages for the categorical and nominal variables while continuous variables are presented by mean and standard deviations. A scoring system is use to define the variables WAI, PHQ-9, and MBI by a simple additive method, which were done manually.

This study used Chi-square test to correlate variables represented by counts and percentage. Lastly, a conventional p-value <0.05 was the criteria to reject the null hypothesis.

**Result**

Approximately 930 physicians working in the selected hospital, 288 responses where returned, represent 30.9% of target population. The physicians were predominantly Saudi 266(92.4%), 182 (63.2%) of them were female and 106 (36.8%) were male, with a mean age of 36.9 years of age. 177(61.5%) were Married followed by 85 (29.5%) were single and the mean of the number of children was 2.29 child. The greater responses were Resident 120 (41.7%) then consultant 89 (30.9%), and 68 (23.6%) specialist. The mean years of experience were 10.41 years. Regarding the night shift of the participant 157 (54.5%) of them had night shift while 131 (45.5%) of them responded with no. About 145 (50.3%) had income of SR15,000-25,000 and 109 (37.8%) had more than SR25,000. 205 (71.2%) of the participant was working in hospital sitting, while 83 (28.8%) were working in Primary health care centers. 217 (77.0%) declare that their strategy to cope with work stressors is talking to a friend, 206 (73.0%) handle their work stressors with spiritual practices, while 178 (63.1%) cope sleep and ignorance, 142 (50.4%) listen to music, 140 (49.6%) practice outdoor activity,123 (43.6%) meditate, 23 (63.9%) exercise. The prevalence of burnout among the physician is 14.8%, 16.8%, 32.5% in moderate EE, DP, and lack of personal accomplishment, while 61.6%, 60.4%, 40.6% is high respectively. Regarding prevalence of Depression was 45.3% mild, 14.7% Moderate, 9.8%moderately severe, and 4.9% severe. That showed no significant difference between the studied sittings (P=0.846 for EE, P= 0.989 for DP, P=0.280 lack of personal accomplishment, and P= 0.435 for depression). The result of

the analysis revealed statically significant association between workability index and DP (P=0.006) Lack of personal accomplishment (P= 0.019) and depression (P<0.001). Furthermore, there was no statically significant association between workability index and EE (p=0.057).

**Discussion**

This study aimed to determine the prevalence of burnout and depression among physician and its relation to the workability, the prevalence of burnout in Jeddah city hospitals and primary health care center was increasing in comparison with previous study in the three dimensions of burnout.<sup>17</sup> While the prevalence of depression was 74.7%, which showed raising percentage of the prevalence of depression in adult population in SA.<sup>3</sup>

The association between burnout syndrome and work ability index has been elaborated by the study in which higher level of depersonalization, and higher score in lack of personal accomplishment showed poorer ability to work, that demands restoring physician workability. The poor work ability index can be explained by poor professional self-esteem, and decrease work satisfaction. In another hand, workability index has an association with depression, with increase of depression score the ability of work decline. At organizational level, focus on providing support, rewarding and motivations to physicians. as well as, creating and flexible and controlled environment within work place in order to achieve ideal work situation that enable physician to provide the best medical care. Furthermore physician should learn about coping strategies, how to deal with work stressors, and manage personal and professional conflict.

This study had multiple limitations. First, the study is cross sectional that has less determine of causal effect. Second, the survey was online and self-reported with no observation. Third, outside stressors was not assessed. Moreover, this study had multiple strength. First, no local study done to assess workability index in relation to burnout syndrome and depression. Second, the participants were from all medical subspecialty, and different medical sitting and environment.

**Table 1:** Demographics

Demographics	Min	Max	Mean	SD
Age n=288	22	63	36.98	9.8
Number of children n=244	0	9	2.29	1.9
Years of experience n=288	1	56	10.41	
Working hours/week n=288	40	176	46.11	
	<b>Count</b>		<b>%</b>	
Gender n=288	Male	106	36.8	
	Female	182	63.2	
Nationality n=288	Saudi	266	92.4	
	Non-Saudi	22	7.6	
Marital status n=288	Single	85	29.5	
	Married	177	61.5	
	Divorced	22	7.6	
	Widow	4	1.4	
Position n=288	Fellow	11	3.8	

	Resident	120	41.7
	Consultant	89	30.9
	Specialist	68	23.6
If resident; Level of training n=120	R1	25	21.9
	R2	20	17.5
	R3	44	38.6
	R4	25	21.9
	Missing	6	
If fellow; Level of training: n=11	F1	4	40
	F2	4	40
	F3	2	20
	Missing	1	
Specialty n=288	Family medicine	88	31.3
	General Surgery	12	4.3
	Internal Medicine	26	9.3
	Obstetric Gynecology	27	9.6
	Pediatrics	36	12.8
	Other (please specify)	92	32.7
	Missing	7	
Does your work include night work n=288	No		131
	Yes		157
Income n=288	< SR 10,000		10
	SR 10,000 and SR 15,000		24
	SR 15,000 and SR 25,000		145
	> SR25,000		109
Working Place n188	Hospital		205
	PHCC		83

**Table 2:** Prevalence of burnout syndrome and depression

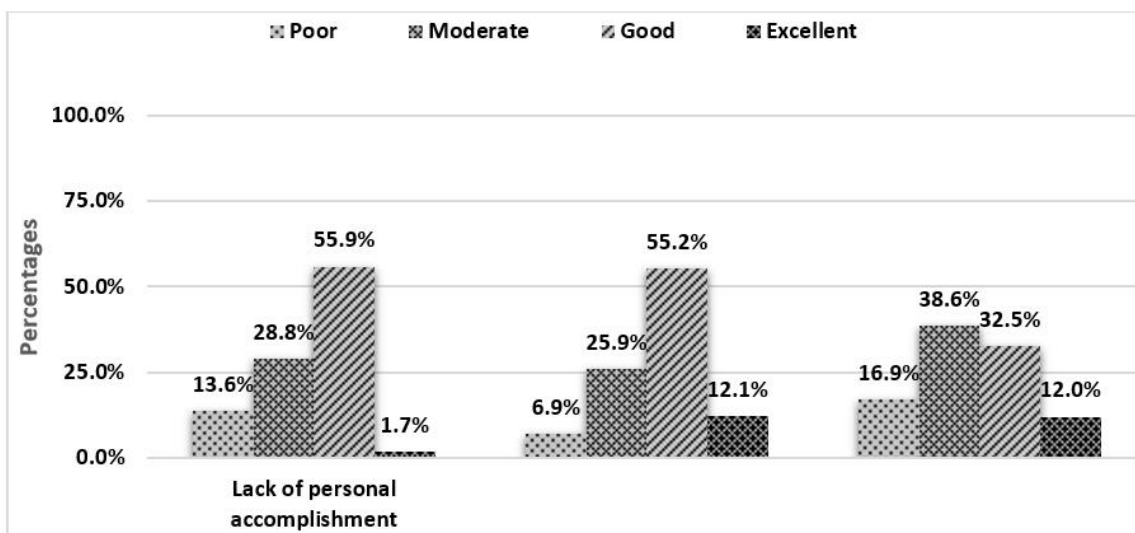
<b>Burnout</b>	<b>Low</b>		<b>Moderate</b>		<b>High</b>
<b>Emotional exhaustion</b>					
Hospital	43(24.6%)		26(14.9%)		106(60.6%)
PHCC	16(21.3%)		11(14.7%)		48(64.0%)
Total	59(23.6%)		37(14.8%)		154(61.6%)
<i>p-value</i>	<b>0.846</b>				
<b>Depersonalization</b>					
Hospital	40(22.9%)		29(16.6%)		106(60.6%)
PHCC	17(22.7%)		13(17.3%)		45(60.0%)
Total	57(22.8%)		42(16.8%)		151(60.4%)
<i>p-value</i>	<b>0.989</b>				
<b>Lack of personal accomplishment</b>					
Hospital	51(28.5%)		53(29.6%)		75(41.9%)
PHCC	16(22.9%)		28(40.0%)		26(37.1%)
Total	67(26.9%)		81(32.5%)		101(40.6%)
<i>p-value</i>	<b>0.280</b>				
	<b>Minimal</b>	<b>Mild</b>	<b>Moderate</b>	<b>Moderately sever</b>	<b>Sever</b>
<b>Depression</b>					
Hospital	41(24.0%)	75(43.9%)	26(15.2%)	18(10.5%)	11(6.4%)
PHCC	21(28.4%)	36(48.6%)	10(13.5%)	6(8.1%)	1(1.4%)
Total	62(25.3%)	111(45.3%)	36(14.7%)	24(9.8%)	12(4.9%)
<i>p-value</i>	<b>0.435</b>				

**Table 3:** Association between workability index and burnout syndrome and depression

Workability Index		Poor	Moderate	Good	Excellent	Total
Emotional exhaustion	Low	2(3.9%)	13(25.5%)	31(60.8%)	5(9.8%)	51(22.7%)
	Moderate	2(6.5%)	10(32.3%)	15(48.4%)	4(12.9%)	31(13.8%)
	High	24(16.8%)	50(35.0%)	53(37.1%)	16(11.2%)	143(63.6%)
<b>Total</b>		28(12.4%)	73(32.4%)	99(44.0%)	25(11.1%)	225(100.0%)
<b>p-value</b>		<b>0.057</b>				
Depersonalization	Low	2(4.1%)	10(20.4%)	29(59.2%)	8(16.3%)	49(21.8%)
	Moderate	1(2.6%)	16(41.0%)	17(43.6%)	5(12.8%)	39(17.3%)
	High	25(18.2%)	47(34.3%)	53(38.7%)	12(8.8%)	137(60.9%)
<b>Total</b>		28(12.4%)	73(32.4%)	99(44.0%)	25(11.1%)	225(100.0%)
<b>p-value</b>		<b>0.006<sup>a</sup></b>				
Lack of personal accomplishment	Low	8(13.6%)	17(28.8%)	33(55.9%)	1(1.7%)	59(29.5%)
	Moderate	4(6.9%)	15(25.9%)	32(55.2%)	7(12.1%)	58(29.0%)
	High	14(16.9%)	32(38.6%)	27(32.5%)	10(12.0%)	83(41.5%)
<b>Total</b>		26(13.0%)	64(32.0%)	92(46.0%)	18(9.0%)	200(100.0%)
<b>p-value</b>		<b>0.019<sup>a</sup></b>				
Depression	Minimal	4(4.0%)	25(24.8%)	59(58.4%)	13(12.9%)	101(44.7%)
	Mild	4(7.0%)	20(35.1%)	28(49.1%)	5(8.8%)	57(25.2%)
	Moderate	6(18.2%)	13(39.4%)	9(27.3%)	5(15.2%)	33(14.6%)
	Moderately severe	9(37.5%)	13(54.2%)	1(4.2%)	1(4.2%)	24(10.6%)
	Sever	5(45.5%)	2(18.2%)	3(27.3%)	1(9.1%)	11(4.9%)
<b>Total</b>		28(12.4%)	73(32.3%)	100(44.2%)	25(11.1%)	226(100.0%)
<b>p-value</b>		<b>&lt;0.001<sup>a</sup></b>				

<sup>a</sup>-significant using Chi-Square Test @< 0.05 level

\*p-value = 0.019



**Fig. 1:** Work ability Index vs. Lack of personal accomplishment

\*p-value = <0.001

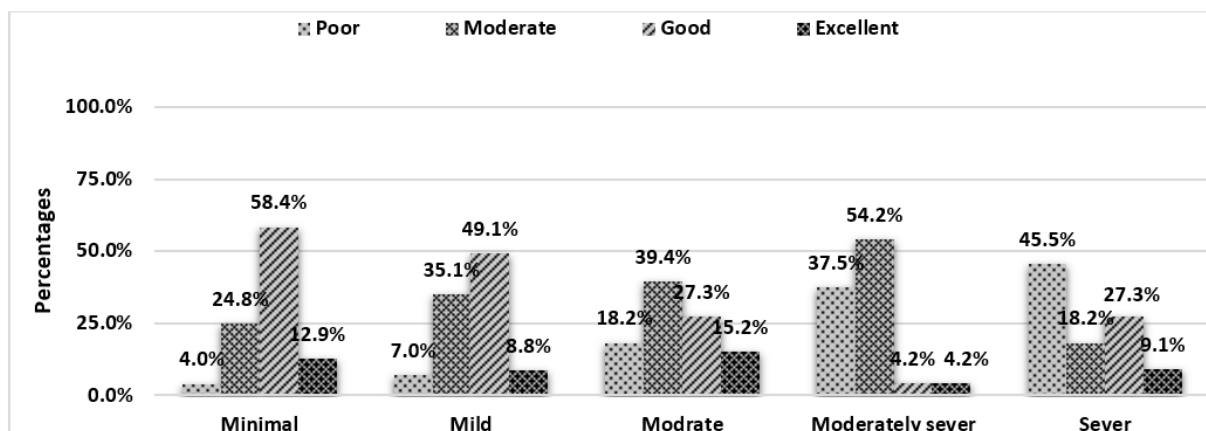


Fig. 2: Work ability Index vs. depression

## Conclusion

Burnout syndrome and depression has an impact on physician workability index, The prevalence of moderate to severe burnout among physician is 76.4%, 77.2%, 73.1% EE, DP, And lack of personal accomplishment respectively. While the prevalence of depression was 74.7%. High level of depersonalization and lack of personal accomplishment and depression has evolved to poorer work ability.

## Recommendations

There is a need to establish system in order to early recognize physician at risk, and provide support system and programs to train them of coping strategies. Future researches needed to focus on confirming the result and establish a causal relation between workability index and burnout syndrome and depression.

## Source of funding

None.

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