ORIGINAL ARTICLE

The Prevalence of Depression Among Resident Doctors in a Teaching Hospital

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ABSTRACT

Background: Residency training programs and level of stress on trainees has been a topic of concern. Stressors identified have ranged from increased workload, to poor learning environment and to financial constraints. Consequences have been physical and emotional sometimes making them more susceptible to depression or to suicide in severe cases.

Objectives: This study looked at prevalence of depression among trainee doctors in Ziauddin Hospital, Karachi, Pakistan.

Methods: A survey was conducted in three campuses of Ziauddin hospital, while maintaining strict confidentiality of participant's data. Survey focused on prevalence of depression, gender differences and differences in prevalence during years of training. The Beck Depression Inventory was used and all computations were done using IBM SPSS 20 software.

Results: Our results showed Prevalence of depression to be statistically insignificant among the trainees (mean ±SD = 7.88 ±5.93;).There were no gender based and training level variances (mean ±SD = 9.37 ±10.52 and 8.52 ±7.55 respectively). Prevalence of depression in the three campuses remained non-significant (P=0.337).

Conclusion: Residency Training programs can be a source of depression in trainees. This study, on the contrary, has shown statistically insignificant results regarding depression in trainees. These can be indicative of positive reflection of structured training programs resulting in overall wellbeing of the trainees.

KEY WORDS: *Residency, Training, Trainees, Depression, Pakistan*.

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INTRODUCTION

Depression is a globally known high prevalence phenomenon and is a major cause of progressive disability. It is the fourth leading cause of global disease burden[1], affecting 350 million people worldwide. The World Mental Health Survey conducted in 17 countries found that on average about 1 in 20 people was reported having an episode of depression in the previous year.[2] Depression is a major cause of disability and the chief risk factor for suicide, claiming 850,000 lives annually worldwide and is a major cause of death in women in India and China.[3,4] A study in Pakistan reported that women who showed signs of depression were 12 times more likely to be physical abused.[5]

Doctors in training are a group that is particularly at high risk for stress and Depression. A multitude of studies suggest that residents at various levels of training are more prone to depression (7%-49%)[6], compared to the general population (8%-15%).[7] This high rate is associated with the psychological and physical strain that the residents go through in their medical training years. Patient responsibility, long work hours and lack of sleep [7,8] augment resident fatigue and distress. It is postulated through various international studies that one-third to one quarter of residents will experience depression at some point during their training.[9] This alarming number has widespread consequences affecting not only the well-being of the trainees, but also are at risk are the patients. Recent studies suggest an increase in medical errors and suboptimal patient care associated with depression in medical trainees.[10, 11] Female trainees reported a higher rate for depressive symptoms than their male counterparts according to a multi-school study in the United States.[12] According to a meta-analysis, male doctors were 1.4 times, and female doctors were 2.3 times more likely to commit suicide than the general population.[13] We hypothesize that the suboptimal position of women in society[14,15,] combined with the added pressure of being a physician in training would predict a greater prevalence of depression in female residents. This study was designed to determine the prevalence of depression among resident trainee doctors working in a teaching hospital in Karachi, Pakistan.

METHODOLOGY

A cross sectional survey was conducted at Ziauddin University (ZU), which is a tertiary care institute in Karachi, Pakistan. The survey was conducted in three campuses of the hospital (Kemari, Clifton and North campuses) from April to June 2012.

The Study was approved by the ethical review committee of Ziauddin University before commencing data collection. A total of 285 trainee doctors (house officers and the post-graduate residents) were approached for data collection. Subjects met inclusion criteria if they were an employee of the hospital and had completed their Bachelors of Medicine and Surgery Degree (M.B.B.S) successfully. The doctors were approached at various parts of the hospital such as the wards, outpatient department, lecture halls, radiology, emergency room, intensive care unit and the operating room. They were all given a two-page copy of Beck's Depression Inventory[16] (BDI; English version) and an informed consent form. The participants were given seven days to complete the survey and return it to the psychiatry department; those who failed to do so were sent various reminders in the form of emails. Throughout the survey, great care was taken in maintaining each participant's confidentiality and anonymity by applying specific color codes to the returned questionnaires according to the department. The returned questionnaires were also double enveloped.

The BDI consists of 21 questions, each question has four possible responses and every option assigned a value, ranging from 0-3. After all the responses are tabulated, a total score is achieved. This total score achieved in this study was used to categorize the participant to one of the six predefined groups of the BDI. All those who had a score ranging from 1-10 were placed in "These ups and downs are considered normal", those with scores of 11-16 were placed in "Mild mood disturbances", scores of 17-20 were placed in "Borderline clinical depression", scores of 21-30 were included in "Moderate depression", scores of 31-40 were included in "Severe depression" and scores of over 40 were classed as "Extreme depression".

All computations were done using IBM SPSS 20 Statistics software (developed in Unites States). For numerical data, mean and standard

deviation and for categorical data percentages and frequencies were used.

RESULTS

A total of 285 survey forms were given out to the trainees, which included 64 house officers and 221 postgraduate (Residents). 95 completed forms were returned (30.18%). Of those 95 returned forms, 9 of the forms (10.46%) did not fill in the department they worked in. Two of the forms (2.32%) were marked inappropriately and so were rejected, making a total of 84 forms available for our final analysis. The low response rate was attributed to half-yearly examinations and inter-departmental evaluations during the period of the data collection for this study.

For the entire population, the mean (±SD) score was 7.88 ±5.93; the scores ranged from 0 to 30 (Table 1). Assessing by training level (years of training), (Table 2) in the House officers mean (±SD) score was 10.14 ±12.06; scores ranged from 0 to 60. In the postgraduate sample, mean (±SD) score was 8.29 ±7.00; scores ranged from 0 to 43. The difference in prevalence rates of depressive symptoms between postgraduates and house officers remained non-significant (P = 0.670).

Comparing genders, the difference in prevalence rates of depressive symptoms remained non-significant (P = 0.718). When males and females trainees were compared (Table 1), the mean (±SD) score was 9.37 ±10.52 and 8.52 ±7.55.

Table 1. Depression scores

Gender	N	MMD	B	M	E
Male (n=38)	28 (73.7%)	5 (13.2%)	2 (5.3%)	2 (5.3%)	1 (2.6%)
Female (n=48)	32 (66.7%)	11 (22.9%)	2 (4.2%)	2 (4.2%)	1 (2.1%)
Total	60 (69.8%)	16 (18.6%)	4 (4.7%)	4 (4.7%)	2 (2.3%)

N: Normal
MMD: Mild Mood Disturbance
B: Borderline Clinical Depression
M: Moderate Depression
E: Extreme Depression

Prevalence of depression in the three Campuses remained non-significant (P=0.337).At the Clifton Campus, 63.6% of the trainees were classed as not depressed and 36.4% had MMD. In the Kemari Campus, 77.8% trainees were not depressed and 22.2% were found to have MMD. In the Nazimabad campus, 70.9% were not depressed, 14.5% had MMD, 7.3% had BCD and 7.3% had MMD.

Table 2: Level of training and depression scores

Training Level	N	MMD	B	M	E
House Officers (n=28)	18 (64.3%)	5 (17.9%)	2 (7.1%)	2 (7.1%)	1 (3.6%)
Post Graduate Training (n=58)	42 (72.4%)	11 (19.0%)	2 (3.45%)	2 (3.45%)	1 (1.7%)

N: Normal
MMD: Mild Mood Disturbance
B: Borderline Clinical Depression
M: Moderate Depression
E: Extreme Depression

DISCUSSION

This study covered three campuses of Ziauddin Hospital, involving trainee doctors including house officers and the post-graduate residents. Residency training, regardless of the specialty, is a full-time commitment. Exhaustion leading to burnout and consequential depression is fairly common. Personal vulnerability as well as workload may lead to both physical and emotional exhaustion. This high level of emotional exhaustion may further demotivate the resident making them less satisfied with their chosen careers and sometimes possibly quitting[17]

The study was aimed at determining the psychological well-being of our trainees, especially, females, whether house officers or postgraduates, who have a greater chance of developing depression compared to their male counterparts. As such, earlier studies have reported that depression was far more common in females[18].

In this study a slightly raised number of female trainees have exhibited symptoms of mild to moderate depression compared to their male counterparts. However, the results remained non-significant (P = 0.718). The small number of participants in this study might not allow us to generalize these results; we still believe these

findings are very positive for our trainees as well as for our residency training programs.

The observed, albeit non-significant, differences in depression between house officers and postgraduates may lie in the fact that house officers had to go through a more tedious working schedule[19-22] and the fact they had an examination to pass in order get promoted to the next year[23,24] .In this study the trainees showed statistically insignificant depression can be attributed to the structured and trainee friendly residency programs of our University that lead to the overall wellbeing of our trainees. A trainee friendly program also allows the trainees to take criticism positively and it encourages them to continue to pursue this path with enthusiasm. The real success of this could be due the mentors or contact persons who guide and encourage the trainees.

Small sample size may be regarded as a limitation of this study, as this might not allow the results to be generalized. However, this study may pave a way for further such research, keeping in view that it is the first of its kind from our campus. Future such research can be focused on using reliable tools to access job satisfaction and well-being in the trainees.

CONCLUSION

Residency Training programs can be a source of depression in trainees, according to research. On the contrary, this study has shown statistically insignificant results. We would like to consider these results a positive reflection of the wellbeing of our trainees and a structured training program.

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