Full Length Research Paper

Depression among diabetic and hypertensive patients in Marj al- Hamam Health Center and Its relation with some variables

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Abstract

This study aims at examining the level of depression among diabetic and hypertensive patients in Marj Al-hamam health centre. Additionally, the effects of gender, age, types of disease, qualification, and type of work were also investigated with reference to the diabetic and hypertensive patients. The sample consists of 125 visiting patients, and the study instrument is the Beck scale. The findings of the study indicated that there are statistically significant differences at (α ≤ 0.05) in depression among diabetic and hypertensive patients based on the gender and type of job variables, whereas there are no statistically significant differences at (α ≤ 0.05) in depression among diabetic and hypertensive patients based on the age, qualification and type of disease variables.

Key words: Level of depression, diabetic and hypertensive patients, Beck scale.

INTRODUCTION

Depression is an emotional state of low mood and activity that affect a person's thoughts, feelings, sense and behavior (Sandra, 1997).It is a condition in which a person suffers from lowering of mood, reduction of energy, and decrease in activity. Capacity for enjoyment, interest, and concentration is reduced, and marked tiredness after even minimum effort is common. Sleep is usually disturbed and appetite diminished. Self-esteem and self-confidence are almost always reduced and, even in the mild form, some ideas of guilt or worthlessness are often present (Laing & Kaplan, 2004). The lowered mood varies little from day to day, is unresponsive to circumstances and may be accompanied by so called somatic symptoms, such as loss of interest and pleasurable feelings, waking in the morning several hours before the usual time, depression worst in the morning,

marked psychomotor retardation, agitation, loss of appetite, weight loss, and loss of libido. Depending upon the number and severity of the symptoms, a depressive episode may be specified as mild, moderate or severe. It usually occurs as a result of adverse life events, such as: losses of a significant person, object, relationship or health, but it can also occur due to no apparent cause (Murray *et al.*, 2013), these problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her every day responsibilities.

Despite significant improvements in understanding the biological mechanisms involved in mental disorders, information on genetics, neuroendocrine and functional imaging has not been found valid enough to be included

in the diagnostic criteria. There are multiple variations of depression. A depressive episode involves symptoms such as depressed mood; loss of interest and enjoyment, and increased fatigability, a depressive episode can be categorized as mild, moderate, or severe. An individual with a mild depressive episode will have some difficulty in continuing with ordinary work and social activities, but not to the extent that it significantly poses a barrier to activities of daily living. During a severe depressive episode, on the other hand, it is very unlikely that the sufferer will be able to continue with social, work, or domestic activities, except to a very limited extent (Fava, Ruini & Sonino, 2003).There are inter-relationships between depression and physical health. Such as hypertensive, diabetic, and cardiovascular disease can lead to depression and vice versa (Rayner, Price, Evans, Valsraj, Higginson & Hotopf, 2010).When present with other chronic conditions, outcomes are usually poorer and health care is considerably more expensive than expected (Koike *et al*, 2002).Diabetes mellitus is a group of metabolic diseases in which there are high blood sugar levels over a prolonged period, Symptoms of high blood sugar include frequent urination, increased thirst, and increased hunger. If left untreated, diabetes can cause many complications (Kitabchi *et al*, 2009). Acute complications include diabetic ketoacidosis and nonketotic hyperosmolar coma; serious long-term complications include cardiovascular disease, stroke, chronic kidney failure, foot ulcers, and damage to the eyes (Cooke & Plotnick, 2008).Diabetes is due to either the pancreas not producing enough insulin or the cells of the body not responding properly to the insulin produced.

Findley *et al* (2011) investigated the association between multi-morbidity and persistent depression among cohorts of veterans with diabetes, heart disease, or hypertension. The retrospective longitudinal analysis used national administrative data on around 1.38 million Veteran Health Administration clinic users merged with Medicare claims data. Multi-morbidity was defined as the concurrent presence of two or more chronic conditions, Chi-square tests and multinomial logistic regressions analyzed the odds in tested relationships. Of all veterans, 5.6 percent were diagnosed with persistent depression. Persistent depression was significantly more likely among veterans with multi-morbidity than among those with only hypertension. Veterans with multiple chronic conditions have intensive, long-term health care needs due to persistent depression and, thus, require extensive coordination across a broad spectrum of services.

Cruz *et al*, (2010) evaluated the impact of depression on QOL in patients with ischemic heart disease (IHD) and end-stage renal disease (ESRD) in hemodialysis. The Cross-sectional survey conducted in 173 patients: 103 with IHD and 70 in hemodialysis. Depression was diagnosed by the Mini International Neuropsychiatric Interview-5.0 and depressive symptoms measured by Beck Depression scale. QOL was assessed through the Short-Form-36 and World Health Organization Quality of Life Instrument-brief. Results of the study indicated that the depression prevalence was 14.3% among IHD patients and 9.9% in the hemodialysis group, while the depressive symptoms were present in 39 and 36%. Related to chronic condition, depressed patients showed lower QOL scores than non-depressed ones in all dimension, and the most affected were role emotional, mental health and social functioning of SF-36, and psychological dimension of WHOQOL-brief. Finally the depressive symptoms were predictive for lower QOL in all dimension, with the highest beta coefficients ranging from (-0.26 to -0.64).

Elizabeth *et al*. (2010) examined the association of depression with risks for advanced macrovascular and microvascular complications among patients with type 2 diabetes. A longitudinal cohort of 4,623 primary care patients with type 2 diabetes was enrolled in 2000 – 2002 and followed through 2005 – 2007. Advanced microvascular complications included blindness, end-stage renal disease, amputations, and renal failure deaths. Advanced macrovascular complications included myocardial infarction, stroke, cardiovascular procedures, and deaths. Medical record review, ICD-9 diagnostic and procedural codes, and death certificate data were used to ascertain outcomes in the 5-year follow-up. Proportional hazard models analyzed the association between baseline depression and risks of adverse outcomes. Results presented that the major depression was associated with significantly higher risks of adverse microvascular outcomes (hazard ratio 1.36 [95% CI 1.05– 1.75]) and adverse macrovascular outcomes (1.24 [1.0– 1.54).

Areej Naatsheh (2009) determined the prevalence depression and anxiety among patients with hypertension and normotension in Jerusalem. It also aimed studying gender differences on average of depression, state, and trait anxiety. A sample of 181 males and females was chosen patients with hypertension and normotension. The number of patients with hypertension was 95 and the number of normotension was 87, their age range between 40 – 65 years old. Becks depression was used to assess depression and Spielbergers State- Trait Anxiety Inventor was used to assess anxiety, the measurement of mercury and muscle electronic was used to measure blood pressure. Results of the study demonstrated significant differences between patients with hypertension and normotension in depression, state, trait anxiety. Also the results shows that the average of females on the depression, state anxiety were high than males, while there are gender differences in depression.

Cooke and Plotnick (2008)   aimed to compare psychiatric morbidity among diabetic patients, asthmatics and healthy individuals and also to assess

the association of psychiatric morbidity and other variables with quality of life among diabetes patients. The questionnaire on socio-demographic and clinical variables was completed. They also completed the Zung Self-Rating Depression Scale and the State Trait Anxiety Inventory (STAI 1). Diabetic patients also completed the Diabetic Well-Being Questionnaire.

A total sample 80 diabetics 37 males and 43 females were compared with 50 asthmatics 22 males 28 females, and 50 healthy individuals 23 males and 27 females. Results of this study indicated that depression was more prevalent among diabetic patients 20% compared with asthmatics 12% and healthy individuals 4%, whereas anxiety was more prevalent among asthmatics 34% compared with diabetics 20% and healthy individuals 8%. Predictors of depression on the base of age of the patient, poor glycemic control and duration of diabetes mellitus that significant with diabetic general well-being include depression, anxiety and fasting blood glucose level. Depression and the presence of comorbid medical conditions were significant predicted a low quality of life.

Chaoyang, et al (2008) estimated the prevalence rate of depression among adults with diabetes using a large population-based sample in the U.S. the data from the 2006 Behavioral Risk Factor Surveillance System, a standardized telephone survey among U.S. adults aged ≥18 years, were analyzed n = 18,814. The Questionnaire diagnostic algorithm was used to identify major depression. Results of this study presented that the age adjusted prevalence rate of major depression was 8.3% (95% CI 7.3 – 9.3), ranging from a low of 2.0% in Connecticut to a high of 28.8% in Alaska. Moreover there were 25 fold differences in the rate among racial / ethnic subgroups (lowest, 1.1% among Asians; highest, 27.8% among American Indians / Alaska Natives). People with type 2 diabetes who were currently using insulin had a higher rate than people with type 1 diabetes (P = 0.0009) and those with type 2 diabetes who were currently not using insulin (P = 0.01.

Patrick and Ray (2005) studied the depression in diabetic patients: The relationship between mood and glycemic control, PubMed, Psyc-Info, and Medline databases were searched for articles that evaluated outcomes, relationships, and / or management of comorbid depression and diabetes published between 1980 and 2002. This review represents a synthesis of the findings including treatment recommendations. Results of this study showed that concurrent depression is associated with a decrease in metabolic control, poor adherence to medication and diet regimens, a reduction in quality of life, and an increase in health care expenditures. In turn, poor metabolic control may exacerbate depression and diminish response to antidepressant regimens. Psychotherapy and pharmacotherapy are effective in the presence of diabetes; both cognitive behavior therapy and selective serotonin reuptake inhibitors are weight neutral and have

been associated with glycemic improvement in some studies.

Purpose of the Study

The purpose of this study is to explore the level of depression among diabetic and hypertensive patients in Marj Al-hamam health center

Hypothesis of the Study

There are statistically significant differences at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients in Marj Al-hamam health center on the base of gender, age, type of disease, qualification, and type of work.

Sample of the Study

A total sample of 125 participants was randomly selected comprised 55 males and 70 females. In this sample there were 27 diabetic patients and 49 hypertensive patients, moreover there were 49patients living with diabetic and hypertensive together all the respondents were belonging to the different class family.

Measure

Level of depression of the respondents measured with the help of Beck Arabic version depression scale which is developed by Prof. Nazeh Hamdi, 1988, the scale consisted of 21 items for each item the patient should fill in the circle that best describes how this patient has been over the last six months. A reported initial internal covariate alpha coefficient is test-retest reliability coefficients is 0.869.

Procedures of the Study

Patients were invited to participant in the study and after brief introduction, goals and propose of the study was explain to them. The scale was administrated individually and total time taken by each participant varies 20 to 30 minutes. After that the data was tabulated and entered to SPSS program for analysis version 16. Statistical techniques in accordance with the various objective and study hypothesis employed, descriptive techniques such as mean, standard deviation, percentages, t-test, Scheffe test and ONE WAY ANOVA.

Results of the Study

Table 1 presents that there is no depression among 52 patients. Related to simple and medium level of depression there were 42 and 27 patients respectively. Whereas there are 4 patients have strong level of depression.

Table 1: presents level of depression among diabetic and hypertensive patients

Level of Depression	Number	100%	Mean	S.D
No depression	52	14.6%	4.88	2.662
Simple depression	42	33.6%	12.62	1.724
Medium depression	27	21.6%	17.93	1.615
Strong depression	4	3.2%	28.00	1.826
Very strong depression	0	0.0%	0.00	0.000
General level	125	100%	11.04	6.392

Table 2: ONE WAY ANOVA results represent the differences in level of depression among diabetic and hypertensive patients on the base of age variable.

Sources of variance	Sum of squares	Df	Mean squares	f	α
between group	254.034	2	127.017		
within group	4812.766	122	39.449	3.22	0.043*
Total	5066.800	124			

Significant at (α ≤ 0.05)

Table 3: Scheffe test shows the sources of differences between groups.

Age		41- 50	51 – 60	61 and more
	$\bar{X}$	**11.62**	**12.52**	**9.44**
41- 50	11.62	-	0.90	2.18
51 – 60	12.52	-	-	3.08*
61 and more	9.44	-	-	-

Significant at (α ≤ 0.05)

Table 2 presents that there is significant difference at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients basis on age variable. To know the sources of differences between the groups Scheffe test have been calculated in table 3.

Table 3 manifests that the sources of difference were between group of 51 – 60 year and group of (61 and more)in favor of 51 – 60 group.

Table 4 presents that there is no significant difference at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients basis on type of diseases variable.

Table 5 presents that there is no significant difference at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients basis on qualification variable.

Table 6 presents that there is significant difference at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients basis on type of work variable. To know the sources of differences between the groups Scheffe test have been calculated in below table.

Table 7 manifests that the sources of difference were between the retired patients group and business patients group in favor of business group.

Table 8 presents that there is no significant difference at (α ≤ 0.05) in level of depression among diabetic and hypertensive patients basis on their gender.

DISCUSSION

This study aims to investigate of level of depression among diabetic and hypertensive patients in Marj Al-hamam health center, beside that to see the effect of gender, type of disease, qualification, type of work, and age. Finding of this study showed that there are statistically differences in level of depression among diabetic and hypertensive patients on the base of gender and type of job variables. The economic impact of diabetic and hypertensive on patients and society is well

Table 4: ONE WAY ANOVA results represent the differences in level of depression among diabetic and hypertensive patients on the base of type of diseases variable.

Sources of variance	Sum of squares	df	Mean squares	f	A
between group	139.724	2	69.862		
within group	4927.076	122	40.386	1.730	0.182
Total	5066.800	124			

Significant at (α ≤ 0.05)

Table 5: ONE WAY ANOVA results represent the differences in level of depression among diabetic and hypertensive patients on the base of qualification variable.

Sources of variance	Sum of squares	Df	Mean squares	F	α
between group	77.138	3	25.713		
within group	4989.662	121	41.237	0.624	0.601
Total	5066.800	124			

Significant at (α ≤ 0.05)

Table 6: ONE WAY ANOVA result manifests the differences in level of depression among diabetic and hypertensive patients on the base oftype of work variable.

Sources of variance	Sum of squares	Df	Mean squares	f	α
between group	377.638	3	125.879		
within group	4689.162	121	38.753	3.248	0.024*
Total	5066.800	124			

Significant at (α ≤ 0.05)

Table 7: Scheffe test shows the sources of differences between groups.

Age		Government	Retired	Business	Non
	$\bar{X}$	**11.25**	**9.11**	**14.85**	**11.64**
Government	11.25	-	2.14	3.60	0.39
Retired	9.11	-	-	5.74*	2.53
Business	14.85	-	-	-	3.21
Non	11.64	-	-	-	-

Significant at (α ≤ 0.05)

Table 8: t-test results indicate the differences in level of depression among diabetic and hypertensive patients on the base on gender variable.

Gender	Number	Mean	S.D	T	df	A
Male	55	10.80	6.89	-0.371	123	0.711
Female	70	11.23	6.02			

Significant at (α ≤ 0.05)

documented. The average annual health costs for diabetic patients and hypertensive including medical, pharmaceutical and disability costs, may be double times higher than those incurred by the general population. The diabetic and hypertensive patients have more contact with primary care services and secondary care psychiatrists and other specialists; incur more expenses and outpatient charges, than those patients without diabetic and hypertensive.

Stressful environments in Jordan can cause the diabetes and hypertensive in most people because of some situations such as the political situations, overcrowding increase people, business competition, and socioeconomic problems of essential and nonessential needs. Moreover some people experience depression during a serious medical illness. There are numerous factors that impacts disease experienced by male and female affecting their reaction to depression, due the various political situations of Jordanian males which affect them physical and mentally because of personal demands, family and job needs which is usually male responsibility. However, the findings of the study are in agreement whit previous study of Areej Naatsheh (2009).

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