Prevalence of depression among outpatients visiting an urban health center in Kancheepuram District, Tamil Nadu

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ABSTRACT

Background: Depression an illness that affects both the body and mind and is one of the leading causes of disability, decreased productivity, workplace absenteeism, and high suicide rates. If diagnosed at an earlier stage, the associated morbidities can be prevented, and the prognosis will be good. **Objective:** The objective of this study was to find out the prevalence of depression in an urban area of Kancheepuram district, Tamil Nadu. **Materials and Methods:** This is a descriptive cross-sectional study conducted among outpatients attending Urban Health Training Centre situated in Anakaputhur, an urban area of Kancheepuram district, Tamil Nadu. All the outpatients >18 years of age attending the Urban Health Training Center during the month of August were including in the study after obtaining informed consent. A pre-tested structured questionnaire was used to collect the sociodemographic details and Patient Health Questionnaire -9 questionnaire to assess the prevalence of depression. Data were analyzed using SPSS version 22. **Results:** The prevalence of depression was found to be 33.1%. It was higher in females (38.1%) when compared to males (27.3%). Around 12.3% of the participants suffered from mild depression, followed by moderate (14%), moderately severe (5.7%), and severe depression (1.4%). Nearly 44% of the depressed patients felt somewhat difficult to carry out their everyday activities. Among male participants, depressed persons were more likely to be alcohol and tobacco consumers. Among female participants, depressed persons were more likely to be unemployed. **Conclusion:** The high prevalence of depression shows that apart from increasing mental health services and integrating this with general health services in our community there is also a dire need to focus on greater Information, Education and Communication activities regarding awareness of causes of the depression and its prevention. This can lead to early diagnosis and management which can improve the overall morbidity due to depression.

KEY WORDS: Mental Health; Stress; Suicide

INTRODUCTION

Depression or major depressive disorder is one among the most common mood disorders and it can affect anyone and can coexist with other major illness prolonging the associated morbidities. It typically presents with persistent sadness and people affected will lose interest in activities that they usually enjoy, and it is usually accompanied by unable to perform daily activities for a minimum period of 2 weeks. Other symptoms which are associated with depression include fatigue, anxiety, unable to make decisions, restlessness, guilt, hopelessness, suicidal tendencies, and change in sleep patterns. Depression is treatable with counseling, behavioral therapy, antidepressant medications, or combination of these.[1]

In the 2010 Global Burden of Disease Study, it was found that depression accounts for 9.7% of years lived with disability.[2] According to the World Health Organization (WHO), the prevalence of depression varies between WHO regions and it is around as low as 2.6% among males in Western Pacific and

5.6% among females in African region. In South East Asia region, the prevalence is 5% among males and 3.8% among females.[3]

In India, 15% of the global DALYs can be attributed to mental, substance use, and neurological disorders with a prevalence of 37% accounting for depression in the year 2013. By the year 2025, the DALYs attributed to depressive disorders are expected to rise by 22.5% due to an aging population and population growth. According to the National Mental Health Survey (2015–16), 5.35% of those aged >18 years of age have suffered from depression at least once in their lifetime.[4]

Among the young- and middle-aged population, the major factors which are linked with depression are socioeconomic and psychosocial factors, changing lifestyle, migration, and urbanization. Recent evidence suggests that depression has relevance in chronic communicable diseases such as HIV, substance use disorders and cause, and prognosis of non-communicable diseases such as diabetes and hypertension.[5,6]

There have been found to be a relationship found between depression and physical health. A person who is suffering from the cardiovascular disease can develop depression and vice versa. This can lead to increased morbidity among them. The health education and prevention programs can be targeted at school children and adolescents to encourage a positive pattern of thinking in all aspects of life. These programs can also be targeted at parents of children with behavioral problems so that they can better understand their children and even help in overcoming parental depression which could improve the outcomes for their children.[7]

Preventive programs to reduce the burden of depression can be approached only when we know the burden and prevalence of depression in that particular area.[7] If not identified and treated at an earlier stage, depression can even lead to suicide. Based on these factors, the study was carried put to find out the prevalence of depression and its associated factors so that measures can be taken to prevent the mortality and morbidity associated with the same.

MATERIALS AND METHODS

Study Design

This is a community-based cross-sectional descriptive study carried out in Anakaputhur, an urban area of Kancheepuram district of Tamil Nadu.

Study Area and Population

The study was done among outpatients attending Urban Health Training Center, Anakaputhur, that belongs to the urban field practice area of medical college in Kancheepuram district of Tamil Nadu.

Study Period

The study was carried during August 2018.

Sample Size and Sampling Technique

The sampling technique followed was purposive sampling technique based on inclusion and exclusion criteria.

The inclusion criteria were outpatients >18 years of age and giving voluntary informed consent. Exclusion criteria were patients who have clinical evidence of any other psychiatric illness excluding depression and those who did not give informed consent. A total of 350 outpatients participated in the study at the end of 1 month.

Ethical Approval and Informed Consent

Ethical approval was obtained from Institutional Ethical Committee, Sree Balaji Medical College and Hospital. The study purpose and confidentiality were explained to each participant, and the informed consent was obtained from all willing participant in the local language.

Data Collection Method

The data for this study were collected using a pre-tested structured interview schedule consisting of sociodemographic details of the participants. Prevalence of depression among the study group was assessed using the Patient Health Questionnaire-9 (PHQ-9). It is a self-administered version of PRIME - MD diagnostic instrument for common mental disorders. It is a depression module, which scores each of the 9 Diagnostic and Statistical Manual (DSM) - IV criteria (DSM of mental disorders, 4th edition) as 0 - (not at all) to 3 - (nearly every day). Depression severity is calculated by assigning scores of 0, 1, 2, and 3, to the response categories of 0 - not at all, 1 - several days, 2 - more than half the days, and 3 - nearly every day, respectively. PHQ-9 total score for the nine items ranges from 0 to 27. Scores of 5, 10, 15, and 20 represent cut points for mild, moderate, moderately severe, and severe depression, respectively.[8] It is a valid and reliable measure of severity of the depression.[9]

Data Analysis

Data were analyzed using SPSS version 22. Descriptive statistics were used for frequency tables, and the association between depression and related variables was done using odd's ratio and Chi-square at 95% confidence intervals.

RESULTS

The study done in the urban area of Kanchipuram district to find out the prevalence of depression gave varied and interesting results which are presented in the form of tables.

Sociodemographic Characteristics of the Study Participants

Among the study participants, it was found that 23.7% of them were >45 years of age. Regarding education, illiteracy was higher among female participants (40.7%). Around 25% of the participants had an education of at least up to high school. Unemployment was higher among females (51.9%) due to the housewife status. According to BG Prasad classification of socioeconomic status, 45.7% belonged to upper class. Around 71.7% of the study participants were married, only 5.4% consumed tobacco in any form and 29.8% of male participants were consumers of alcoholic beverages [Table 1].

Prevalence and Severity of Depression Among the Study Participants

The prevalence of depression among the study participants was found to be 33.1%. The prevalence was higher in males (38.1%) compared to females (27.3%). Around 12.3% of the participants had mild depression, 14% had moderate depression, 5.7% had moderately severe depression, and 1.4% had severe depression. As part of the PHQ-9 questionnaire, 21.6% of those who were depressed did not find it difficult to perform their day to day activities, 44% felt somewhat difficult, and 31.9% find it very difficult to perform daily activities [Table 2].

Association Between Depression and Related Variables Among Male Participants

Among the male study participants, it was found that those who were depressed were 3 times more likely to be tobacco consumers odds ratio (OR:3.028) and the association was also found to be significant. ($P < 0.05$). Similarly, those who were depressed were 2.6 times more likely to be alcohol consumers (OR:2.6), and the association was found to be statistically significant between them [Table 3].

Table 1: Sociodemographic characteristics of the study participants

Variables	Males *n*=161	Females *n*=189	Total study participants *n*=350
	n (%)	*n* (%)	*n* (%)
Age group (years)			
<45 years of age	36 (22.4)	47 (24.9)	83 (23.7)
>45 years of age	125 (77.6)	142 (75.1)	267 (76.3)
Education			
Illiterate	5 (3.1)	77 (40.7)	82 (23.4)
Primary school	2 (1.2)	6 (3.2)	8 (2.3)
Intermediate	24 (14.9)	35 (18.5)	59 (16.9)
High school	48 (29.8)	41 (21.7)	89 (25.4)
Diploma	60 (37.3)	16 (8.5)	76 (21.7)
Graduate or postgraduate	22 (13.7)	14 (7.4)	36 (10.3)
Occupation			
Unemployed	38 (23.6)	98 (51.9)	136 (38.9)
Employed	123 (76.4)	91 (48.1)	214 (61.1)
Family type			
Nuclear	97 (60.2)	115 (60.8)	212 (60.6)
Joint/three generation	64 (39.8)	74 (39.2)	138 (39.4)
Socioeconomic status (BG prasad scale)			
Class–I	96 (59.6)	64 (33.9)	160 (45.7)
Class–II	42 (26.1)	80 (42.3)	122 (34.9)
Class–III	19 (11.8)	33 (17.5)	52 (14.9)
Class–IV	4 (2.5)	10 (5.3)	14 (4)
Class–V	0 (0)	2 (1.1)	2 (0.6)
Marital status			
Married	130 (80.7)	121 (64)	251 (71.7)
Unmarried/divorced	31 (19.3)	68 (36)	99 (28.3)
Consumption of tobacco			
Yes	16 (9.9)	3 (1.6)	19 (5.4)
No	145 (90.1)	186 (98.4)	331 (94.6)
Consumption of alcohol			
Yes	48 (29.8)	0 (0)	48 (13.7)
No	113 (70.2)	0 (0)	302 (86.3)

Table 2: Prevalence and severity of depression among the study participants

Clinical variables	Males *n*=161	Females *n*=189	Total study participants *n*=350
	n (%)	*n* (%)	*n* (%)
Depression (PHQ–9) (*n*=350)			
Yes	44 (27.3)	72 (38.1)	116 (33.1)
No	117 (72.7)	117 (61.9)	234 (66.9)
Severity of depression (PHQ–9) (*n*=350)			
Mild depression	16 (9.9)	27 (14.3)	43 (12.3)
Moderate depression	20 (12.4)	29 (15.3)	49 (14.0)
Moderately severe depression	5 (3.1)	15 (7.9)	20 (5.7)
Severe depression	3 (1.9)	2 (1.1)	5 (1.4)
Difficulty check (PHQ–9) (*n*=116)			
Not difficult	7 (21.2)	18 (21.7)	25 (21.6)
Somewhat difficult	17 (51.5)	34 (41.0)	51 (44.0)
Very difficult	9 (27.3)	28 (33.7)	37 (31.9)
Extremely difficult	-	3 (3.6)	3 (2.6)

PHQ: Patient Health Questionnaire

Table 3: Association between depression and related variables among male participants

Variable	Presence of depression		Odd's ratio (95% CI)	Chi-square	*P*-Value
	Yes (*n*=44)	No (*n*=117)			
Age group (years)					
<45 years of age	12 (33.3)	24 (66.7)	1.453 (0.65–3.23)	0.842	0.359
>45 years of age	32 (25.6)	93 (74.4)			
Occupation					
Unemployed	12 (31.6)	26 (68.4)	1.313 (0.59–2.90)	0.452	0.501
Employed	32 (26.0)	91 (74.0)			
Family type					
Nuclear	31 (32.0)	66 (68.0)	1.843 (0.87–3.87)	2.633	0.105
Joint/three generation	13 (20.3)	51 (79.7)			
Socioeconomic status (BG prasad scale)					
Upper class	26 (27.1)	70 (72.9)	0.970 (0.47–1.96)	0.007	0.932
Upper middle/middle/lower class	18 (27.7)	47 (72.3)			
Marital status					
Married	33 (25.4)	97 (74.6)	0.619 (0.26–1.42)	1.285	0.257
Unmarried/divorced	11 (35.5)	20 (64.5)			
Consumption of tobacco					
Yes	8 (50.0)	8 (50.0)	3.028 (1.06–8.65)	4.598	0.032*
No	36 (24.8)	109 (75.2)			
Consumption of alcohol					
Yes	20 (41.7)	28 (58.3)	2.649 (1.27–5.49)	7.079	0.008*
No	24 (21.2)	89 (78.8)			

*P<0.05 Statistically significant at 95% CI using Chi-square test, CI: Confidence intervals

Association Between Depression and Related Variables Among Female Participants

Among female participants, those who were depressed were found to be 2 times more likely to be unemployed (OR:2.01) and the association between them was found to be statistically significant. (*P* < 0.05). Furthermore, those who were depressed were 3.5 times more likely to belong to middle and lower socioeconomic status and the association between them was also found to be statistically significant. (*P* < 0.05) [Table 4].

Table 4: Association between depression and related variables among female participants

Variable	Presence of depression		Odd's ratio (95% CI)	Chi-square	*P*-Value
	Yes (*n*=72)	No (*n*=117)			
Age group (years)					
Yes	21 (44.7)	26 (55.3)	1.441 (0.73–2.81)	1.150	0.283
No	51 (35.9)	91 (64.1)			
Education					
Illiterate	29 (37.7)	48 (62.3)	0.969 (0.53–1.76)	0.010	0.919
Literate	43 (38.4)	69 (61.6)			
Occupation					
Unemployed	45 (45.9)	53 (54.1)	2.013 (1.10–3.66)	5.282	0.022*
Employed	27 (29.7)	64 (70.3)			
Family type					
Nuclear	39 (33.9)	76 (66.1)	0.638 (0.35–1.16)	2.178	0.140
Joint/three generation	33 (44.6)	41 (55.4)			
Socioeconomic status (BG prasad scale)					
Upper middle/middle/lower class	59 (47.2)	66 (52.8)	3.507 (1.73–7.08)	12.97	0.000*
Upper class	13 (20.3)	51 (79.7)			
Marital status					
Married	44 (36.4)	77 (63.6)	0.816 (0.44–1.50)	0.428	0.513
Unmarried/divorced	28 (41.2)	40 (58.8)			

*$P<0.05$ Statistically Significant at 95% CI using Chi-square test, CI: Confidence intervals

DISCUSSION

There was a high prevalence of depression found in the present study (33.1%), and it was found to be more prevalent among females when compared to males. The major determinant of depression among males was found to be consumption of alcohol and tobacco, among females being unemployed was found to be associated with depression.

The prevalence of depression in the current study was found to be high (33.1%) and severe depression was found in 1.4% of the study participants, and around 12% and 14% were suffering from mild and moderate depression, respectively. In India, the prevalence of depression was found to be as low as 5% and as high as 21%, and the severity of depression was found to vary between 1.8% (severe depression) and 39.6% (mild-to-moderate depression) depending on various study groups, study designs followed in various studies.[9-16] Various factors can be attributed to the varying degree of prevalence among various studies. Some of them maybe study area, sociodemographic characteristics of the study population. From this study, it was found that, among the male participants who were suffering from depression, they were more at the odds of consuming alcoholic beverages and tobacco in some form. Depressed individuals were more likely to become problem drinkers (hazardous/harmful and possible dependent drinkers). In a study done by Hämäläinen *et al*., it was found that alcohol use, alcohol intoxication, and tobacco consumption were important risk factors for the major depressive disorder.[17] According to research, regular alcohol drinking can lead to depression and depression can lead to increased alcohol intake in users. Depression will only become worsened by increased alcohol intake.[18] From the study, it was found that, among the female participants, those who were suffering from depression were at increased odds of being unemployed. This is a known fact as unemployed women who mostly turn out to be housewives can become more stressed due to household chores, taking care of children, managing homes and they are also more prone to develop low self-esteem as they think that they do not contribute financially to the family. Similar results were obtained in a study done by Fatima *et al*.[19]

The major strength of this was that a validated questionnaire was used to quantify depression among the study participants. Since all of the participants were outpatients, health education about depression was provided to all those who were depressed, and they were receptive to the advice given to them. The limitation of this study was that it was done among the outpatients visiting the outpatient department of health center as they may be bound to be depressed as they were having problems with their health due to which they would have visited for treatment. The study would have yielded better results if the participants would have been visited in the community in their respective households which were not possible in this study due to logistic reasons.

CONCLUSION

The prevalence of depression in this study was found to be 33.1%. The major determinant of depression among males

was found to be alcohol consumption and among females were unemployment/housewife status. The high prevalence of depression found in this study is an alarming sign as this depression can lead to the development of many diseases and psychosomatic illness and worsen the prognosis of coexisting morbidity if any. It is the hour of need to find out the epidemiology of depression among various population groups and to adapt and improvise the existing health-care facilities to diagnose and manage cases of depressive disorders at the primary care levels.

Referral services have to be provided at primary care levels so that cases of severe depression and coexisting psychiatric illness can be identified and treated. All the health centers must be equipped with counseling services by qualified professionals. Information, Education and Communication activities have to be undertaken at all levels of health care to create awareness about depression and how to manage them and who to approach.

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