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A Study to Assess the Prevalence of Depression and Quality of Life in Geriatric Population Attending Tertiary Care Centre

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Abstract: ***Background: Globally, geriatric population (aged 60 and over) is growing faster. India is in a process of demographic transformation. Old age is a period of transition where one has to deal with the physical aging and challenges affecting the mental and social wellbeing.Depression accounts for the greatest burden among elderly which decreases an individual's quality of life and increases dependence on others. Aims: To estimate the Prevalence of Depression and to determine its correlates and assess the quality of life among elderly in a tertiary care general hospital setting. Methods: The study was conducted in 50 patients >60 years of age attending the outpatient departmentofa tertiary care general hospital in south India. The socio-demographic details were collected using a semi-structured proforma.General health questionnaire (GHQ- 12) was administered to assess psychological distress.Presence of depression was assessed by administering Geriatric Depression Scale (GDS). The quality of life was assessed by administering WHOQOL-BREF questionnaire. Appropriate statistical analysis was done, the results were obtained. Results:Depression was found in 28% of participants, more common in 6th and 7th decade, female gender, widowed and who have multiple chronic illnesses.Among chronic illnesses, depression was more inhypertensives(43.75%)followed by diabetics(28.57%). Quality of life is poorer across all domains in the 8th decade. Environmental domain poorerin the 6th and 8th decade.Presence of chronic illness affected the social domain the most. Conclusion: By improving the general health condition, elderly can be independent in performing their daily activities, also economic and social support can reduce their feeling of helplessness and improve their mental status. This can be achieved by providing better health services to geriatric patients, hencethe role of consultation– liaison psychiatry comes into play.***

Keywords: geriatric, depression, quality of life, physical comorbidity, chronic illness,elderly.

1. Introduction

Globally, the population aged 60 and above is growing faster compared to the younger age group at a rate of 3% per year. In 2017, the geriatric population was an estimated 962 million, comprising 13% of the global population which is projected to be ~1.4 billion in 2030 [1]. India is in the process of demographic transformation. As the life expectancy has doubled from 32 years in 1947 to 63.4 years in 2011 [2], with a low mortality/low fertility scenario, there is an increase of older people among total population, termed as "greying of population" [3].

Age is an important determining factor of mental health. Old age is a period of transition where one has to deal with the physical aging and challenges affecting the mental and social wellbeing. The prevalence of mental and behavioral problems increases with age due to normal aging of brain and declining physical health [4]. Apart from these, disabilities due to various communicable and non-communicable diseases, lack of family support, loneliness, decreased personal autonomy and financial dependence are other important contributing factors to increased prevalence [5].

According to WHO statements, quality of life defined as an individual's perception of their position in life in the context of the culture and values systems in which they live and in relation to their goals, expectations, standards and concerns. It is a wellness resulting from a combination of physical, functional, emotional and social factors.The above-mentioned factors not only affect mental health but individually reduces the quality of life as well, which in turn influences the mental health thus leading to a vicious cycle.

Among various mental disorders in elderly, depression is the most common [6,7], thereby decreasing an individual's quality of life and increases dependence on others. Geriatric depression is an important public health problem as it is associated with increased risk of morbidity, increased risk of suicide, decreased physical, cognitive and social functioning, and greater self-neglect, all of which are in turn associated with increased mortality [8].

The current study was planned to estimate the prevalence of depression among elderly and to determine its correlates and to assess their quality of life in a hospital setting.

2. Methodology

This cross-sectional study was conducted in the outpatient department of medical and surgical specialitiesat a tertiary care general hospital in South India which is a multi-speciality teaching hospital providing care to patients with a wide variety of disorders. After getting approval from Institutional Ethics committee, the study was done with 50 patients >60 years of which 25 were males and 25 were females.

- **Inclusion criteria**: age >60 years, clinically stable for interview.

- **Exclusion criteria**: clinically unstable or uncooperative, persons with severe sensory (hearing and visual defects) and communicative impairments.

After obtaining informed consent, the socio-demographic details were collected using a semi-structured proforma. General health questionnaire (GHQ- 12) was administered to assess psychological distress. The quality of life across all four domains was assessed by administering WHOQOL-BREF questionnaire. Presence of depression was assessed by administering Geriatric Depression Scale (GDS).

Appropriate statistical analysis was done, the results were expressed as percentage for qualitative variables and mean and standard deviation for quantitative variables. Chi square test was used to test statistical significance.P value < 0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis.

3. Results

A total of 50 subjects were included in the final analysis of which 25 were male and 25 were females. The mean age was 69.48 ± 7.09 in the study population ranging between 60 years to 88 years. Among the study population, 27 (54%) participants were aged between 60 to 69 years, 17 (34%) participants were aged 70 to 79 years and 6 (12%) participants were aged 80 years and above. 39 (78%) participants were married, 10 (20%) participants were widowed and only 1 (2%) participant was single. The subjects were from lower middle, upper lower socio-economic status.

Table 1: Socio Demographic details of the study population

Demographic variables	Frequency (n=40)	Percentages
Age group		
60 to 69	27	54.00%
70 to 79	17	34.00%
80 and above	6	12.00%
Gender		
Female	25	50.00%
Male	25	50.00%
Marital status		
Married	39	78.00%
Widow	10	20.00%
Single	1	2.00%
Presence of chronic illness		
Present	40	80.00%
Absent	10	20.00%
Chronic illness		
Hypertension	16	32.00%
Others (seizure, dyspepsia, pancreatitis, vascular, lung and skin disorder)	16	32.00%
Diabetes	14	28.00%
Osteoarthritis	6	12.00%
Thyroid disorder	4	8.00%
Cardiac problems	4	8.00%

Among the study population, general healthwas assessed using GHQ, 22 (44%) participants had normal (≤14), 12 (24%) participants hadevidence of distress(15-19) and 16 (32%) participants had severe psychological distress(≥20).

Depression was assessed using Geriatric Depression Scale, out of the study population(n=50), 21 (42%) participants had normal (≤4), 15 (30%) participants had suggestive of depression (5 to 9) and 14 (28%) participants had indicative of depression (≥10).

Depression was found in 28% of the study population. Though age, gender, marital status and number of chronic illness is not statistically significant, depression is more common in 6th and 7th decade, female gender, widowed and those with multiple chronic illnesses. Among chronic illnesses, depression was more in hypertensives (43.75%) followed by diabetics (28.57%), former being statistically significant.

Table 2: Correlates of depression with socio demographic and clinical variables

Correlates	Geriatric depression scale			Chi square	P-value
	Normal (≤4)	Suggestive of Depression (5 to 9)	Indicative of depression (≥10)		
Age					
60 to 69 (N=27)	11 (40.74%)	9 (33.33%)	7 (25.92%)	2.626	0.622
70 to 79 (N=17)	8 (47.05%)	3 (17.64%)	6 (35.29%)		
80 and above(N=6)	2 (33.33%)	3 (50%)	1 (16.66%)		
Gender					
Female(N=25)	10 (40%)	5 (20%)	10 (40%)	4.286	0.117
Male (N=25)	11 (44%)	10 (40%)	4 (16%)		
Marital status					
Married (N=39)	19 (48.71%)	11 (28.20%)	9 (23.07%)	---	---
Widow (N=10)	2 (20%)	3 (30%)	5 (50%)		
Single (N=1)	0 (0%)	1 (100%)	0 (0%)		
Presence of chronic illness					
Present (N=40)	15 (37.5%)	12 (30%)	13 (32.5%)	2.411	0.300
Absent (N=10)	6 (60%)	3 (30%)	1 (10%)		
No. chronic illness					
Single (N=25)	9 (36%)	10 (40%)	6 (24%)	6.389	0.172
Multiple (N=15)	6 (40%)	2 (13.33%)	7 (46.66%)		
None (N=10)	6 (60%)	3 (30%)	1 (10%)		
Chronic illness					
Diabetes	5 (35.71%)	5 (35.71%)	4 (28.57%)	0.397	0.820

Hypertension	8 (50%)	1 (6.25%)	7 (43.75%)	6.867	*0.032*
Osteoarthritis	2 (33.33%)	3 (50%)	1 (16.66%)	1.344	0.511
Thyroid disorder	1 (25%)	2 (50%)	1 (25%)	0.893	0.640
Cardiac problem	1 (25%)	0 (0%)	3 (75%)	---	---
Other	5 (31.25%)	3 (18.75%)	8 (50%)	5.707	0.058

In WHOQOL-BREF, the mean Physical health domain score was 52.64 ± 20.02 in the study population, ranged between 6 to 94 (95% CI 46.95 to 58.33). The mean Psychological domain score was 56.38 ± 16.46 in the study population,ranged between 19 to 81 (95% CI 51.70 to 61.06). The mean Social domain score was 51.58 ± 23.21 in the study population, ranged between 0 to 100 (95% CI 44.98 to 58.18). The mean environment domain score was 53.2 ± 15.69 in the study population, ranged between 13 to 75 (95% CI 48.74 to 57.66).

QOL is poorer across all domains in the 8th decade compared to 6th and 7th decade. Environmental domain was poorer (statistically significant) in the 6th and 8th decade. Although not statistically significant, males had a better quality of life compared to females. Presence of chronic illness affected the social domain the most (statistically significant).

Table 3: Comparison of mean WHO QOL across different age groups (N=50)

WHO QOL	60 to 69	70 to 79	80 and above
Physical health (Mean ± S.D)	51.26 ± 16.76	56.41 ± 25.3	48.17 ± 18.37
P value	0.736	0.415	0.736
Psychological (Mean ± S.D)	56.44 ± 12.2	60.35 ± 18.27	44.83 ± 24.45
P value	0.117	0.437	0.117
Social relationship (Mean ± S.D)	58.19 ± 23.77	44.18 ± 19.23	42.83 ± 25.4
P value	0.138	0.050	0.138
Environment (Mean ± S.D)	55.11 ± 14.91	54.53 ± 14.06	40.83 ± 20.33
P value	0.044	0.903	0.044

Table 4: Comparison of mean of WHO QOL between gender in the study population (N=50)

WHO QOL Parameter	Gender		P value
	Female (N=25) (Mean ±SD)	Male (N=25) (Mean ±SD)	
Physical health	48.44 ± 19.47	56.84 ± 20.06	0.140
Psychological	55.92 ± 15.37	56.84 ± 17.79	0.846
Social relationship	49.8 ± 24.24	53.36 ± 22.49	0.593
Environment	51.68 ± 15.09	54.72 ± 16.43	0.499

Table 5: Comparison of mean of WHO QOL between Chronic illness in the study population (N=50)

WHO QOL Parameter	Chronic illness		P value
	Present (N=40) (Mean ±SD)	Absent (N=10) (Mean ±SD)	
Physical health	50.13 ± 20.41	62.7 ± 15.37	*0.075*
Psychological	54.8 ± 17.48	62.7 ± 9.74	*0.177*
Social relationship	47.9 ± 21.5	66.3 ± 25.08	*0.023*
Environment	51.13 ± 15.64	61.5 ± 13.54	*0.061*

4. Discussion

A rise in the geriatric population is associated with an increase in chronic non-communicable diseases. This study helps us understand the impact of physical health on the quality of life and mental health focusing primarily on depression. In the present study, depression was found to be in 28%of participants, which coincides with previous studies by Tiple et al (25%)[7], Sood et al(25.94%) [6], Prakash et al (23%)[9].Though age, gender, marital status and number of chronic illness were not statistically significant, depression is more common in 6th and 7th decade, female gender, widowed and those with multiple chronic illnesses which coincides with findings from a study by Chauhan et al[10] and D Naveen Kumar et al[12] in South India. Similar trends were observed in a study done in Pakistan where female gender, elderly without a spouse, low level of education, and unemployment to be independent predictors of depression [11].Among chronic illnesses, depression was more in hypertensives (43.75%) followed by diabetics (28.57%), former being statistically significant.A study conducted by D Naveen Kumar et al[12] in a tertiary care hospital in South India showed similar results in hypertensives (46.66%) with a higher prevalence in diabetics (42.37%) compared to this study.

The quality of life was assessed across all the four domains and showed that QOL is poorer across all domains in the 8th decade compared to 6th and 7th decade, similar to a study conducted by Sowmiya et al in Tamil Nadu [13].Environmental domain was found to be poorer (statistically significant) in the 6th and 8th decade, similar to results in a study by Shah et al [14]in a tertiary care institute in Gujarat.Although not statistically significant, males had a better quality of life compared to females in this study, as seen in a study by Shah et al[14] and Qadri et al[15].Presence of chronic illness affected the social domain the most (statistically significant), as seen in a study by Nolen-Hoeksema & Ahrens[16] which is attributed to lack of family support and loneliness.

The limitations in this study are thatthe focus of the study was on prevalence of depression while other psychiatric morbidity wasn't studied. The study had the limitations of a cross-sectional design, hence the effect of treatment on outcome has not been evaluated. This hospital-based sample did not represent any particular geographical area as the study was undertaken in a tertiary care general hospital.

5. Conclusion

The overall quality of life in the geriatric population surveyed under this study was good to excellent except the environmental and social domain which can be improved by collective efforts from the family, geriatric support systems and improving general health condition. A medical setting can double as a mental health setting where the psychological sufferings can be amelioratedby timely referral, early detection and treatment. Hence, consultation-liaison psychiatry plays a crucial role, where the psychiatrist becomes an important part of medical-surgical team. This

would lead to successful management and also cost-effective planning of health services.

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8. Conflicts of Interest

There are no conflicts of interest.

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