

# Socio-Demographic and Clinical Profile of Patients Attending Geriatric Clinic Over Five Years: A Retrospective, Hospital Based Study

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## ABSTRACT

**Background:** Population ageing is an inescapable and irreversible phenomenon, increasing the burden on the health care system. Mental illnesses in the geriatric population are unique and identification of the same amidst the co-morbidities is a challenging task.

**Objectives:** To assess the difference in the clinical and sociodemographic profile of patients attending Geriatric Clinic in a tertiary care centre over five years.

**Materials and Methods:** A retrospective chart review of patients, who attended the Geriatric Clinic of a tertiary care centre in 2012 and 2016 was conducted. The psychiatric diagnoses were made according to the ICD-10 diagnostic guidelines. Sociodemographic variables and clinical variables including social support were assessed. Data were analysed by Statistical Package for Social Science (SPSS) 16 version and Microsoft Excel Version 2007.

**Results:** The total number of patients attending Geriatric clinics were 31 and 147 in 2012 and 2016 respectively. The mean age of patients attending the geriatric clinic was  $74.32 \pm 7.89$  in 2012 and  $71.88 \pm 6.76$  in 2016. The difference between the study group was statistically significant with regard to religion, marital status, socio-economic status and location of residence. 64.52% of the study population had average social support in 2012 and a statistically significant decline was noticed in 2016. The most

common psychiatric diagnoses were organic mental disorders (93.55%) in 2012 and mood disorders (40.82%) in 2016. Cardiovascular diseases were most common medical co-morbidity seen among the geriatric patients in both the years.

**Conclusions:** Psychiatric illness in geriatric population is often associated with medical co-morbidities. With the increase in longevity, awareness and identification of symptoms can decrease significant morbidity and improve the quality of life.

**Key words:** Ageing, psychiatric disorders, medical comorbidity

## INTRODUCTION

Population ageing is an inevitable and irreversible demographic phenomenon, as a result of three key demographic changes which includes declining rates of fertility, lower mortality rates and increasing survival rates in the elderly population. The proportion of the sixty plus population is projected to increase from 11.5% to 22% by 2050 globally, 22.4% to 31.9% in developing countries and, 8% to 19% in 2050 in India, surpassing the population of children below fifteen years. The percentage of elderly in Karnataka was 9.2% in 2011<sup>(1)</sup>. Previous studies on the profile of geriatric patients have assessed patients over a period of one year. However, there are no studies which have assessed the patterns of change over a few years. Hence, this study was planned to study the differences in the profile

of patients attending geriatric clinic in 2012 and 2016.

## MATERIALS AND METHODS

This was a retrospective chart review and was conducted in the Geriatric clinic of the Department of Psychiatry at a tertiary care centre in South India. The clinic operates on the first and the third Wednesday of every month. Institutional ethical clearance was obtained. Records of patients aged over 65years, attending the Geriatric clinic in 2012 and 2016 were retrieved and analysed. Patients over 65 years attending the Outpatient unit on other days were excluded. The psychiatric diagnoses were made by Post graduate residents, as per the ICD-10 diagnostic guidelines and confirmed by the qualified psychiatrist in-charge of the Geriatric clinic. Sociodemographic variables and clinical variables were assessed. Social support was assessed by questions related to support systems available to seek medical care as used by Neethu et al(2016)<sup>(2)</sup>.

## STATISTICAL METHODS:

Data were analysed by Statistical Package for Social Science (SPSS) 16 version and Microsoft Excel Version 2007. Descriptive analysis was used to describe sociodemographic details of the study sample. Results of the study were represented as the mean and standard deviation (SD) for normal distribution. For categorical data, results were represented as percentage (%). Chi-square test was applied to test the statistical significance of variables.

## RESULTS

The total number of patients attending Geriatric clinics were 31 and 147 in 2012 and 2016 respectively.

Socio-demographic variables (depicted in Table 1):

The mean age of patients attending the geriatric clinic was 74.32±7.89 in 2012 and 71.88±6.76 in 2016. Most of the patients were females, had primary level of education, were Christians, belonged to middle socio-economic status and from a rural location of residence in both the years. The difference between the study group was statistically significant with regard to religion, socio-economic status and location of residence. With respect to marital status, majority of the patients were single and married in 2012 and 2016 respectively and this difference was statistically significant.

### Clinical variables:

64.52% (n=20) of the study population had average social support in 2012 and a statistically significant decline was noticed in 2016(p=0.005).34.69% (n=51) of patients had poor social support (depicted in Figure 1).

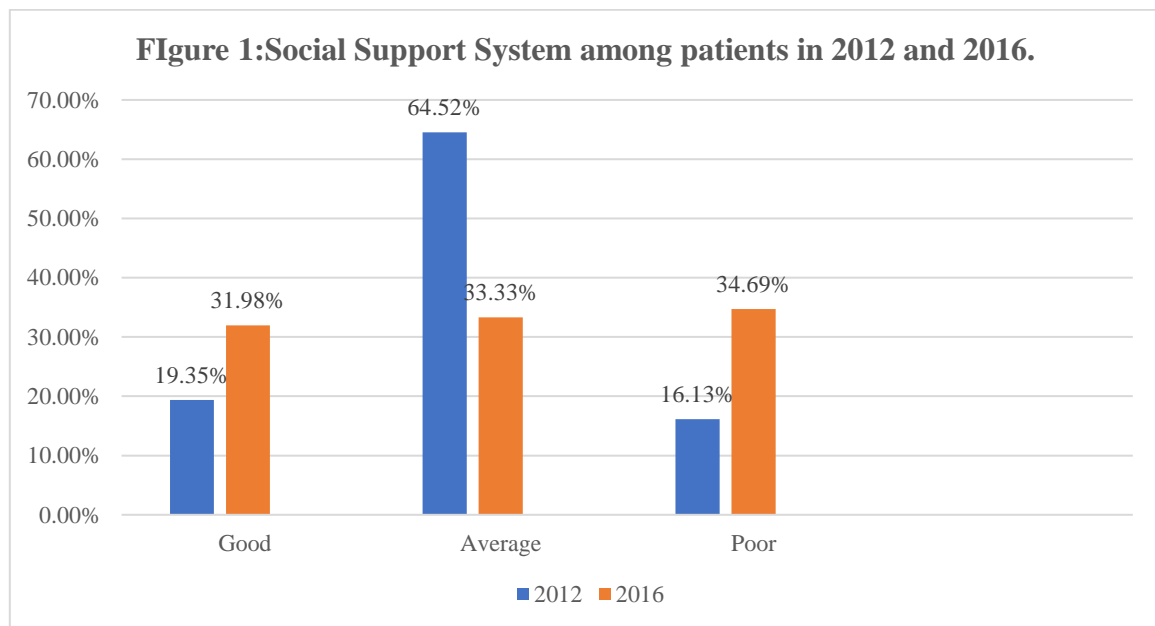
The most common psychiatric diagnoses were organic mental disorders (93.55%) in 2012 and mood disorders (40.82%) in 2016. This difference was not statistically significant (depicted in table 2).

Cardiovascular diseases was most common medical co-morbidity seen among the geriatric patients in both the years. 9.68 % (n=3) and 4.08% (n=6) had at least two medical disorders in 2012 and 2016 respectively.38.7% (n=12) and 25.71% (n=37) had no medical co-morbidity in 2012 and 2016 respectively (depicted in figure 2).

Table 1: Socio-demographic variables of patients attending geriatric clinic

Sociodemographic variables	2012(%)	Total	2016	Total	Total Sample	Pvalue
1.Gender						
Male	13(41.94%)	31(100%)	64(43.54%)	147(100%)	77(43.26%)	0.87
Female	18(58.06%)		83(56.46%)		101(56.74%)	
2.Education						
Illiterate	7(22.58%)	31(100%)	22(14.97%)	147(100%)	29(16.29%)	0.69
Primary	15(48.39%)		75(51.02%)		90(50.56%)	
Secondary	9(29.03%)		44(29.93%)		53(29.78%)	
Graduate	-		4(2.72%)		4(2.25%)	
Postgraduate	-		2(1.36%)		2(1.12%)	

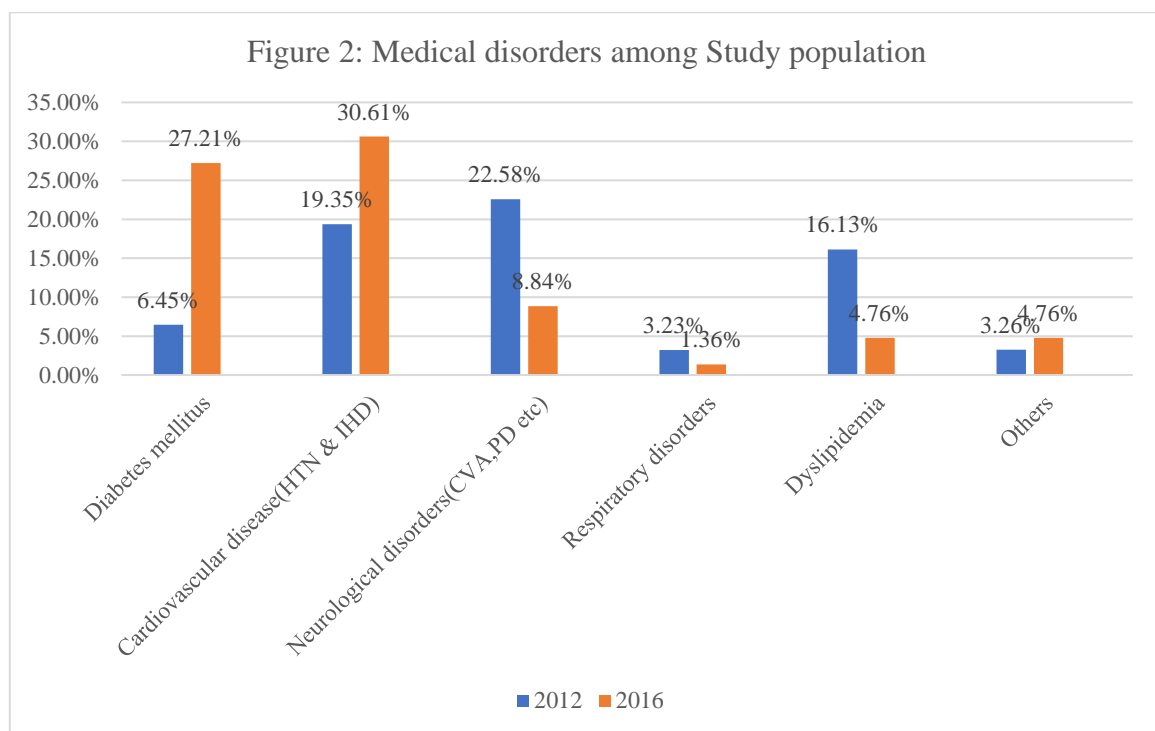
3.Marital status						
Single	15(48.39%)	31(100%)	37(25.17%)	147(100%)	52(29.21%)	0.008
Married	8(25.80%)		78(53.06%)		86(48.31%)	
Separated	2(6.45%)		1(0.68%)		3(1.69%)	
Widow	5(16.13%)		26(17.69%)		31(17.42%)	
Widower	1(3.23%)		5(3.4%)		6(3.37%)	
4.Religion						
Hindu	4(12.90%)	31(100%)	56(38.1%)	147(100%)	60(33.71%)	0.024
Muslim	4(12.90%)		11(7.5%)		15(8.43%)	
Christian	23(74.2%)		80(54.4%)		103(57.86%)	
5.Socio-economic status						
Higher	4(12.90%)	147(100%)	8(5.44%)	147(100%)	12(6.74%)	0.001
Middle	25(80.65%)		80(54.42%)		105(71.43%)	
Lower	2(6.45%)		59(40.14%)		61(21.83%)	
6.Location of Residence						
Rural	16(51.61%)	31(100%)	104(70.75%)	147(100%)	120(67.42%)	0.039
Urban	15(48.39%)		43(29.25%)		58(32.58%)	



**Table 2: Distribution of Psychiatric disorders in 2012 and 2016**

ICD-10 Diagnosis	2012	Total percentage (in	2016	Total	
Organic mental disorders(F00-F09)					
<u>F00 Dementia in Alzheimer's disease</u>					
Early onset-without additional symptoms	2	29(93.55%)	4	48(32.65%)	
Early onset-predominantly delusional	3		1		
Early onset-predominantly hallucinatory	5		-		
Late onset-without additional symptoms	3		6		
Late onset-predominantly delusional	5		7		
Late onset-predominantly hallucinatory	1		7		
Late onset-predominantly depressive	-		1		
Late onset-mixed	-		1		
Mixed dementia-without additional symptoms	1		2		
<u>F01 Vascular Dementia</u>					
Multi-infarct dementia	3		1		
Mixed Vascular dementia	3		1		
<u>F02 Dementia in other diseases</u>					
Dementia in Parkinson's Disease	2		1		
F04 Organic Amnesic Syndrome	-	1			
F05 Delirium,not induced by alcohol/psychoactive substances					
Not superimposed on dementia	-	2			
Superimposed on dementia	-	2			
F06.Other mental disorders due to brain damage and dysfunction and to physical disease					
Organic hallucinosis	-	-			
Organic delusional (schizophrenia -like) disorder	-	6			
Organic mood disorder	-	5			
Mild cognitive disorder	1	-			

Mental and behavioural disorders due to psychoactive substance use(F10-19)				
Alcohol dependence syndrome	1		9	
Alcohol induced amnesic syndrome	-	1(3.225%)	1	10(6.8%)
Schizophrenia,schizotypal and delusional disorders(F20-F29)				
Schizophrenia	-		5	
Persistent delusional disorder	-	0(0%)	2	13(8.84%)
Unspecified nonorganic psychosis	-		6	
Mood disorders(F30-39)				
BPAD	-		34	
Depressive episode	1	1(3.225%)	9	60(40.82%)
Recurrent Depressive Disorder	-		7	
Dysthymia	-		10	
Neurotic, stress related and somatoform disorders(F40.48)				
Mixed anxiety and depressive disorder	-		3	
Anxiety disorder,unspecified	-		5	
Obsessive compulsive disorder-mixed	-		1	
Adjustment disorder	-	0(0%)	3	16((10.89%)
Dissociative disorder-trance and possession disorder	-		1	
Undifferentiated somatoform disorder	-		2	
Hypochondriacal disorder	-		1	
Total		31(100%)		147(100%)



## DISCUSSION

This study was conducted at a speciality clinic in a tertiary care centre. Though the studied population constituted less than 1% of the total patient population in both the years, there was almost four fold increase in the elderly population seeking treatment in 2016. Sample size in previous studies constituted 4.17%- 5% and 35% in hospital and community based studies respectively<sup>(3)</sup>. We did not include all the elderly patients attending the out-patient and in-patient department, which led to a smaller study sample. However, the increase in the

case load over the years could be because of longevity, decreased stigma, better knowledge of psychiatric illness and readiness to seek treatment.

Socio-demographic Variables:

### GENDER:

Females constituted more than half of the sample size in our study which was similar to studies conducted previously<sup>(2,3)</sup>. However one study showed contradicting results ,where males constituted the majority of the study population<sup>(4)</sup>. The difference in our study could be because of longer life

expectancy at birth ,increasing female to male ratio of the elderly in India and females been more vocal about their symptoms when compared to men due to cultural expectations. Frequent outcome of feminization of ageing is the discrimination and neglect experienced by women as they age, often exacerbated by widowhood and complete dependence on others.

#### **EDUCATION:**

Majority of the study population were educated with most having completed primary schooling, which was similar to other studies.<sup>(2)</sup>

#### **MARITAL STATUS:**

A difference in marital status was observed over the years with majority of the patient population been single in 2012 and married in 2016. Widows and widowers constituted about 19.36% and 20.83% in 2012 and 2016 respectively in contrast to a previous study (44.1%)<sup>(4)</sup>. However, widows outnumbered widowers in both the studies. Since women are more likely to be dependent on men for financial security, women face more adversities due to loss of spouse compared to men.

#### **RELIGION & SOCIO-ECONOMIC STATUS:**

Majority of the study sample were Christians followed by Hindus. This could be because the hospital in which the study was conducted is a Catholic institute and is the preferred hospital for seeking treatment by the community. Majority of the population belonged to middle social economic status.

#### **LOCATION OF RESIDENCE:**

More than half of the population belonged to the rural background. This could be because of the demographics, wherein 71% of the elderly live in rural areas<sup>(1)</sup>.

#### **CLINICAL VARIABLES:**

##### **SOCIAL SUPPORT:**

A statistically significant decline was noticed in the level of social support over the five years. Poor social support was reported in a previous study in the similar population<sup>(2)</sup>. However, a study by Prasad et

al, using grading system revealed 67.5% having grade I social support system<sup>(4)</sup>. Here the social support system was assessed as follows: : Grade I-patients were married and living with spouses and children, Grade II- either married or living with spouse as a nuclear unit or spouse was dead and living with the families of their children, Grade III- patient's spouses were dead and were living alone, or with other relatives/social organizations

##### **PSYCHIATRIC ILLNESS:**

The most common psychiatric disorders were Organic mental disorders in 2012 with only 3.26% of patients with mood and substance use disorders respectively. However, we noticed a different trend of distribution of psychiatric disorders in 2016 with mood disorders been the most commonly diagnosed psychiatric disorder, followed by organic mental disorders(32.65%),,neurotic disorders(10.89%),psychotic disorders(8.84%) and alcohol dependence syndrome(6.8%).This was similar to a community based prevalence study and The Taiwan Old Age Depression Study(TOADS),in which mood disorders were the most common(7.6%) and prevalence of depression neurosis was 15.3% respectively<sup>(5)</sup>. A study done by Neethu et al(2016) showed contradicting results ,where organic mental disorders(24.7%) were the most common psychiatric diagnoses, followed by BPAD and Psychotic disorders<sup>(2)</sup>. However a study by Prasad et al revealed non-organic psychoses as the most common disorder<sup>(4)</sup>. Mania can be a symptom of Alzheimer's or vascular dementia, depending on the location of neurodegeneration and hence greater attention must be given while diagnosing BPAD in geriatric patient population<sup>(6)</sup> .

##### **MEDICAL CO-MORBIDITY:**

Medical co-morbidity was observed in 61.3% and 74.3% of the study population in 2012 and 2016 respectively. Physical illnesses were found to be 85% and 70% in



TOADS study and another study by Prasad et al respectively<sup>(5,6)</sup>. The most common illness was cardiovascular disease (CVD) in both these years, which was similar to other studies<sup>(2,5)</sup>.

The role of psychiatric disorders in the development of medical illness has been bi-directional. The relative risk of developing CVD is 2.3-5.4 with depression. Depression negatively affects quality of life, resulting in more social isolation, fragility, poor adherence to effective intervention and life style modifications<sup>(7)</sup>. Two theories have been explained in Older Adults with Schizophrenia (OAS): (i) Accelerated aging, wherein persons with schizophrenia have increased physical morbidity and mortality (2-3 times) along with cognitive decline and augmented levels of aging biomarkers. (ii) Paradoxical aging refers to the concurrent decline in physical health and cognitive functions with improvement in subjective QoL, psychosocial functioning, fewer relapses, increased rates of clinical remission and increased use of positive coping techniques<sup>(8)</sup>.

The WHO prevention framework suggests reduction of negative impact of the existent disease by restoring function, decreasing the complications associated with the disease, prevention of cognitive decline, prevention of side effects of psychotropics and prevention of catatonia<sup>(9)</sup>.

## CONCLUSION

Projections indicate that during 2000–2050, the overall population of India will grow by 56% while the population 60-plus will grow by 326%, with a predominance of widowed and highly dependent very old women. Mental health status is also noticed to worsen with advancing age, which interspersed with medical illnesses significantly increases the cost of treatment thereby imposing a significant burden in the absence of health insurance or social security.

## Declaration by Authors

**Ethical Approval:** Approved

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**Conflict of Interest:** None.

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