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Factors associated with depression among healthcare Workers at Jinja regional referral Hospital Uganda

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ABSTRACT

Depression is a common mental disorder that presents with low mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration. Studies show that health care workers have been known to have as much as a 27% prevalence rate for mental health disorders (depression and anxiety) and that among all population groups, health workers have the highest prevalence of depression. The objective of this study was to determine the prevalence of depression and its effect on performance health workers of JRRH. Cross sectional study using quantitative data collection method, and simplerandom sampling was used to get 140 health worker participants. Questionnaire consisting of BDI II was used for measuring depression plus a self-evaluating tool for measuring performance.Data was analyzed using EpiData software. The results of this study reveals that the prevalence of depression amongst health workers is 12.4%% (14.3% amongst male, and 10.4% amongst female) with 10% of staff having moderate depression and 2.14% extreme depression. Age (P= 0.032), sex (P= 0.026), job category (P=0.000), marital status (P=0.000) significantly affected the healthcare worker's BDI II score. 100% of participants with extreme depression is amongst pharmacists, support stuff, married health workers. In conclusions, depression is prevalent among healthcare workers at JRRH. Being male, marital status (married), age (older age group) and job category (pharmacy staff, support staff, orthopedic staff and interns) were significantly associated with depression. Performance at work place was also significantly affected by depression. Among other factors affecting performance, low/poor salary and heavy workload were the most commonly cited. Therefore, further studies to compare the prevalence of depression among healthcare workers ingovernment and private facilities will be useful.

Keywords: Depression, Mental disorder, Health workers.

INTRODUCTION

Depression is a common mental disorder that presents with low mood, loss of interest orpleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite, and poor concentration [1-3]. Depression plays a significant role to the global burden of disease and affects people in all communities across the world. Today, depression is estimated to affect 350 million people. The World Mental Health Survey conducted in 17 countries showed that on average about 1 in 20 people reported having an episode of depression in the previous year. Depressive disorders often start at a young age; they reduce people's functioning and often are recurring. It has been described as one of the most debilitating illnesses in the world, projected to be the second most common disease by 2025, though its worldwide prevalence and impact may have been underestimated. While

depression is the leading cause of disability for both males and females, the burden of depression is 50% higher for females than males. In fact, depression is the leading cause of disease burden for women in both high-income, low- and middle-income countries [4, 5]. Some features of depression are denial and a sense of helplessness, thus no health worker would want to be termed depressed. Other symptoms of this disease include fatigue, irritability, inability to make decisions, somatic problems, lack of interest in day-to-day activities, and suicidal thought. Almost 1 million lives are lost yearly due to suicide, which translates to 3000 suicide deaths every day [6]. Depression influences people's quality of life & work place productivity and can eventually result in direct economic costs. Since depression presents with such as lack of attention, memory loss, and difficulties with planning and taking decisions; health workers are automatically set to underperform this is quite tasking to the health care system. Depression depletes the health worker from his or her ability and enthusiasm to fulfil role obligations and to enjoy life, and it also affects other family members [7].

The health sector in Uganda has experienced crises and conflicts especially related to welfare of staff, conditions of service, poor infrastructure, understaffing (the ratio of health workers to patients is still very high thus; doctor is 1:24000, nurse is 1: 1700, midwives 1:9000, dentists 1:77000, lab technician 1: 16000 [8], tight schedules, malfunctioning equipment, and dependent and demanding patients. Despite having knowledge about stressors and health hazards, most healthcare professionals are often less considerate about the factors that contribute to their own general and mental health. Also, despite various advocates from different organizations (WHO, MINISTRY OF HEALTH OF UGANDA) to improve the Elements of the working environment of health workers of Uganda, understaffing, tight schedules, in adequate &malfunctioning equipment have remained a challenge and serious contributors to depression of health workers. It is important to understand causal factors for depression in the working environment of health workers & also find out how depression affects their performance at work.Therefore, the purpose of the present study is to determine the prevalence, associated factors of depression in healthcare workers and how it affects their performance at work. Studies show that health care workers have been known to have as much as a 27% prevalence rate for mental health disorders (depression and anxiety) and that among all population groups, health workers have the highest prevalence of depression [9]. Depression leads to underperformance at work because its symptoms lower performance (Centre for Mental Health, Mental Health at Work: Developing the business case, 2007). The Low performance of health workers can result in loss of many lives due increased mistakes in the chain of treatment. European studies have shown that early retirement accounted for 47% of the cost of depression, and sick leave a further 32%, compared with just 3% for the cost of drugs to treat the illness. This explains the social economic burden caused by depression. The government of Uganda has over the years endeavored to improve the working conditions ofhealth workers and also improve the ratio of health workers to population by training more doctors, nurses, though the doctor to patient ratio is still high mainly because many doctors go to outside countries to look for better paying jobs compared to those of Uganda. This study is goingto establish the prevalence, associated factors of depression and how it affects their performance at work. The purpose of this research was to establish the prevalence of depression among health workers,and its effects on their performance. Compare the levels of depression between health workers ofdifferent levels. The findings of this research will help the different stake holders (ministry of health, district health office, hospital management) to evaluate and monitor health workers in promoting health care delivery through their good performance.

METHODOLOGY

Study design

This was a cross sectional study involved using quantitative data collection method.

Study area

The study was conducted at Jinja Regional Referral Hospital in Jinja city Eastern Uganda located approximately 82.84KM East of Kampala the capital city of Uganda.

Target population

All healthcare workers involved in patient management at JRRH [doctors at all levels, nurses at all levels, midwives, lab technicians, clinical officers, radiologists, orthopedic officers, anesthetists].

Study population

All health workers who involved in patient management at JRRH.

Accessible population

All health care workers involved in patient management at JRRH that are present on study days and consent to participate in the study.

Selection criteria

Inclusion criteria

Healthcare workers who consented to participate in the study.

Exclusion criteria

Healthcare workers who were absent at the time of data collection.

Sample size estimation

The sample size was estimated by modified Kish Leslie formula [10].
Using a study about the prevalence of depression among health workers done in Enugu, southeast Nigeria [9].Results showed that the prevalence of depression among health workers was 14.9%
Sample size;

$$N = \frac{Z^2 pq}{D^2}$$

Where;

N is the sample size

Z = 1.96 (the Z score value corresponding to 95% level of confidence on the standardized normaldistribution curve)
P = 0.149 (prevalence of depression)q = 1-P (1-0.149=0.851)
D =0.05 (which is degree of accuracy)
Therefore, for N

$$N = \frac{1.96^2 \times 0.149 \times 0.851}{0.05^2} = 194$$

N= 194 health workers

Assuming 10% non-respondents (0.1*194 = 19.4), Thus 19 health workers are to be added tocater for non-responders.
Therefore, the estimated sample size is [194+19] =213 respondents.

Sampling procedure

Systematic random sampling procedure was used

Study variables

Independent variables

Depression
Factors that affect performance

Dependent variables

Performance

Data collection procedure

The data collection instrument was structured self-administered questionnaire. The questionnaire consisted of BDI II, the tool used for measuring depression plus a self-evaluating tool for measuring performance.
Questionnaires was delivered to heath workers by the researchers. The data collected by the researcher was analyzed in form of percentages, correlation and frequency tables.

Data management

All questionnaires were kept in a drawer with a lock to keep them out of reach of nonmembers ofthis research. Several data backups was obtained and stored in other computers with password protection.Questionnaire will be kept in water proof file folders.

Data analysis

Incomplete questionnaires (unanswered questionnaire) were considered invalid. Analysis was done using epiData software and findings presented in forms of percentages,correlation and frequency tables. And the data was interpreted accordingly.

Quality control

We ensured that questionnaires are filled in correctly by allowing enough time for filling in the questionnaires. We explained unfamiliar technical terms to the participants to avoid errors that may arise due to question misunderstanding. Data collection process was monitored by the researchers to ensure that the questionnaires were filled in correctly. Questionnaires shall be printed and pretested to ensure reliability and validity.

Ethical considerations

Approval was sought from the Office of the dean of Faculty of Clinical Medicine and Dentistry of KIU Western Campus and from the Office of the Director of JRRH before undertaking the research. Permission was sought from the medical director of JRRH accompanied with anintroductory letter from the faculty of clinical medicine dentistry and then consent from the research participants. Privacy and confidentiality was ensured throughout the study.

Study limitations

Uncooperative research participants, participants expecting motivation in terms of money. This was overcome by explaining participants that there was no motivation in terms of money.

RESULTS

Social Demography

One hundred fifty-six (156) was the participant sample out of which 140 responded; response rate of 90%. Mean age of study participants was 38.58 (SD = 10.28), with modal age of respondents being 35 years. Mean respondents years of experience was 10.82(SD = 8.45), with modal respondent's years of experience was one year.

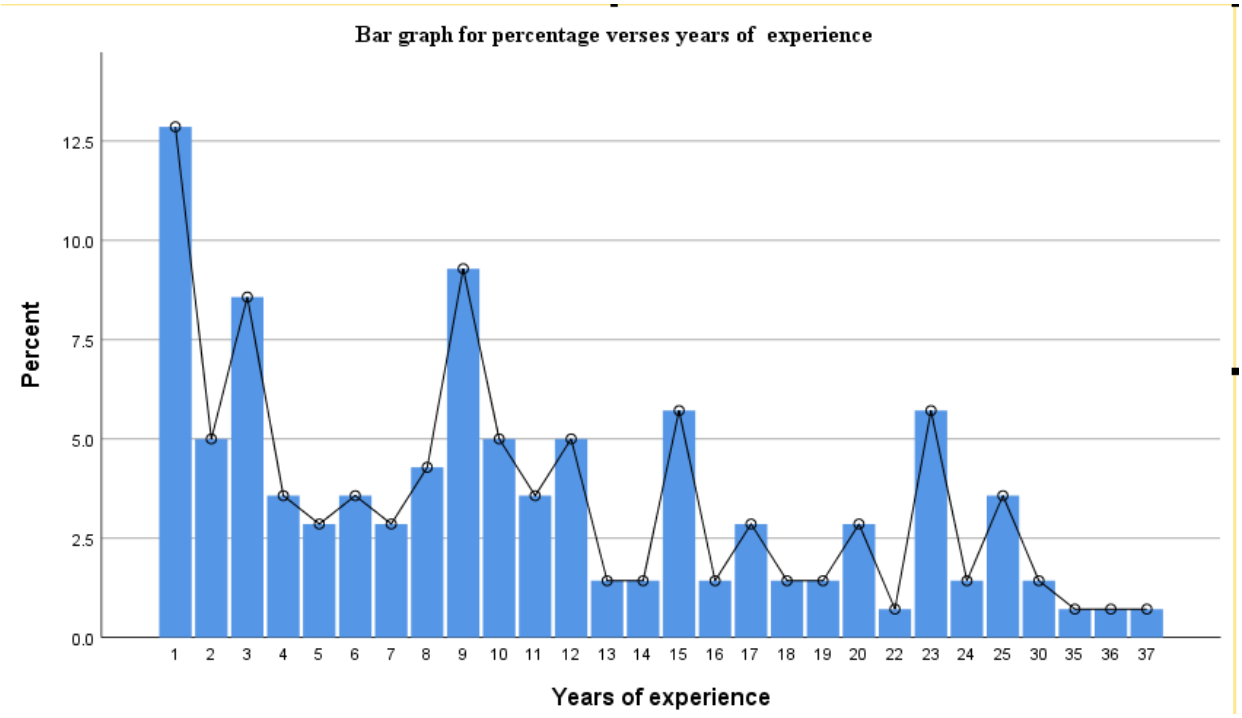

Figure 1: bar graph showing percentage vs years of experience

They were 77 (55%) female respondents and 63 (45%) male respondents. Majority of therespondents, 108 (77.1%) were married. Very few 2 (1.4%) were widows, the rest 30 (21.4%) were single. Majority of the respondents 49 (35%) were nurses, followed by midwives 19 (13.6%) and the least represented categories of healthcare workers were radiography staff 1 (0.7%) as in the pie chart below.

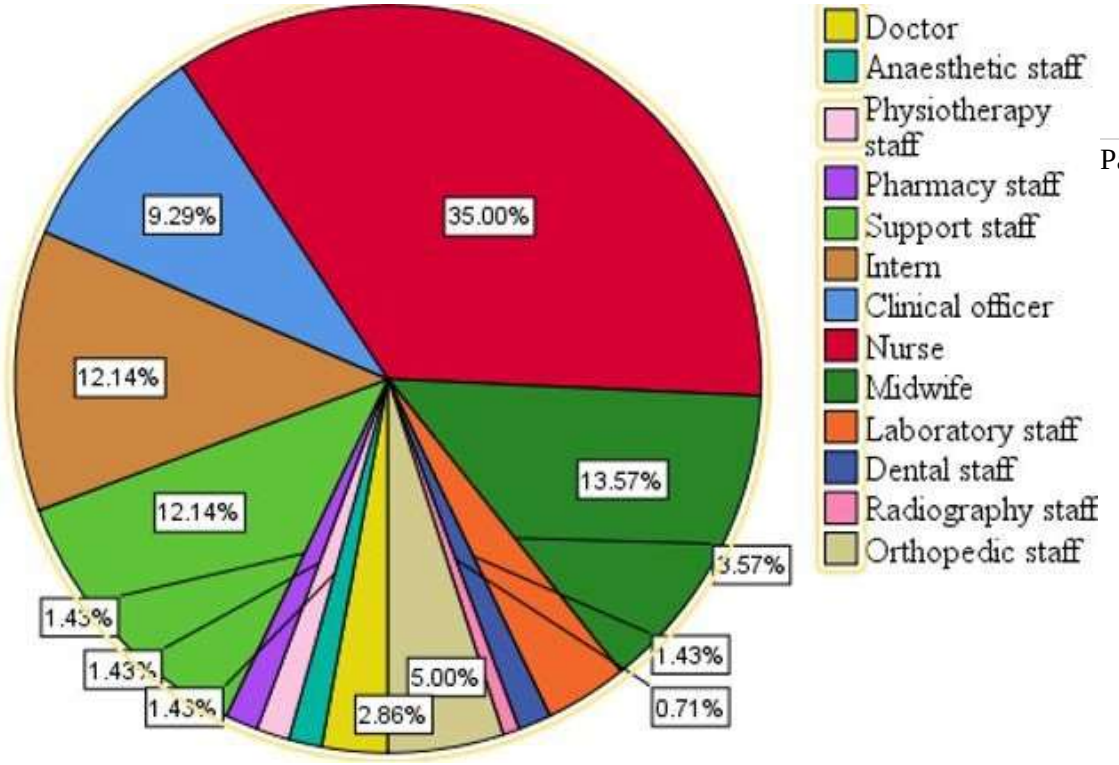

Figure 2: Pie chart showing percentages of the different staff categories

Prevalence of depression among healthcare workers at JRRH

On BDI II tool, mean BDI II score was 8.36 (SD of 8.98), median BDI II score was 4.00 and the modal was 2.0. Significant clinical depression among healthcare workers at regional Jinja regional referralhospital as measured by BDI II stood at 12.14%, (14.3% amongst male, and 10.4% amongst female) with 10% of staff having moderate depression and 2.14% extreme depression. All cases of extreme depression were among male health care workers. However, 7.86% and 4.29% of respondents had mild mood disturbance and borderline depression respectively.

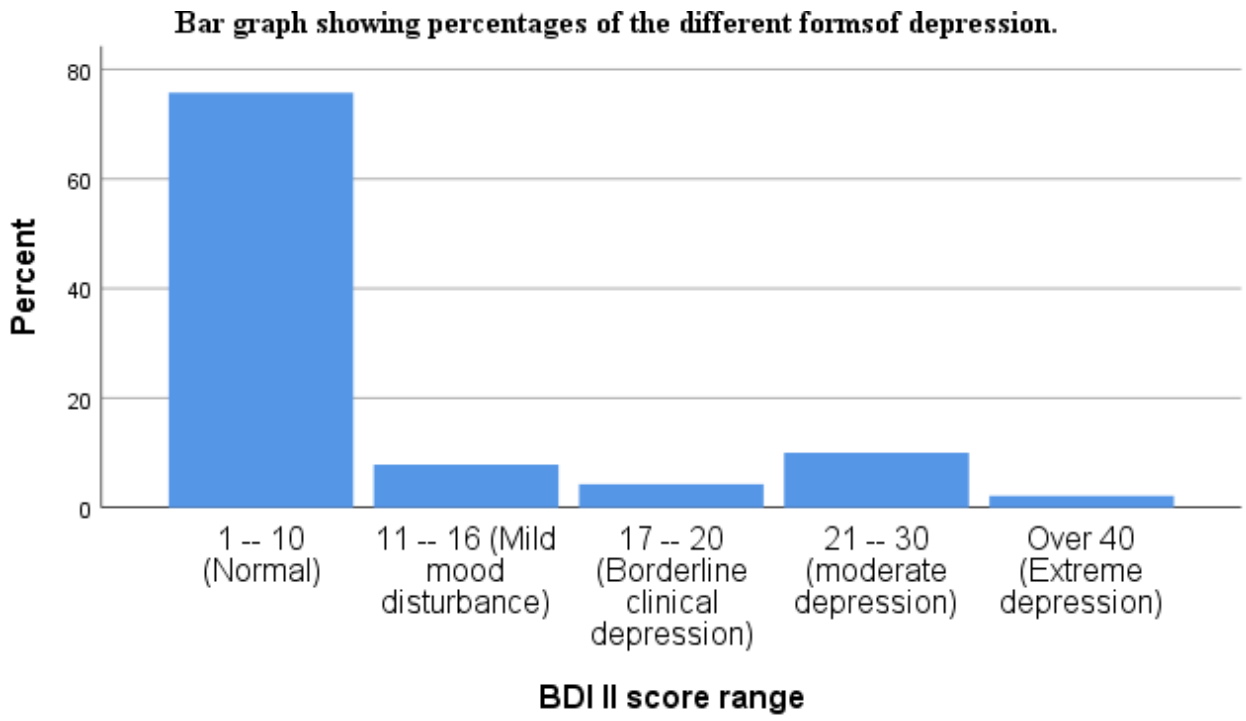

Figure 3: Bar graph showing percentages of the different forms of depression

Chi square analysis showed that BDI II respondents score was not significantly affected by yearsof experience (P=0.087). However, age (P= 0.032), sex (P= 0.026), job category (P=0.000), marital status P=0.000 significantly affected the healthcare worker's BDI II score. Respondents below 30 years of age had most of the mild mood disturbance, while those above 30years accounted for most of borderline, moderate and extreme depression cases. Male accounted for more clinically significant depression. Pharmacy staff, orthopedic staff, support staff and interns were the most affected by clinically significant depression. 100% of the cases of extremedepression were amongst married healthcare workers. Likewise, more than 8 out of every 10 cases of moderate depression were also registered among the married healthcare workers, however healthcare workers who are single contributed more than half (54.5%) of cases of mild mood disturbances.

Relationship between depression and performance of healthcare workers

Generally, all the staff had a performance of at least 5/10, however majority (30%) had aperformance of 8/10, followed by 28% of healthcare workers with performance of 9/10. Least

proportions of staff 0.7% each had a performance score of either 5/10 or 6/10. All the 10.7% of healthcare workers with performance score of 10/10 had BDI II score range between 1to10 (normal).

Table 1 showing frequencies and percentages of different performance scores

Performance scores	Frequency	Percent
3/10	1	.7
4/10	1	.7
5/10	7	5.0
6/10	9	6.4
7/10	24	17.1
8/10	43	30.7
9/10	40	28.6
10/10	15	10.7
Total	140	100

Table 2: Pivot Table BDI II score range * Performance cross tabulation

		Performance								Total
		10/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	
BDI II score range	1 -- 10 (Normal)	15	0	0	0	1	14	39	37	106
	11 -- 16 (Mild mood disturbance)	0	1	0	2	2	3	2	1	11
	17 -- 20 (Borderline clinical depression)	0	0	0	1	2	1	0	2	6
	21 -- 30 (moderate depression)	0	0	0	4	2	6	2	0	14
	Over 40 (Extreme depression)	0	0	1	0	2	0	0	0	3
Total		15	1	1	7	9	24	43	40	140

Chi square test (P=0.000) showed that BDI II score was significantly correlated with performance.

The other factors that affect work performance of healthcare workers

Majority of the healthcare workers mentioned at least two factors that affect their performance atwork. There were twenty (20) different mentioned factors of which poor/little salary (75 times) was the most frequently mentioned factor, followed by heavy work load (56 times). However there were no variations in factors mentioned by the healthcare workers with low and high BDIII scores.

Table 3 showing different mentioned factors and their frequency of appearance

	Factor	**Frequency**
1	Heavy work load	56
2	Poor/little salary	75
3	Lack of equipment	46
4	Poor/lack of motivation	41
5	Poor/lack of accommodation	34
6	Low staffing	26
7	Poor working conditions	17
8	Lack of appreciation	14
9	Un cooperative patients and colleagues	12
10	Lack of promotion	10
11	Tribalism	9
12	Delayed payment	8
13	Personal problems	6
14	Language barrier	6
15	Intimidation and harassment	5
16	Long distance from work place	4
17	Stressful supervision	3
18	Environmental factors	3
19	Delay of appraisal	2
20	Stigma	1

DISCUSSION

Prevalence of depression among healthcare workers.

This study showed a prevalence rate of 12.14% this is high but was relatively low compared to other studies. This result was compared with a study about prevalence of depression among health workers carried out in Enugu, South East Nigeria. (Researchers administered a structured pretested questionnaire that included the Zung's self rating depression scale, a simple quantitative measurement of subjective experience of depression to a total of 309 health workers). 46 (14.9%) of which were depressed [9]. Other study was carried out in two districts of Uganda (Bugiri and Adjumani) to find out the prevalence of depression. A self-administered structured questionnaire was used (BDI), clinicallysignificant depression (BDI score of 20 to 39) was 17.4% [11].Another study showed that the prevalence of depression among health care workers was 66.5% (242 of total 364) while the prevalence of depression among administrators was 78.98% (124 of total of 157) [12]. The relatively low prevalence rate of depression compared to other studies may be attributed to the fact that; 1.We had a limited study area compared to the previous studies who carried out their study in more than one hospital.The relatively high prevalence rate of the study may be attributed to;The large number of clients that attend primary health care plus the shortage of supplies/equipment to use while at work and the integrated health services create a stateof confusion and increase [13] workers coupled with heavy workload with no motivation or appreciation of healthcare workers reflect negatively on the health of healthcare workers including depression.

Relationship between depression and job category

Pharmacy staff, orthopedic staff, support staff and interns were the most affected by clinically significant depression. 100% of the cases of extreme depression were amongst the pharmacy and support staff. This study is in agreement with other studies which found out that professions withlower education level, do heavy workloads and receive little payment have more psychosocial distress hence depression. A study carried out in Brazil to determine the prevalence of mental disorders among health workers where 257 professionals participated in the study. Among high qualification mental health professionals (n = 119), the prevalence of depression was 23.5%, while the prevalence of depression was 29% among low qualification mental health professions (community health agents) (n = 138). Community health agent do a considerably heavy work load compared to the high qualification mental health professionals [13]. In comparison to our study, all the healthcare workers who hadclinically significant depression either have a lower education level (support staff) or do heavy work due to very few staffs in their departments (pharmacy staff only 3 in the department) likewise to the orthopedic staff and the interns.

Depression and marital status

Results mentioned in tables revealed a significant association between depression and marital status.100% of the cases of extreme depression were amongst married healthcare workers.Likewise more than 8 out of every 10 cases of moderate depression were amongst married healthcare workers. This is somehow in disagreement with a study carried out in Enugu state, South East Nigeria on prevalence of depression among health workers where a greater percentage of the widowed (22.2%) were depressed in relation to the married at 16.6% and the singles at 12.9% [9]. Marital problems can certainly contribute to depressive symptoms. The disagreement could probably be due to the small number of the widows (only 2).

Depression and age

In regards to age, this study showed a significant association between depression and age. Respondents below 30 years of age had most of the mild mood disturbances while those above 30 years accounted for most of the borderline, moderate and extreme depression cases. This results are in agreement with a study carried out in Enugu State, South East Nigeria to determine the prevalence of depression among health workers where depression was more common in the 50-59 year age group (30.4%) and least in the young 20-29 year age group (10.8%) [9]. This could be attributed to;

a. .Increased responsibilities among the older age group.
b. 2. It could also be attributed to chronic illnesses in the elderly age groups.

Depression in association with gender variables

According to gender variables, this study showed a significant relationship between male or female and depression where male accounted for more clinically significant depression. Male accounted for 100% of the extreme cases of depression and 42.9% of cases of moderate depression. This is in disagreement with a study carried out in Mexico about depression among health workers where the overall prevalence rate of depression was 12%, however the rate almost doubles in women; 14.4% compared to 8.9% in males [14]. This difference could be attributed to the fact that males in most African countries are the bread winners for theirfamilies.

Depression and years of Experience

In regard to years of experience, no significant relationship was identified between depression and how many years a healthcare worker had stayed in work. This results are in agreement with astudy carried out in Baghdad to determine the prevalence of depressive symptoms amongprimary health care providers, where

no significant relationship was identified between depression and how many years healthcare provider had spent in work [15].

Relationship between depression and performance

This study showed a significant relationship between depression and performance, all the 10.7% of healthcare workers with performance score of 10/10 had a BDI score range between 1 to 10 which is normal and all the cases of extreme depression had a performance score of utmost 6/10.This results are in agreement with a study done in Virginia on college students to find out the relationship between depression and college academic performance where they found out that depression affects nearly 50% of college student population and students presenting with moderate levels of depressive symptoms demonstrated lower performance within academic environment compared to those with normal and minimal levels of depression [16]. This relationship could probably be attributed to the following reasons;

Depressed mood makes it hard to manage work responsibilities including sustaining effort over time and dealing with change.

Depression is associated with emotions like sadness, irritability or emotionalnumbing make it hard to do your job and enjoy it.

Depressed mood creates difficulties with concentration, decision making or memory make it harder to deal with job tasks and may negatively impact your accuracy at work.

Depressed mood negatively affects work relationships: there can be avoidance of coworkers or frequent conflict preventing successful team work and making the work place less supportive.

The other factors that affect performance of healthcare workers at work.

Respondents cited at least 2 other factors that affect their performance at work. The mostcommonly mentioned factor was poor/little salary (75 times) followed by heavy work load (56 times). This is in agreement with several other studies. A study carried out in Brazil to find out mental disorders among health workers showed that professions receiving lower pay in addition to too much workload and poorer working conditions are more likely to be affected at work in terms of performance since they are prone to psychological distress. Income provides access to best living conditions and lack of money can lead to stress and insecurity, causing psychological mechanisms of common mental disorders such as depression [13, 17-19].

CONCLUSIONS

Depression is prevalent among healthcare workers at JRRH. Being male, marital status (married), age (older age group) and job category (pharmacy staff, support staff, orthopedic staff and interns) were significantly associated with depression. Performance at work place was also significantly affected by depression. Among other factors affecting performance, low/poor salaryand heavy workload were the most commonly cited.

RECOMMENDATIONS

Further studies to compare the prevalence of depression among healthcare workers ingovernment and private facilities will be useful.Screening for depressive symptoms should be considered to healthcare workers with marital status (married and widowed) and those with chronic illnesses and large families.

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