

# Identification of the Severity of Depression Among the Inhabitants of Old Age Homes in Mysuru - A Community Survey

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## ABSTRACT

**Background:** India ranks 4th in terms of size of the elderly population. An exceptional increase in geriatrics, nuclear families, changes in psychosocial values often compel this segment of society to live alone which increase vulnerability to mental health problems such as depression.

**Aims and Objectives:** To assess the prevalence and risk factors associated with depression in elderly population residing in old age homes.

**Materials and Methods:** An observational cross-sectional study, carried out at 10 randomly selected old age homes in Mysuru. The inhabitants who are willing to participate, above 50 years of age were included and the survey was conducted using MDI questionnaires, and scores were allotted and analyzed.

**Result:** out of 187 subjects, 27.80% [n=52] of the subjects were found to be having depression according to the MDI scoring. Majority [n=27, 51.92%] were affected with mild depression followed by moderate [n=19, 36.53%] and severe depressive disorder [n=6, 11.53%]. Females [57.69%, n=30] were at higher risk of developing depression than males [n=22, 42.30%]. Sleep disturbance (p-value=0.000114), diet (p-value=0.0026217) was found to be statistically significant risk factor for depression in elderly population.

**Interpretation and Conclusion:** the study shows that 27.80% of the inhabitants of old age homes were suffering from a psychiatric disorder. Hence, more schemes and awareness

programs need to be conducted through various campaigns, by providing counseling aids, uniform health checkups, and strict regulations for the need for at least one permanent HCP in old age homes must be carried out.

**Keywords:** Depression, elderly population, prevalence, risk factors.

## INTRODUCTION

Depression is one of the psychiatric disorders which is ranked as the single largest contributor leading to global disability. Although known effective treatments for mental disorders are available, more than 75% people of in middle and low-income countries receive no treatments.<sup>[1]</sup> In India, as per National Mental Health Survey 2015-16,<sup>[2]</sup> nearly one in 20 suffers from depression and 15% of the Indian population is suffering from one or more mental disorder which needs intervention. As of 2017, 45.7 million Indians were suffering from depressive disorder.<sup>[3]</sup>

Depression is characterized by various symptoms such as feelings of sad or low spirits, loss of interest in daily activities, lack of energy and strength, feeling of less confidence, feeling of guilt or helplessness or hopelessness, difficulty in concentrating, feeling of restlessness, trouble sleeping or lack of sleep, persistent feeling

worthlessness, suicidal thoughts, changes in appetite, irritability, pain, fatigue or weakness without physical cause. <sup>[4,5]</sup> Not everyone with depression experiences every symptom; some may experience few symptoms while others may experience many. To be diagnosed with depression the symptoms must be present for at least 2 weeks. Depression results from a complex interaction of social, psychological, and biological factors. It can be seen in any age group but is seen more in adults and older adults.

Like most psychiatric disorders, the exact cause of depression remains unknown, likely, genetic, hormonal, biochemical, positive history of depression, family history of depression, major life instances, major trauma or stress, certain medication and or physical illness all play important role in causing depression. <sup>[6]</sup> In older adults (elderly) depression can co-occur with other serious illnesses like heart disease, diabetes, cancer, dementia, or other illness. These co-morbidities even become worse when depression is present. In some cases, medications taken for these illnesses may cause side effects that may contribute to depression. other factors that may contribute to depression include a biochemistry-chemical imbalance in the brain that may contribute to the symptoms of depression, genetics-association of depression within families have been stated by some studies, hormones-changes in levels of certain hormones can cause or trigger depression, environmental factors-continuous exposure to violence, neglect, family situations, substance abuse, and poverty can also trigger depression, personality-person with low self-confident, dependent can't handle situation and workload easily can be more prone to depression. <sup>[5]</sup>

## **MATERIALS AND METHODOLOGY:**

**Study Setting:** A survey was conducted over six months among elderly individuals living in old age homes for more than 6 months in Mysuru.

**Inclusion and Exclusion criteria:** We randomly selected the inhabitants of old age homes above 50 years of age and who were willing to participate in the survey, were included after taking consent from them or their caretakers through the informed consent form. Whereas patients with severe illness and those inhabitants who don't have relevant data were excluded from the study

**Ethical issues:** written informed consent was taken from the individual subjects before the commencement of the study.

**Sample size:** Total number of subjects enrolled in the study: 187.

**Selection of subjects:** We randomly selected the subjects who met all the required inclusion and exclusion criteria.

**Data collection:** All the relevant information like demographic details, and medical and medication history of the patient were collected and documented using a suitable annexure.

### **Study Tools:**

**a. Informed Consent Form:** Informed consent is a process by which a subject voluntarily confirms his/her willingness to participate in a particular trial, after having been informed of all aspects of the survey that are relevant to the subject's decision to participate. It is documented using a written, signed, and dated informed consent form.

**b. MDI Questionnaire:** Major depression inventory (MDI) is a self-report mood questionnaire developed by WHO. The instrument was conducted by Prof. Per Bach, a psychiatrist in Denmark. It is a 50-point questionnaire with 10 questions scored and analyzed for depression.

**c. Patient Data collection Form:** It includes the demographics of the patients such as age, literacy, occupation, and socio-economic status and also consists of past medical history, past medication history,

current medication, and relevant laboratory details.

### MDI questionnaire scoring:

The major depression inventory is used to assess the depressive state of a person. Items 1-10 are summed up to give a total score for depression severity. The theoretical score range is from 0 to 50.

- No or doubtful depression: 0-20
- Mild depression: 21-25
- Moderate depression: 26-30
- Severe depression: 31-50

**Analysis:** The quantitative variables were described using their number and mean. Microsoft word and Excel have been used to generate graphs, tables etc. Chi-square test, mean and P-value were used in our study.

## RESULTS

### GENERAL DEMOGRAPHICS OF STUDY SUBJECTS

The study examined a total of 187 subjects, among which 45.99% are Males (n=86) and

54.01% females (n=101). All the subjects are aged 50 years and above while majority of them are from age group of 71-80 years [n=50, 26.73%], followed by age groups 61-70 years [n=42, 22.45%], 81-90 years [n=41, 21.92%], 50-60 years [n=41, 21.92%] and the least >91 years [n=13, 6.95%]. 64.7% [n=121] are literate among which 32.23% [n=39] are primary, 31.4% [n=38] high school, 7.4% [n=9] PUC, 17.35% [n=21] Degree and 11.57% [n=14] had Master degree. Data suggested that 53.47% [n=100] subjects are Non Vegetarians or had mixed diet and 46.52% [n=87] are Vegetarians. A total of 166 subjects are married while 21 are unmarried. Data shows that 132 subjects had a past medical history of one or more comorbidities that includes Hypertension [n=43], Diabetes [n=22], Diabetes and hypertension [n=42] and others [n=61]. 55 of the total subjects are free from comorbidities. The data also shows that 16.04% had a history of smoking and 12.83% with a history of alcoholism.

Table 1: Demographic Distribution of Study Population

DEMOGRAPHICS		Number of Subjects (%)
<b>Age Group</b>	50-60 years	41 (21.92%)
	61-70 years	42 (22.42%)
	71-80 years	50 (26.73%)
	81-90 years	41 (21.73%)
	> 91 years	13 (6.95%)
<b>Gender</b>	Male	86 (45.99%)
	Female	101 (54.01%)
<b>Literacy</b>	Illiterate	121 (64.7%)
	Primary	39 (20.85%)
	High School	38 (20.32%)
	PUC	9 (4.81%)
	Degree	21 (11.22%)
	Master Degree	14 (7.48%)
<b>Diet</b>	Vegetarians	87 (46.52%)
	Non- Vegetarians (Mixed)	100 (53.47%)
<b>Marital Status</b>	Married	166 (88.77%)
	Unmarried	21 (11.23%)
<b>Occupation</b>	Tailoring	8 (4.27%)
	Farmer	13 (6.95%)
	Teaching	14 (7.48%)
	Office	18 (9.62%)
	Daily Labourer	35 (18.71%)
	House Wife	71 (37.96%)
	Others	18 (9.62%)
	Unemployment	10 (5.34%)
<b>Smoking History</b>	Present	30 (16.04%)
	Absent	157 (83.95%)
<b>Alcoholic History</b>	Present	24 (12.83%)
	Absent	163 (87.16%)
<b>Comorbidities</b>	Present	132 (70.58%)
	Absent	55 (29.41%)

### PREVALENCE OF DEPRESSIVE DISORDER IN THE STUDY POPULATION:

Out of 187 subjects, n=52 [27.80%] are affected with depressive disorder, out of which majority [n=27, 51.92%] are affected with mild depression followed by moderate [n=19, 36.53%] and severe depressive disorder [n=6, 11.53%].

Severity	Number Of Subjects (%)
Mild	27 (51.92%)
Moderate	19(36.53%)
Severe	6 (11.53%)
Total	52

In our study, Females are predominantly affected [57.69%, n=30] than males [42.30%,n=22]. Data shows that n=13 [25%] of the depressive subjects are from age group of 50-60y, n=12 [23.07%] from 61-70 years, n=19 [36.53%] from 71-80years, n=7 [13.46%] from 81-90 years and n=1 [1.92%] from >91 years.

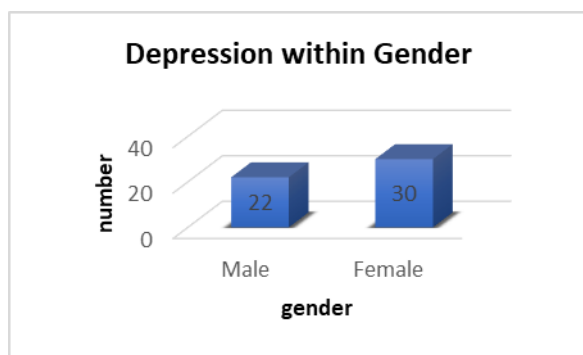


Fig.1: gender distribution in the depressive population

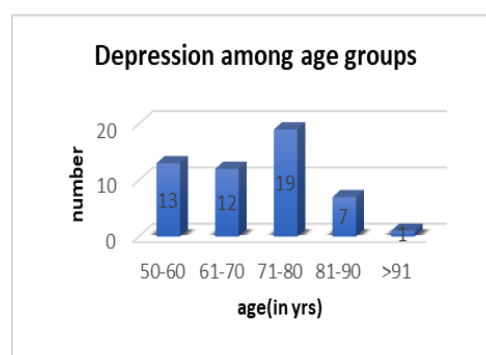


Fig.2: age distribution in the depressive population

### DEMOGRAPHIC DETAILS ANALYSIS OF THE DEPRESSIVE POPULATION:

Among 52 depressive populations, the data shows that 50% [n=26] of the patients are literate with a minimum of primary education. Further data shows that the majority [n=38, 73.07%] subjects are having a history of one or more co-morbidities while the rest [n=14, 26.07%] are free from co-morbidities. Majority of subjects [n=41, 78.84%] are married and are following a mixed diet [n=37, 71.15%]. 7 out of 52 subjects [13.46%] had a history of alcoholism and 6 [11.53%] had a history of smoking. No subjects had a present habit of smoking or alcoholism. Study data also shows that 55.76% [n=29] of the individuals had disturbed sleep pattern among that 62.06% [n=18] are females and 37.93% [n=11] are males.

### RISK FACTOR ANALYSIS OF DEPRESSION

The probable risk factor for developing depression such as Gender, Diet, Age, and Sleep pattern was considered for the risk factor analysis and the results are shown in the following table 3.

Factors	Chi-square value	P value
<b>Gender</b>		
Male (n=30)	0.3914	0.53058267
Female (n=22)		
<b>Diet</b>		
Mixed (n=37)	9.0532	0.0026217*
Veg (n=15)		
<b>Age (in years)</b>		
Below 70 (n=25)	0.395	0.52921248
Above 70 (n=27)		
<b>Abnormal Sleep</b>		
Present (n=29)	14.3	0.000114*
Absent (n=35)		

Note:- statistically significance level  $P \leq 0.05$   
 (\*) indicates results are significant

## DISCUSSION AND CONCLUSION

This study included 187 subjects from 10 old age homes in urban areas of Mysuru. Data shows that majority of the inhabitants are females (54.01%) than males (45.99%). While looking at the literacy rates females are maximally illiterate (68.18%) than males (31.81%) which is per the Census of India 2001 report. [7]

27.80% of the study population was depressed which females and subjects with mixed diets are majorly affected. More than half of the depressed population seemed to be having disturbances in their sleep. The study has found that sleep habits can influence majorly in psychiatric illness in individuals.

The prevalence of depression among elderly inhabitants of OAHs found by this study is supported by the study conducted by *Nagoor et al* [8] who reported the prevalence to be 27.7%. Similar results were shown by a study conducted by *Singh et al* [9] with a prevalence of 29%, while the study conducted by *Nagaraj AKM* [10] et al showed a prevalence to be 29%. The study conducted by *Zalavadiya et al* [11] shows a prevalence of 46.6% of depressive rate which is in contrast to our findings.

There are other studies conducted in India that are per the prevalence of depression of our studies. In Karnataka, a study by *Barua and Kar* [12] showed the prevalence of depression to be 21.7%. Comparatively similar results were also found by *Nandi et al* [13] (22%) in West Bengal among elderly inhabitants. In Chennai, a study by *Ramachandran et al* [14] found that 24 in 100 elderly populations (24%) were suffering from depression. Moreover, the prevalence of depression in our study is also comparable to that reported in the WHO report 2001 [15] on the estimation of depression in the geriatric population (10-20%).

### Abbreviations:

MDI: Major Depressive Index

OAH: Old Age Home

WHO: World Health Organisation

HCP: Health Care Professional

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