

MAJOR DEPRESSIVE DISORDERS AND PERSISTENT DEPRESSIVE DISORDERS AMONG PHARM.D STUDENTS: A CROSS SECTIONAL STUDY

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ABSTRACT:

BACKGROUND: Depression among students of Pharmacy and Health Sciences is common. Pharmacy students and professionals deal with patients, making it imperative for them to have normal mental health. Pharmacists play key role in the management of mental illnesses by counseling drug related issues. The main aim of study is to evaluate the magnitude of depression among Pharm.D students in different universities.

SUBJECTS AND METHODS: Cross sectional study was conducted during July 2017 to December 2017. Data has been collected from 456 Pharm.D students of four major universities of Karachi. Sample size was determined by precision analysis technique. Six main domains provided by Beck' Depression Scale were evaluated; borderline clinical depression, extreme depression, mild mood disturbances, moderate depression, severe depression, ups and downs are consider normal. Data was analyzed through SPSS 23 using non-parametric statistics.

RESULTS: Among 456 students, 261 are from public sector and 195 from private sector universities. Magnitudes of six domains were 7.89% borderline clinical depression, 3.29% extreme depression, 21.05% mild mood disturbances, 21.27% moderate depression, 6.14% severe depression and 40.35% ups and downs are considered normal, all these domains are non-significant among universities.

CONCLUSION: Examination of the overall assessment of Beck's Depression Inventory revealed that majority of Pharm.D students are suffering from some kind of depression.

KEY WORDS: Prevalence, depression, pharmacy, student, domains, magnitude

INTRODUCTION:

Depression and anxiety may have a negative effect on proficiency of academic program^[1]. Globally, depression is a 19th prevailing disease and leading cause of disability^[2]. Childhood abuse, neglect, violence and severe stress are probably related factors for depression^[3]. In the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5), the depressive disorders are classified as major depressive disorder and persistent depressive disorder^[4]. Documentation has done in many parts of the world about prevalence of depression among health sciences students. When depression incidences are compared among health science students with other groups, it was noted that higher incidences are reported among medical students compare to other groups of same age

with magnitude of 30% and 7% respectively^[5].

In Alexandria University, depression and anxiety among students of Faculty of Pharmacy was found to be 51.1% and 29.3% respectively^[6]. Depression among pharmacists may lead to poor work performance and five times increase risk of medication error as compare to non depressed pharmacists^[7]. In a survey of Australian nurses, it was found that 13% had a history of depression and anxiety^[8]. Pharmacist plays a highly active and an important role in managing mental illnesses.

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Because of this reason, it is essential that they should have positive attitude and normal mental health. Prevalence of depression among pharmacy male and female students is 59.49% and 64% respectively^[9]. Similarly prevalence was found to be 49.74% in public sector universities and 57.01% in private sector universities^[9].

Karachi is a mega city of Pakistan, 04 public sector universities and 05 private sector universities are offering Pharm.D degree program. It is also expected that in couple of years 03 more universities will start same program. As these pharmacists will serve country in healthcare sector, therefore, the objective of this study is to evaluate the depression among Pharm.D students of different universities.

MATERIALS AND METHODS:

A descriptive cross sectional study was conducted in Karachi from July 2017 to December 2017. The data were collected by Beck's Depression Inventory^[10] from Pharmacy Students (Doctor of Pharmacy) of 5th, 4th and 3rd professionals of public and private sector universities of Karachi, Pakistan. Beck's Depression Inventory is well established questionnaire to screen for depression and validated for non-psychiatric patients^[11] and

students.^[12] A minimum sample size of 249 Pharm.D students was determined by precision analysis technique, where level of significance=0.05. 469 students filled the inventory; however, analysis was done on 456 responders^[10].

The questionnaire focused on six main domains; (borderline clinical depression, extreme depression, mild mood disturbances, moderate depression, severe depression, normal ups and downs). The questionnaire included data in ordinal scale which is evaluated by calculating domain scores by formula in Beck's Depression Inventory^[10].

SPSS 23 version software was used to evaluate descriptive, inferential statistics and to determine the level of significance of each domain among students of different universities.

RESULTS:

Out of the total (469), 456 (97.22%) responders are analyzed for the presences of any type of depression. 13 (2.77%) responders are rejected because of incomplete filling of Beck's Depression Inventory. Distribution of each domain is found to be same across all universities.

TABLE – I (Score of Domains of Depression across Universities)

| Domains | All Universities (N=456) | U-1* (N=179) | U-2* (N=43) | U-3* (N=39) | U-4** (N=195) | Kruskal-Wallis Test (Sig.)*** |
|--|--------------------------|---------------|---------------|---------------|---------------|-------------------------------|
| Borderline clinical depression | 7.89% (n=36) | 6.70% (n=12) | 0% (n=0) | 5.13% (n=02) | 11.28% (n=22) | p=0.392 |
| Extreme depression | 3.29% (n=15) | 2.79% (n=05) | 4.65% (n=02) | 5.13% (n=02) | 3.08% (n=06) | p=0.532 |
| Mild mood disturbance | 21.05% (n=96) | 18.99% (n=34) | 4.65% (n=02) | 12.82% (n=05) | 28.21% (n=55) | p=0.496 |
| Moderate depression | 21.27% (n=97) | 12.85% (n=23) | 55.81% (n=24) | 5.13% (n=02) | 24.62% (n=48) | p=0.392 |
| Severe depression | 6.14% (n=28) | 3.91% (n=07) | 27.91% (n=12) | 0% (n=0) | 4.62% (n=09) | p=0.069 |
| These ups and downs are consider normal | 40.35% (n=184) | 54.75% (n=98) | 6.98% (n=03) | 71.79% (n=28) | 28.21% (n=55) | p=0.239 |

*State owned public sector university **Non-state owned private sector university

***Significance Level is 0.05

DISCUSSION:

The main objective of this study was to evaluate the magnitude of depression in Pharm.D students for six main domains of Beck's Depression Inventory^[10]. Unfortunately, it has been noted that depression is prevailing among pharmacy students. Depression is a kind of disease which requires both psychological and pharmacological management. Depression may lead to serious consequences and one of them is suicidal thoughts or attempts. Such events among students of pharmacy and medical have taken place as reported by Rubin R. et al and Browsers P^[13].

The current study reveals that borderline clinical depression is 7.89% among Pharm.D students and highest magnitude is found in students of private sector university, which is 11.28%, however, there is no statistically significant difference ($p=0.392$) among universities for borderline clinical depression. In the similar way, the domain of extreme depression is 3.29% and highest value is reported by the students of one of the public sector universities. Among universities no significant difference ($p=0.532$) is observed. Similarly magnitude of severe depression was found 10% in the students of Islamic seminaries of Pakistan^[14]. The educational environment of Pakistan is also contributing for such high prevalence of depression^[15].

The domain of mild mood disturbances achieved the score of 21.05% and higher score is reported among the Pharm.D students of private sector university and one of the public sector universities, which is 28.21% and 18.99% respectively, however, no significant difference ($p=0.496$) is noted. Mild mood disturbances can be treated by cognitive behavioral therapies without drug intervention^[16]. NICE guidelines for depression also support the cognitive behavioral therapy for mild mood disturbance^[17].

Domain of moderate depression is 21.27% and highest score is reported among the students of state owned university, which is 55.81%, similarly difference is also non-significant ($p=0.392$). Most importantly, severe depression was also highest among the students of same state owned university i.e.

27.91%, while overall score of universities is 6.14%. Magnitude of severe depression is also same among students of different universities ($p=0.069$). Study reveals that students under stress and depression may lead to habits like smoking, chewing tobacco or alcohol intake^[18].

The last domain of Beck's depression inventory, which deals with ups and downs, that are considered normal have score of 40.35% with no significant difference ($p=0.239$) in magnitude of different universities, it suggests that around 60% of students are coming under any domain of depression. Majority of students are suffering from moderate depression and mild mood disturbances. Interestingly, despite having numeric differences among domain scores across public and private sector universities, statistically no significant differences are noted. No significant difference was observed in prevalence of depression among pharmacy students of Karachi, Pakistan compare to USA, Canada and Middle-Eastern countries^[19]. Depressive symptoms were 35% and 23% noted among Pharmacy students of Syrian University at different point of times^[20].

Most of the students are under the domain of any kind of depression i.e. why Pharmacy Council of Pakistan, Higher Education Commission and Universities curriculum committee should think seriously about this issue. Training of universities teaching faculty with such tools that enhanced the communication and presentation skills could further help to reduce the burden of depression among students, as students will get better guidance with clarity.

CONCLUSION:

After assessing six main domains provided by Beck's Depression Inventory, unexpected findings were noted about the prevalence of depression among Pharm.D students of different universities of Karachi, Pakistan. Moderate depression and mild mood disturbances are major challenges need to address. Despite having higher score in few domains of particular university, statistical significance was not observed for any difference.

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Value of a man depends upon his courage; his veracity depends upon his self-respect and his chastity depends upon his sense of honor.

Hazrat Ali (Karmulha Wajhay)