IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 18, Issue 7 Ser. 8 (July. 2019), PP 37-41
www.iosrjournals.org

Factors Affecting Depression and Quality of Life in the Elderly

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Abstract*: The aim of the study was to assess the quality of life (QOL) and depression and provide further insights into the relationship between QOL and depression among elderly in an urban community, Visakhapatnam. Methodology: Sociodemographic data was collected from 58 older adults (aged ≥ 60 yrs). QOL was assessed using the 26-item, World Health Organization Quality of Life, brief version (WHOQOL-BREF) and depression was assessed using the 30-item Geriatric Depression Scale (GDS).*
Results: The highest mean value (61.14) observed for by environment health, followed by psychological health, physical health and social relationships domains. In this study 58.6% of elderly urban adults met GDS criteria for depression. There were negative correlations between all the domains of QOL and depression among elderly people. Those with depression were, less educated, unemployed, and were more likely to report sleep disturbances.

Keywords: *depression, elderly, geriatric depression scale, quality of life, whoqol-bref*

Date of Submission: 06-07-2019 Date of acceptance: 22-07-2019

I. Introduction

Aging is a natural process which is inevitable that causes physical, mental and social deterioration. The number of older people in the world is growing rapidly and the population of those 60years of age and older is expected to double from 11% to 22% between 2000 and 2050[3]. The physiological changes caused by aging bring about chronic diseases; psychosocial problems and inactivity-related problems and can result in a vicious circle.[3]

Depression is an important mental health concern that is seen most frequently in the elderly[3] .This disease leads to significant loss of abilities, adversely affects the progress of a physical disease, increases deaths due to suicide and physical diseases, and increases the use and cost of healthcare services . Older people with depression lose social harmony, struggle in managing their self-care activities, and their quality of life deteriorates considerably as a result of all these. In order to provide optimal health services and an improved quality of life for the elderly, health professionals need to become more aware of depression and its effects on the lives of the elderly.[3]

II. Aim

This study was carried out to assess the factors affecting depression and quality of life in the elderly.

III. Materials and Methods

This Cross-sectional study was conducted between July 2018 and December 2018 with individuals 60 years of age and above from an urban community in Visakhapatnam. 58 individuals who met the sample criteria were included into the study .For illiterates questions were read out. Three forms were used for data collection: a descriptive questionnaire for the socio-demographic characteristics of individuals, the Geriatric Depression Scale (GDS-30), the World Health Organization Quality of Life Instrument WHOQOL BREF) The inclusion and exclusion criteria are no hearing disability and communication problem, 60 years of age and over, no severe medical or psychiatric illness, no severe cognitive disability and voluntary for study {who give valued informed consent}.

Geriatric Depression Scale (GDS**):** This is a depression scale for the older population developed by Yesavage etal[1] and tested for validity and reliability by Ertan etal[2] . The scale has 30 self reporting questions on how the person felt during the last one week of his/her life, and the subjects are asked to answer them as "yes" or "no." The scale is scored by giving 1 point for each answer in favor of depression and 0 for other answers. The sum is accepted as the total depression score. The scores to be obtained from the scale are between0 and 30[1,2]. A score between 0 and 9 indicates "no depression", between 10 and 19 "mild depression" and between 20 and 30 "severe depression." The scale's Cronbach Alpha coefficient is 0.92[2]

The WHOQOL-BREF was used to assess the QOL of elderly adults. The WHOQOL-BREF comprises of 26 items, 24 of these items are divided into four domains (Physical, Psychological, Social and Environmental), with two individual items assessing the perception of overall QOL and general health [12]. All items are rated on a 5-point scale, with higher scores indicative of higher QOL. The raw score for each of the four WHOQOL-BREF dimensions are derived by summing the item scores and transforming them to a scale ranging from 0 to 100 using the formula below

$$\text{Transformed scale} = \frac{\text{Actual raw score} - \text{Lowest possible raw score}}{\text{Possible raw score range}} * 100$$

Lower scores indicate poor QOL. Scores over one standard deviations (SD) below the mean were considered as indicative of poor QOL[12] . This questionnaire had sufficient internal consistency in this study, as indicated by a Cronbach's _score of 0.864.

IV. Data analysis and interpretation

Data was entered into Microsoft excel and analyses were done using the statistical package for social sciences(SPSS) for windows software (version 20.0).Descriptive statistics such as mean and standard deviation for continuous variables ,frequencies and percentages for categorical variables were calculated. Correlation coefficients were determined. Level of significance was set at 0.05.

V. Results

The response rate in this study was 82.8% (58 of 70 respondents). The characteristics of the sample are shown in Table 1. The mean age of the participants was 65.26years (SD= 6.36, range 60-100 yrs). Among the 58 participants 27 (46.6%) were males 31(53.4%) were females. As it can be seen from the Table 1, 65.5 %(38) elderly were below 65yrs, 58.6% were illiterates, 60.3%were unemployed, 41.4% elderly were dependent on family members. 98.4% elderly were married, 41.4% had 3-4 children and none of them were divorced. 20.7% had 46 to 50 yrs duration of marital life. 82.8% received financial support from their children. 77.6% never took alcohol and 81.0% of the elderly never smoked. 44.8% had sleep disturbances, and 15.5% of the elderly have the habit of reading spiritual books.

In this study depression was operationally defined as having a GDS score of 10 or above. As shown in the Table-1, 58.6% of the elderly in the study have depression out of which 25.9% had mild depression and 32.8% had severe depression. Table-1 also shows comparison between depression and non depression groups. Table 2 shows means and SD for four domains of WHOQOL-BREF. Each domain score was transformed to a scale ranging from 0 to 100, to enable comparisons between different domains consisting of unequal numbers of items. The highest mean value (73.88$\pm$11.741) was observed for the, environmental health domain in the non depressed group, least was seen in social relationships domain (47.88 ± 19.939)in the depressed group. We defined a score of one SD below the mean as the cut-off point for poor QOL, based on a study [12]. It can be seen in Table 2 that 20.68% (Physical Health domain) of the sample in this study had poor QOL.

VI. Discussion

Depression is a psychiatric disorder commonly seen in geriatric age group. In this study 58.6% of the samples have depression. Other studies conducted in India showed that the average prevalence of depression to be around 22%.Studies carried out in other countries have shown the risk for depression to be between 6.4% and 44.3%.Wada T, Ishine M, Sakagami T, Okumiya K, Fujisawa M, et al.[8]

In this study increased age was not associated with increased depression scores which is in contrary to other studies Nihal Bakar etal [3] and Heidi Sivertsen etal [7].The present study results showed that the female sex was a risk factor for depression which was shown in many studies. Nihal Bakar etal [3] and Heidi Sivertsen etal [7]

Present study results indicate that as the education level of older people increased, their mean scores of depression decreased significantly. Other studies have also found that being illiterate or having a low education level significantly increases the risk of depression [3]. Many studies have found that education level is an important factor influencing quality of life. Individuals who had a higher education level had significantly higher quality of life scores. In our study unemployed elderly had higher mean scores of depression and lower quality of life scores .Similar results were seen in studies done by Sandeep Gover etal [5] and Anita Goyal etal[6].

The results in our study indicate that there is no significant relation between religion/spirituality and depression where as other studies showed significant correlation. T. M. Dao etal [11].

The mean scores of depression of individuals in this study who had never smoked were significantly higher than those who smoked. Similar results were seen in other studies Nihal Bakar etal [3].this may be due to the fact that the smokers may attribute their belief that smoking relaxes them and enables them to control their emotions. There was no relationship for smoking and quality of life in our study. In another study by Kaya.M

etal[3], older people with smoking habit had a high quality of life in all sub domains except the general health sub domain, and this was significant in the emotional role and physical pain sub domains . This can be explained by smokers' insistence on the relaxing psychological effects of smoking which subsequently improves their quality of life.

In this study mean scores of depression were significantly less in individuals who consume alcohol than who don't drink alcohol. These results were similar to results in studies undertaken by Iain Lang Robert B.et al[4] who found that older people who consume moderate levels of alcohol (up to two drinks per day) and who are not problem drinkers have fewer depressive symptoms, than those who do not drink alcohol. Our study didn't find any relationship between alcohol consumption and quality of life. However, a cross-sectional study done in Finland, Poland and Spain on Determinants of Quality of Life in Ageing Populations showed that moderate alcohol consumption was associated with better QOL as compared to being abstainer.[13]

We found in this study that being unmarried did not increase the mean score of depression. This can be due to the small sample size of the study and also that only small percentage of the participants were unmarried to find any relation with depression and quality of life. Studies done by other authors showed that loneliness increases depression scores. K.Jongenelis etal and S.Canbaz etal [3]

The emotional support given by children to the elderly in their families is vitally important to their mental and physical health .However, this study found that family support (financially) or living without any support did not have any significant impact on depression scores. Another study reported similar results between perceived social support from the family and depressive symptoms. In our study having children did not significantly affect the mean score of depression. This result is similar to the result of the study done by Bingol etal[3]. Having more number of children was positively correlated with the financial support received from them in our study. By this finding we can infer that having more number of children is one of the factor for improved quality of life.

Our study shows significant negative correlation between reading spiritual books and social relationships domain. Social relationship domain includes items which speak about personal relationship, sexual activity and social support. Religion can play a significant role in mental health of the elderly. Many elderly after retirement, live away from "business life", spending their time to find tranquility and health. This is the time where they can think of God and perform some religious activities. They make time to read scriptures. Elderly who think in this way are less sociable and less likely to approach friends and relatives for any support .Reading spiritual books allows them to gain knowledge regarding many aspects and gives a sense of satisfaction .This might be the reason and aging being one more factor for less inclination towards sex.

In our study elderly individuals who had sleep disturbances showed low WHOQOL BREF scores .Similar results were found in the study done by Hacı A.Sarıarslan, et al [9]. Sleep disorders are also closely related to decreased quality of life and increased mortality [10]

TABLE 1

	Frequency, percentage	Cumulative Percent	Depression		Total	Mean age 65.26yrs
AGE			Yes	No		
60 TO 65 Years	38, 65.5%	65.5	20	18	38	SD= 6.36
66 TO 70Years	15, 25.9%	91.4	11	4	15	
71 TO 75Years	2, 3.4%	94.8	1	1	2	
>=76Years	3, 5.2%	100.0	2	1	3	
SEX						
Male	27, 46.6%	46.6	10	17	27	
Female	31, 53.4%	100.0	24	7	31	
EDUCATION						
Illiterate	34, 58.6%	58.6	24	10	34	
Primary School Certificate	3, 5.2%	63.8	0	3	3	
Middle School Certificate	5, 8.6%	72.4	5	0	5	
High School Certificate	9, 15.5%	87.9	4	5	9	
Intermediate or Post High School Diploma	2, 3.4%	91.4	0	2	2	
Graduate or Postgraduate	5, 8.6%	100.0	1	4	5	
OCCUPATION						
Unemployed	35, 60.3%	60.3	25	10	35	
Laborer	3, 5.2%	65.5	3	0	3	
Farmer	6, 10.3%	75.9	4	2	6	
Teacher	3, 5.2%	81.0	1	2	3	
Employee	5, 8.6%	89.7	1	4	5	
Retd Employee	6, 10.3%	100.0	0	6	6	
INCOME						

Nil	24, 41.4%	41.4	19	5	24
Pension	6, 10.3%	51.7	1	5	6
<50000	18, 31.0%	82.8	11	7	18
50000 to 1lakh	8, 13.8%	96.6	2	6	8
2lakhs to 3lakhs	1, 1.7%	98.3	0	1	1
>3lakhs	1, 1.7%	100.0	1	0	1
MARITAL STATUS					
Yes	55, 94.8%	94.8	33	22	55
No	3, 5.2%	100.0	1	2	3
DURATION OF MARITAL LIFE					
<30 Years	3, 5.2%	7.1	1	2	3
31 TO 35 Years	5, 8.6%	19.0	1	4	5
36 to 40 Years	11, 19.0%	45.2	6	5	11
41 to 45 Years	9, 15.5%	66.7	8	1	9
46 to 50 Years	12, 20.7%	95.2	8	4	12
>50Years	2, 3.4%	100.0	1	1	2
Total	42, 72.4%				
Missing data	16, 27.6%				
NO OF CHILDREN					
1 to 2 children	18, 31.0%	31.0	10	8	18
3 to 4 children	24, 41.4%	72.4	15	9	24
>4 children	12, 20.7%	93.1	8	4	12
no children	4, 6.9%	100.0	1	3	4
FINANCIAL SUPPORT FROM CHILDREN					
Yes	48, 82.8%	82.8	30	18	48
No	10, 17.2%	100.0	4	6	10
ALCOHOL CONSUMPTION					
yes	13, 22.4%	22.4	3	10	13
no	45, 77.6%	100.0	31	14	45
SMOKING					
yes	11, 18.9%	18.9	4	7	11
no	47, 81.1%	100.0	30	17	47
SLEEP DISTUEBANCE					
Yes	26, 44.8%	44.8	20	5	25
No	32, 55.2%	100.0	14	19	33
READING SPIRITUAL BOOKS					
Yes	9, 15.5%	15.5	4	5	9
No	49, 84.5%	100.0	30	19	49
DEPRESSION					
Yes	34, 58.6%	58.6			
No	24, 41.4%	100.0			
SEVERIETY					
No depression	24, 41.4%	41.4			
Mild depression	15 ,25.9%	67.2			
Severe depression	19, 32.8%	100.0			

TABLE 2

WHOQOL-BREF Domains	Without Depression frequency	Mean SD	With Depression frequency	Mean SD	Over all Mean SD	Poor QOL Frequency	Percentage Of poor QOL
Physical health domain	24	63.42 ±9.806	34	48.88 ±11.852	54.90± 13.125	12	20.68
Psychological health domain	24	58.42 ±18.425	34	54.88 ±16.045	56.34± 17.003	8	13.79
Social relationships domain	24	63.83 ±16.641	34	47.88 ± 19.939	54.48± 20.117	11	12.94
Environmental health domain	24	73.88 ±11.741	34	52.15 ±16.106	61.14± 17.954	8	13.79

VII. Limitations

This study is a smaller study than other studies. It is generally known that results from the smaller studies cannot be generalized to a larger population. Further we adopted Telugu version of 30 item GDS rather than using ICD10 diagnostic criteria for clinical depression in defining depression. As a result the prevalence of depression in this study could be overestimated. Lastly this is a cross sectional study and this study design cannot suggest casual relationships .Therefore it is suggested that a longitudinal study with a larger sample

covering large catchment area would be an appropriate alternative in order to find the direction of causation between WHOQOL BREF domains and depression.

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Dr G.Vaidyanath. "Factors Affecting Depression and Quality of Life in the Elderly." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 7, 2019, pp 37-41.