

Findings of A Retrospective Study on Factors Responsible for Depression in A Northern Indian State

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ÖZET:

Bir Kuzey Hindistan Bölgesinde depresyondan sorumlu olan etmenleri inceleyen geriye dönük çalışma bir çalışmanın sonuçları

Amaç: Depresyon, dünya genelinde hastalık ve özürülük sebepleri arasında başı çekmektedir. Depresyon sıklığından sorumlu etmenler ülkeler ve kültürler arasında değişir. Bu çalışmada Hindistan'ın Haryana bölgesindeki depresyon yaygınlığı ve bundan sorumlu olası risk etmeleri ile ilgili bilgi sağlanması amaçlanmıştır.

Yöntem: Üç farklı ilçe devlet hastanelerinin psikiyatri birimlerinden Eylül 2010 tarihinden Ağustos 2013 yılına kadar depresyon tanısı doğrulanmış toplam 4512 hastanın geriye dönük tıbbi kayıtları değerlendirilerek çalışma verisi oluşturuldu. Veriler bir istatistiksel yazılım olan SPSS versiyon 13[®] kullanılarak analiz edildi.

Bulgular: Depresyon sıklığı kadınlarda anlamlı olarak daha yüksek saptandı ($\chi^2=32.9$, $df=1$, $p<0.001$) ve hastaların çoğunluğu kadındı (58 %). Etnik yapı açısından, hastaların yüzde yetmiş sekizini Hindular ve toplumun düşük ve daha düşük sınıfları oluşturmaktaydı. Fakat, yaş açısından ise 1714'ü (38%) 50 yaş ve üstünde idi ($\chi^2=38.78$, $df=1$, $p<0.001$). Hasta değerlendirmelerinde en sık tespit edilen stresörler; sosyal sorunlar ve tıbbi hastalıklardı. Kadınlarda depresyonla ilişkili belirlenen etmenler; evlilik ve aile problemleri, sonra sırası ile ilişki/çocuk sorunları ve sevilen birinin vefatıydı. Fakat erkeklerde ise; finansal ve iş ile ilişkili sorunlar en sık belirtilen stresörlerdi. Tıbbi hastalıklardan ise en sık olarak belirtileni hipertansiyon idi.

Sonuç: Genel olarak, bulgular düşük sosyoekonomik düzeydeki ve tıbbi hastalıkları olan yaşlı hastalarda depresyonun yüksek oranda olduğunu göstermektedir.

Anahtar sözcükler: depresyon, risk etmenleri, sosyoekonomik, tıbbi hastalıklar, Kuzey Hindistan, Haryana bölgesi

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ABSTRACT:

Findings of a retrospective study on factors responsible for depression in a Northern Indian State

Objective: Depression is a leading cause of morbidity and disability worldwide. The factors responsible for the prevalence of depression vary across countries and cultures. This study was aimed to provide data on the prevalence of depression and the possible risk factors responsible for its prevalence in Haryana State, India.

Methods: A retrospective study on factors responsible for depression in a Northern Indian State.

A retrospective evaluation of the medical records of a total of 4512 patients with a confirmed diagnosis of depression was carried out at the psychiatric units of three different district government hospitals from September 2010 till August 2013. The data was analyzed using the statistical software, SPSS version 13[®].

Results: Prevalence of depression was found to be significant among females ($\chi^2=32.9$, $df=1$, $p<0.001$), as a majority (58%) of the patients were females. In terms of ethnicity, seventy-eight percent patients were Hindus and belong to lower castes of community and other backward classes. However, in terms of age, 1714 (38%) were over 50 years of age ($\chi^2=38.78$, $df=1$, $p<0.0001$). Social problems and medical complications were the most common identified stressors during patient evaluation. Marital and family problems, followed by relationship/childhood problems and death of loved ones, were the frequent risk factors identified among females. However, financial and job related problems were the most common stressors identified among males. Among medical complications, hypertension was the most frequent.

Conclusions: Overall, the findings demonstrate a high rate of depression among people of low socioeconomic status and aged patients with medical conditions.

Key words: depression, risk factor, socioeconomic, medical conditions, North India, Haryana state

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INTRODUCTION

Depression is a common disorder affecting over 120 million people worldwide and recent epidemiological surveys conducted in general populations have found that the lifetime prevalence of depression is in the range of 10-15% (1). It has been estimated that by year 2020 depression would be the leading cause of mental disability worldwide and predicted to be the 2nd leading cause of all health disability (2). Though global estimates are not available, depression costs more than USD 83 billion annually in medical treatment, in addition to lost productivity at workplace (3). The prevalence of depression varies across countries but the population in developing countries is at a greater risk (4). According to a recent WHO-sponsored study, around 9% of people in India reported having an extended period of depression within their lifetime, and nearly 36% suffered from major depressive disorder (5).

No current data is available on the prevalence and causes of depression in India. So far, no prominent study has explored factors associated with depression. This study aims to provide data about the prevalence of depression and the possible socio-demographic factors associated with depression.

METHODS

A retrospective evaluation of the medical records was carried out at the psychiatric units of three different district-level government-run hospitals in the state of Haryana in India, from September 2010 to August 2013. Its estimated population is 21 million with 11 million males and 10 million females, according to the 2001 census (6).

Ethical Approval

The research protocol was approved by the Institutional Review Board, Guru Jambheshwar University of Science and Technology, Hisar, Haryana, India.

Patients' Data Collection

Medical records of 5682 patients registered at the psychiatric units of three district level government run

hospitals were retrieved from the medical records section for the period September 2010 to August 2013. Only patients with confirmed diagnosis of depression were included in the study. Patients diagnosed with other psychiatric disorders or with any other comorbidity were excluded from the study. Data collection form was designed and used to obtain the data from the patients' medical profile. Information on socio-economic indicators and stressors identified by the treating psychiatrists was collected on a separate data collection form for each individual patient's record and numbered accordingly. Any incomplete or missing information records were deleted from the final set of data. This provided us with data for a total of 4512 patients for the analysis.

Data Analysis

Data was analyzed using the statistical software, SPSS version 13[®]. The data with quantitative variables were expressed by mean (\pm SD) and range while the qualitative variables were estimated by frequency and percentage. However, the Chi-square test was applied to evaluate further the association of ethnicity, caste, gender and age group with the prevalence of depression. In some cases where the cell count was less than 5, the Fischer's exact test was applied.

RESULTS

Out of 5682 patients registered at psychiatric units, a total of 4512 patients with a confirmed diagnosis of depression without any psychiatric comorbidity were identified for the study. Of these, a majority [2617(58%)] were females. Prevalence of depression was found to be statistically significant among females ($\chi^2= 32.9$, $df= 1$, $p<0.001$). In terms of ethnicity, a majority [3519(78%)] were Hindus and belonged to lower castes of Hindu community and other backward classes. However, in terms of age, a majority, 1714 (38%) were over 50 years of age ($\chi^2= 38.78$, $df= 1$, $p<0.0001$). Of these, 1097 (64%) were females ($\chi^2= 9.22$, $df= 1$, $p\leq 0.01$). Sixty-two percent adult patients were married whereas 18% were unmarried. The widowed, divorced, and separated spouses together comprised 14% of total patients. In terms of socioeconomic status, the majority 3429 (76%) belonged to low stratum. Details about the patients' demographics are described in Table 1.

Table 1: Sociodemographic details of the patients

| Sociodemographic Factors | Patients | Significance (p value) |
|--------------------------------|------------|-----------------------------------|
| Ethnicities/Religion | | |
| Hindu | 3519 (78%) | $\chi^2 = 151.14, df=4, p<0.001$ |
| Sikh | 361 (8%) | |
| Muslim | 271 (6%) | |
| Christian | 226 (5%) | |
| Others | 135 (3%) | |
| Castes | | |
| Lower Castes | | |
| Scheduled Castes | 982 (32%) | $\chi^2 = 11.1, df= 2, p<0.01$ |
| Scheduled Tribes | 552 (18%) | |
| Other Backward | 1534 (50%) | |
| Upper Caste | 1444 (32%) | |
| Gender | | |
| Male | 1895 (42%) | $\chi^2 = 32.9, df= 1, p<0.001$ |
| Female | 2617 (58%) | |
| Age (Range 10-85 years) | | |
| Mean age= 45.68±19.43 | | |
| 10-15 years | 90 (2%) | $\chi^2 = 38.78, df= 5, p<0.0001$ |
| 16-25 years | 135 (3%) | |
| 26-35 years | 497 (11%) | |
| 36-45 years | 812 (18%) | |
| 46-50 years | 1264 (28%) | |
| > 50 years | 1714 (38%) | |
| Marital status | | |
| Unmarried | 812 (18%) | $\chi^2 = 68.1, df= 2, p<0.001$ |
| Married | 2798 (62%) | |
| Widowed | 315 (7%) | |
| Divorced and separated | 361 (8%) | |
| Socioeconomic status* | | |
| High | 451 (10%) | $\chi^2 = 96.6, df= 3, p<0.001$ |
| Middle | 632 (24%) | |
| Low | 3429 (76%) | |

*Based on income, education and occupation†

Whilst evaluating the factors responsible for depression, social problems and medical conditions were identified as the most common stressors in the evaluation of the patients' diagnostic records. Among social issues, relationship problems followed by marital and family problems and death of loved ones were the frequent stressors identified among females. However, financial and job related problems were more common amongst males. Drug addiction and use of narcotic substances was also reported in few male patient profiles. Details of social stressors identified as possible reasons for depression are mentioned in Figure 1.

Amongst medical conditions, hypertension and diabetes mellitus were the most commonly reported

complications in patients. Findings also revealed a gradual increase in the number of depressed patients every year. The highest number [1920 (43%)] was registered in the year 2012-13. Details about the annually registered cases are described in Figure 2.

DISCUSSION

Finding of this retrospective study demonstrated high prevalence of depression among women above 50 years of age from lower castes of Hindu community with low socioeconomic background. Various sociodemographic variable studies have shown the prevalence of depression to be more common among women (7-11), younger

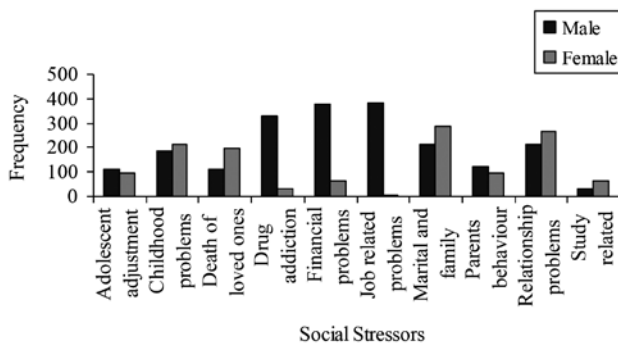


Figure 1: Gender based identified social stressors for depression

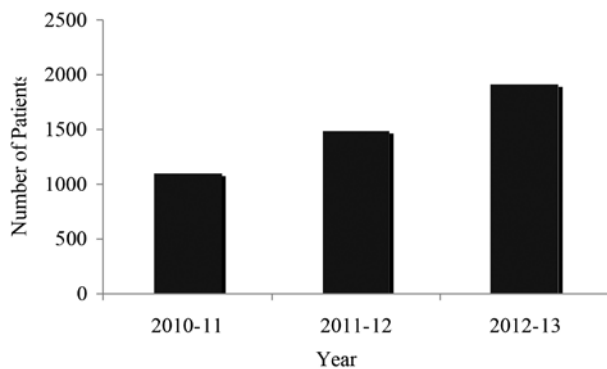


Figure 2: Year wise details of number of patients registered with depression

subjects (12) and in subjects from poor economic background (8,10,13).

In our study, the late onset or old age depression (first episode of depression at or after the age of 50) is more common in subjects belonging to low socioeconomic class, widowed state and/ or unemployed condition. This is in confirmation with the previous studies (11,14-16) carried out in the past on late onset of depression. With regard to gender, most of studies have reported that it is more common in elderly women (11,16,17), similar to our findings. It is also seen that the prevalence of depression increases with increasing age in elderly. Moreover, like other studies (18-24), it was also seen that depressed patients have significantly greater number of life events prior (6-12 months) to the onset of their illness. In terms of type of life events, it was observed that depressed patients experience significantly higher proportion of life events related to death of a family member, health related or medical events, bereavement,

interpersonal and social events. However, in our study, the number of life events was more among women subjects. This is in confirmation with the previous studies, which have shown an association between relationship problems and familial issues as the frequently reported stressors for depression among women (25,26). Sherine et al., (2003) also provided evidence of a high frequency of relationship problems among women, especially with partners, siblings and loved ones (25). Furthermore, the loss of loved ones was a potential event reported more among women in our study. This finding provides evidence about the sensitive and sympathetic nature of women, which result in a potent emotional reaction, leading them to the depressed state (27). Majority of financial and job related problems were more frequently reported among males. Previous studies have provided sufficient evidence to prove the association of socioeconomic problems and drug addiction with the prevalence of depression (28,29).

Another reported event was the childhood-related problems of the patient. These problems may be due to the behavior of parents and lack of attention and love. Childhood problems were reported more by men, but problems due to lack of attention and love were observed more among female adolescents. These findings provided a link that associated childhood problems to depression in later life (27).

The age group above 50 years was at greater risk of developing depression due to medical complications. Hypertension and Diabetes mellitus were the most frequent medical conditions reported by the patients. These findings comply with other studies that provide evidence of frequent depressive disorders among diabetic and hypertensive patients (30-33). A possible reason for the depressive symptoms among hypertensive patients may be possibly due to the use of beta blockers (32,34). These findings are in compliance with results of other studies (25), which report a high prevalence of depression among elderly hypertensive and diabetic patients. Other medical complications noticed alone or in combination with diabetes mellitus and hypertension were heart failure, ischemic heart disease, stroke, hyperlipidemia, asthma, COPD, Parkinson’s disease, renal insufficiency, sexual dysfunction, dementia, anemia and rheumatoid and osteoarthritis. These findings highlight the association of depression with other chronic medical illnesses and

provide evidence that a variety of medical disorders and their therapies can result in depression (34). These findings highlight the need to consider the effect of co-morbid medical conditions on the mental health of the individual (35). Negligence in this regard will result in increased disability and costs to the community.

CONCLUSION

Medical complications and social problems were identified as the most common stressors in depressed patients. Overall, our findings demonstrate a high risk of depression among socioeconomically weaker section of the society and elderly patients with medical complications. In terms of gender, social and financial problems were potential stressors in both males and females resulting in depression. Moreover, depression was a result of both medical complications and social

problems in lower castes of Hindu community.

Although the findings of our study are suggestive of a high risk of depression among different sections of the society, the retrospective nature of the study limits the findings. More research, especially prospective studies looking at prevalence and etiological factors responsible for depression, need to be done in the larger context of Indian society. The study was also limited due to scarcity of information regarding specific medications or use of narcotics by the patients.

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