Depressive Disorders among People with Chronic Illness in an Urban Area of South India

V. Raghuram[1], N. S. Narasimha Murthy[2]

[1]Department of Community Medicine, Chennai Medical College Hospital and Research Centre, Irungalur, Trichy, Tamil Nadu, India,
[2]Department of Statistics, Vydehi Institute of medical sciences, Bengaluru, Karnataka, India

ABSTRACT

Background: Over the past decades, twin demographic and epidemiological transitions have been reflected an increase in the burden of chronic diseases. Although public health practitioners have recognized the increasing burden, the socioeconomic and overall health impact is to be adequately researched. Depressive disorders are considered an important correlate, for appropriate management of chronic disease but have been given relatively less importance. Hence, this study was taken up in an urban slum of Bengaluru city to explore the associations between depressive disorders and chronic diseases.**Methodology:** The cross-sectional community-based study was conducted in an urban slum of Bengaluru city using a modified cluster sampling technique. All persons who were ill or on long-term medication or were hospitalized for a period more than 3 weeks in the past 1 year were interviewed. A semi-structured pre-tested questionnaire incorporating Hamilton Depression Rating Scale was used. **Results**: He overall prevalence of chronic illness was 10% among the study population with 10.9% having mild depression, and 1.2% having mild-moderate depression, and none severe depression. None of them were taking any treatment for their depression. The mean age of those with mild depression was 53.9 years and was greater among females (males 5.0% and females 16.7%). The latter was highly statistically significant. Of the 91 persons with symptoms of mild depression, nearly two-thirds (58.2%) belonged to Class IV of Modified B G. Prasad's classification. Factor analysis showed that HAM-D scores to have a significant relation with chronic illness. **Discussion:** Depressive disorders among those with chronic disorders are hitherto unrecognized in routine clinical practice. Middle ages, females and those lower down in the socioeconomic hierarchy are at greater risk. There is a need to establish a mechanism for appropriate management of these disorders.

Key words: Chronic illness, depressive disorders, urban area

BACKGROUND

Over the past century, considerable changes have taken place in both developed and developing countries with regard to population structure and type of diseases, which affect them the so-called demographic and epidemiological transitions. This has resulted in increasing life expectancy and population aging wherein all age groups are represented more or less equally up to the age of 70–80 years. The epidemiological transition has resulted in a state of low premature mortality and predominance of chronic diseases.[1] For many years, public health practitioners have recognized the increasing burden of chronic illness.[2] Developing countries are now warned to avoid the "epidemics" of non-communicable diseases likely to occur as a result of socioeconomic and health development.[3]

A significant number of elderly people today are likely to have physical and mental morbidity besides having psychosocial problems.[4] Among the various mental disorders of old age, depression is the most common problem observed in the community. According to the estimates of the World Health Organization, the overall prevalence rate of depressive disorders among elderly generally varies between 10% and 20% depending on cultural situations.[5]

METHODOLOGY

The study protocol was submitted for ethical clearance to the Ethical Committee of M S Ramaiah Medical College and clearance was obtained before the commencement of the study. Data were collected using a pre-tested semi-structured questionnaire which was administered, using the interview

Correspondence: Dr Raghuram V, Professor ,Department of Community Medicine, Trichy SRM, Medical College Hospital and Research Centre, Irungalur, Trichy, Tamil Nadu, India, E-mail: raghu3873@gmail.com

method by house-to-house visits. Modified cluster sampling was used for the selection of the study population. The study population was screened for the presence of symptoms of depression using Hamilton Depression Rating Scale (HDRS).[6] For classification of socioeconomic status of the study population, need for assistance in activities of daily living (ADL) was assessed by Katz ADL Scale.[7]

The information was collected from the persons with chronic illness by direct interview, and no proxy responses were allowed for any of the questions. Only in those situations, where the study subject was too young or not in a position to give a meaningful response to the interviewer the information was elicited from the mother or the informal caregiver.

The data were entered into Microsoft Excel and analyzed using SPSS 12.0 version. Proportions, Chi-square test, and factor analysis were used to analyze and interpret the data.

RESULTS

The overall prevalence of chronic illness in the study population was 10%. The prevalence was more among females (12.3%) compared to males (7.8%). The overall prevalence of symptoms of mild depression was 10.85%, and the prevalence of symptoms of mild-moderate depression was 1.2%, and the depression rates were different among males and females (Table 2). This difference was found to be statistically significant at 1% level of significance. Females were twice at risk in comparison to males (OR: 2.1 [1.38–3.17]). Of those with depressive disorder, more than half (56.9%) belonged to socioeconomic Class 4, and one-third (34.3) were widow or widowers.

In the study population, 42% of people suffering from musculoskeletal disorders showed signs of mild depression while 25% of patients with asthma showed signs of mild depression. It was also observed that 19% of patients with diabetes showed signs of mild depression.

Less than one-fifth (17.5%) of the respondents reported a poor health status, which was significantly associated for those with and without depression and every other person reporting poor health status had depression. The odds of reporting poor health status for those with depression were more than 4 (2.5–7.3).

The one-fifth (10.5%) had at least difficulty with at least one ADL; of them more than half (56.8%) revealed to be depressed. While these proportions were statistically highly significant, the odds of a difficulty in ADL and being depressed were more than 5.2 (2.7–10.0).

Duration of treatment was significantly associated with HDRS scores. Nearly one-fourth (23.1%) of those who were seeking

treatment for more than 2 years were found to be depressed, and the difference in proportions was statistically very highly significant. Interestingly, greater proportions were depressed within 6 months of treatment, came down during the year and increased to earlier proportions by 2 years. Among those obtaining treatment for more than 2 years, the odds of being depressed were 2.03 (range 1.4–3.6).

It can be observed from Table 1 that 21.7% pf the study population had symptoms of mild depression according to HDRS rating. 2.3% of the study population showed signs of mild-moderate depression.

Increased prevalence of chronic illnesses like hypertension, diabetes has necessitated the need for a special diet. Female caregivers are known to be assist their care recipients in taking medications, dressing, bathing, eating, meal preparation, shopping, laundry, and money management more often to a significant degree. Patients with chronic medical illness are known to have a high prevalence of comorbid depression (Table 3). Studies conducted to examine the associations

Table 1: Distribution of study population according to HDRS rating (*n*=417)

HDRS rating	Frequency (%)
No depression	317 (75.5)
Mild depression	90 (21.7)
Mild-mod depression	10 (2.3)
Total	417 (100.0)

HDRS: Hamilton depression rating scale

Table 2: Gender wise distribution of HDRS rating (*n*=417)

Gender	No depression	Mild depression	Mild-mod depression	Total
Female	174 (42.0)	71 (16.7)	7 (1.6)	252 (60.4)
Male	141 (33.8)	21 (5.0)	3 (0.8)	165 (39.6)
Total	315 (75.8)	92 (10.85)	10 (1.2)	41 (100.0)

*Figures in brackets indicate percentages, HDRS: Hamilton depression rating scale

Table 3: Association of chronic illness and depression

Variable	Factor loading	Communality
Need for a special diet	0.542	0.706
Regularity of treatment	0.483	0.684
Sex	0.480	0.721
Person preparing the special diet	0.476	0.597
Requires regular follow-up or not	0.455	0.713
Social class	−0.455	0.746
Family income	0.417	0.787
HDRS score	−0.399	0.493

HDRS: Hamilton depression rating scale

between depressive symptoms and chronic conditions have found a higher prevalence of depressive symptoms among females compared to males. Persons belonging to lower social classes are less likely to be adherent with their treatment probably due to cost considerations.

DISCUSSION

India is experiencing a rapid health transition, with large and rising burdens of chronic diseases, which are estimated to account for 53% of all deaths and 44% of disability-adjusted life years (DALYs) lost in 2005.

Estimates, from the Global Burden of Disease Study, have projected that the number of deaths attributable to chronic diseases would rise from 3 78 million in 1990 (40 4% of all deaths) to7 63 million in 2020 (66 7% of all deaths).

Age is an important determinant of mental disorders. A high prevalence of mental disorders is seen in old age. Besides Alzheimer's disease, elderly people also suffer from a number of other mental and behavioral disorders. Overall, the prevalence of mental disorders tends to rise with age. Predominant among these is depression.[8]

World Health Organization ranks depression as the world's fourth greatest public health problem.[9]

The future projections of global DALY's in the year 2020 show that mental disorders are projected to increase 15% of the global disease burden and unipolar major depression could become the second leading cause in the disease burden after ischemic heart disease, especially in high-income countries.[9]

In India, nearly 15 million people suffer from serious psychiatric illness, and another 30 million from psychiatric problems.[9]

In the present study, the prevalence of symptoms of the mild depression was 10.85% which is similar to earlier studies.[10,11] Hospital-based studies by Filip *et al*. have revealed a higher prevalence of 28.5%.[10]

Depression caused by chronic illness can aggravate the illness, causing a vicious cycle to develop. Depression is especially likely to occur when the illness causes pain, disability, or social isolation. Depression, in turn, can intensify pain, fatigue, and the self-doubt that can lead the patient to avoid other people.

The rates for depression that occurs with other medical illnesses are quite high:
- Heart attack: 40–65%
- Coronary artery disease (without heart attack): 18–20%
- Parkinson's disease: 40%
- Multiple sclerosis: 40%
- Stroke: 10% to 27%
- Cancer: 25%
- Diabetes: 25%[12]

In the present study, 30.7% of persons with hypertension and 25.7% of persons with diabetes mellitus showed signs of mild depression which are in contrast to earlier studies which showed a significant association with ischemic heart disease.[11]

CONCLUSION

The present study sheds light on the relationship between chronic illness and depression along with the role of social factors in the care of persons with a chronic illness which needs to be explored in greater depth and different social contexts.

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