

A Cross Sectional Study to Measure the level of Depression and the Quality of life among the Geriatric Population Residing in Old Age Home

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Abstract

Background: Aging can cause reduced physical and mental ability, economic dependence, and depression in the elderly, lowering their quality of life. The study aims to determine depression prevalence and assess quality of life among geriatric populations in Old Age Homes.

Material and Methods: A cross sectional study was conducted among the elderly (age≥60 years) residing in an old age home (n=90) in district Bhopal (M.P). Multistage simple random sampling was used to select the study participants in all elderly people living in the OAH were included. The tools used are Geriatric Depression Scale-Hindi (GDS-H) to estimate the level of depression and The World Health Organization Quality of Life-BREF (WHOQOL-BREF) in Hindi to assess the quality of life.

Results: The prevalence of depression in OAH nearly 90 percent were suffering from depression either mild (61.11 percent) or severe (27.78 percent).

Conclusion: This study also revealed that the level of depression is inversely proportional to the quality of life. As the level of depression increases the quality of life of an elderly individual decreases.

Key words: elderly people; geriatric population; old age home; institutional; vriddhashram; non institutional; depression; depressive disorders; quality of life.

Introduction

Aging is associated with decreased immunity, increased morbidity, and significant life changes, which can contribute to depression⁽¹⁾. Depression is a common mental disorder characterized by persistent sadness and loss of interest in activities, with major depressive disorder and dysthymia accounting for 2.5% and 0.5%, respectively, of the 2.5 billion

disability-adjusted life years generated globally in 2010 (2).

Nearly half of the world's total cases of depression, which stands at 322 million, are in the South East Asia region (2). The quality of life (QOL) of the elderly is influenced by factors such as lifestyle, family support, income, and psychological factors such as depression and dementia (3,4), and

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can be significantly affected by factors such as aging, poor economy, education, cultural factors, health

condition, and poor social interaction^(3,4).

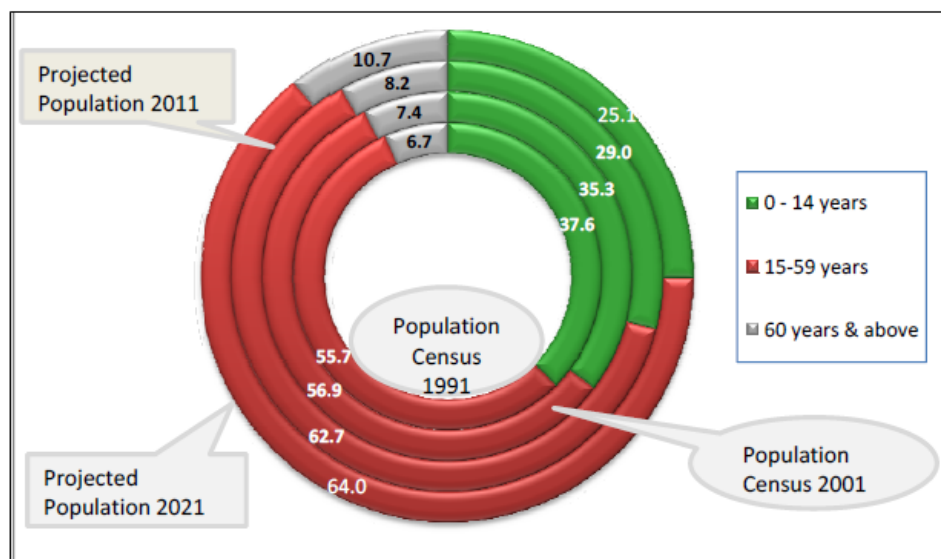


Figure 1: Age Distribution of population in India over decades

Aim of the Study: A cross sectional study to measure the level of depression and the quality of life among the geriatric population residing in old age home (OAH).

Material and Methods

A cross sectional study was conducted among the elderly in old age home in Bhopal, India.

Study Population:

The study population were the elderly individuals ≥ 60 years of age of both the sex residing in old age home in one of the village of MP.

Inclusion Criteria:

Participants for a study on aging were selected based on inclusion criteria such as age ≥ 60 years, residency in an old age home for at least 1 month or 6 months, ability to understand Hindi or English, and willingness to give informed consent.

Exclusion Criteria:

Exclusion criteria included serious medical conditions, communication difficulties due to hearing loss, cognitive impairment, or language problems, and being a visitor or guest.

Study Duration:

Study was conducted during 2017 and 2018.

Sample Size: The sample size was calculated by online software Openepi (Version 3.01) by assuming anticipated frequency 6.93, population size 1000000, level of significance 0.5, and design effect 1. The estimated sample size was 100 and after adding 10% non-response rate, it was 110. All eligible elderly person living in old age home were included in the study.

Sampling Technique:

For old age home: All the eligible elderly people living in old age home since ≥ 1 month. All selected individuals were the unit of analysis.

Study Tools:

The study utilized validated tools to assess depression and quality of life: the Geriatric Depression Scale (GDS) and The World Health Organization Quality of Life-BREF (WHOQOL-BREF).

Structured Data Collection Tool:

A structured data collection tool was developed to capture information on independent variables and socio-demographic information⁽⁵⁾. This tool was pretested on a similar population before finalizing.

Geriatric Depression Scale:

The GDS is a validated questionnaire that was

developed by J.A. Yesavage in 1982, with 92% sensitivity and 89% specificity. In this study, the Hindi version of GDS (GDS-H) was used, which was developed and validated by Ganguli et al. in 1998^(5,6)

The World Health Organization Quality of Life-BREF:

The WHOQOL-BREF is a self-assessment instrument for the assessment of quality of life, consisting of two general items and 24 specific facets (Programme on mental health, 1998). In this study, the Hindi version of WHOQOL-BREF was used, which was developed by Saxena et al. in 1998⁽⁵⁾.

Dependent Variables: Depression, Quality of life

Independent Variables:

Age, sex, religion, marital status, place of residence, education, occupation, income, financial dependency, addiction, physical activity and co-morbidity.

Results

Table 1: Prevalence of depression in OAH

| Level of Depression n (%) | OAH (n=90) |
|---------------------------|-------------------|
| No Depression | 10 (11.11) |
| Mild Depression | 55 (61.11) |
| Severe Depression | 25 (27.78) |

Table 2: Relationship between level of depression and Socio-demographic characteristics of geriatric population in OAH (n=90)

| Variable | No depression n (%) | depression n (%) | P- Value |
|--------------------------------------|---------------------|------------------|----------|
| Age (Years) | | | |
| 60-69 | 2 (7.79) | 24 (92.31) | 0.91 |
| 70-79 | 5 (13.16) | 33 (86.84) | |
| ≥80 | 3 (11.54) | 23 (88.46) | |
| Sex | | | |
| Male | 7 (13.21) | 46 (86.79) | 0.51 |
| Female | 3 (8.11) | 34 (91.89) | |
| Religion | | | |
| Hindu | 9 (12) | 66 (88) | 0.9 |
| Muslim/Others | 1 (6.67) | 14 (93.33) | |
| Marital Status | | | |
| Married | 1 (20) | 4 (80) | 0.45 |
| Unmarried/Divorced/Separated/Widowed | 9 (10.59) | 76 (89.41) | |
| Education Profile | | | |
| Illiterate | 4 (8.70) | 42 (91.30) | 0.52 |
| Literate | 6 (13.64) | 38 (86.36) | |
| Occupation | | | |
| Unemployed | 5 (14.29) | 30 (85.71) | 0.44 |
| Retired | 5 (9.09) | 50 (90.91) | |
| Financial Dependency | | | |
| Independent/ | | | 0.62 |
| Partially dependent | 0 (0) | 4 (100) | |
| Fully dependent | 10 (11.63) | 76 (88.37) | |

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| | | | |
|---------------------------------------|------------|------------|------|
| Reason for living in OAH | | | |
| Nobody to look after in the family | 10 (12.99) | 67 (87.01) | 0.35 |
| Does not wish to stay with the family | 0 (0) | 13 (100) | |
| Duration of stay in OAH | | | |
| <5 years | 3 (6.52) | 43 (93.48) | 0.19 |
| >5 years | 7 (15.91) | 37 (84.09) | |
| Any Illness | | | |
| Present | 4 (8.16) | 45 (91.84) | 0.50 |
| Absent | 6 (14.63) | 35 (85.37) | |

Table 3: Multivariable regression analysis of depression in OAH

| Variables | Unadjusted odds ratio | P- Value | Adjusted odds ratio | P- Value | LRT p-value |
|---|-----------------------|----------|---------------------|----------|-------------|
| Age Groups | | | | | |
| 60-69 | Reference | | Reference | | |
| 70-79 | 0.55 (0.09-3.07) | | 0.8 (0.1-6.1) | | |
| 80 & above | 0.64 (0.09-4.18) | 0.66 | 0.8 (0.1-7.7) | 0.9 | 0.24 |
| Sex | | | | | |
| Male | Reference | | Reference | | |
| Female | 1.72(0.41 -7.16) | 0.45 | 4.01(0.54-29.74) | 0.17 | 0.34 |
| Religion | | | | | |
| Hindu | Reference | | Reference | | |
| Others | 1.91 (0.22-16.31) | 0.56 | 1.25 (0.11-14.60) | 0.86 | 0.32 |
| Marital Status | | | | | |
| Married | Reference | | Reference | | |
| Unmarried/ Separated/ Divorced/ Widowed | 2.11(0.21-21.01) | 0.52 | 6.44 (0.39-106.76) | 0.19 | 0.32 |
| Education Profile | | | | | |
| Illiterate | Reference | | Reference | | |
| Literate | 0.06 (0.1-6.2) | 0.46 | 0.35 (0.06-2.06) | 0.25 | 0.34 |
| Occupation | | | | | |
| Unemployed | Reference | | Reference | | |
| Retired | 1.29 (0.67-2.49) | 0.45 | 7.55 (1.02 55.70) | 0.04 | 0.34 |
| Duration of stay in OAH | | | | | |
| <5 years | Reference | | Reference | | |
| >5 years | 0.37(0.09-1.53) | 0.15 | 0.29 (0.05-1.56) | 0.15 | 0.47 |
| Any Illness | | | | | |
| Present | Reference | | Reference | | |
| Absent | 1.92 (0.50-7.36) | 0.34 | 3.53 (0.68-18.40) | 0.13 | 0.37 |

Table 4: Description of domains of QOL by different characteristics in OAH

| Domains QOL | | | | |
|------------------------------|---|--|---|--|
| Characteristics | Physical Health Mean \pm SD | Psychological Health Mean \pm SD | Social Relationship Mean \pm SD | Environmental Health Mean \pm SD |
| Age group | | | | |
| 60-69 | 11.46 \pm 2.37 | 11.65 \pm 2.53 | 8.04 \pm 2.73 | 8.77 \pm 1.79 |
| 70-79 | 10.89 \pm 1.69 | 11.34 \pm 1.93 | 8.34 \pm 1.82 | 8.39 \pm 1.00 |
| \geq 80 | 10.69 \pm 1.89 | 10.84 \pm 2.20 | 8.35 \pm 1.49 | 8.31 \pm 1.12 |
| Sex | | | | |
| Male | 11.15 \pm 2.12 | 11.21 \pm 2.37 | 8.45 \pm 2.16 | 8.58 \pm 1.35 |
| Female | 10.78 \pm 1.72 | 11.40 \pm 1.93 | 7.97 \pm 1.81 | 8.32 \pm 1.24 |
| Religion | | | | |
| Hindu | 11.00 \pm 2.03 | 11.18 \pm 2.19 | 8.34 \pm 2.01 | 8.49 \pm 1.25 |
| Muslim | 11.28 \pm 1.89 | 11.57 \pm 1.81 | 7.00 \pm 2.08 | 7.71 \pm 1.38 |
| Other | 10.75 \pm 1.49 | 12.00 \pm 2.56 | 8.50 \pm 2 | 9.00 \pm 1.60 |
| Marital Status | | | | |
| Married | 10.40 \pm 1.82 | 12.80 \pm 1.48 | 8.60 \pm 3.78 | 9.60 \pm 2.19 |
| Unmarried | 11.82 \pm 2.52 | 11.00 \pm 2.68 | 8.54 \pm 2.42 | 8.54 \pm 1.51 |
| Separated/ Divorced | 11.00 \pm 1.41 | 11.40 \pm 2.97 | 9.60 \pm 1.82 | 8.60 \pm 2.61 |
| Widowed | 10.91 \pm 1.91 | 11.21 \pm 2.10 | 8.09 \pm 1.82 | 8.38 \pm 1.06 |
| Education Profile | | | | |
| Illiterate | 10.69 \pm 1.88 | 10.96 \pm 1.97 | 8.17 \pm 1.80 | 8.24 \pm 1.12 |
| Primary Pass | 11.18 \pm 1.90 | 11.22 \pm 2.17 | 8.07 \pm 2.33 | 8.37 \pm 1.27 |
| High School | 11.9 \pm 2.42 | 12.20 \pm 2.97 | 9.20 \pm 1.39 | 8.9 \pm 1.19 |
| Graduate/Diploma | 11.00 \pm 2.64 | 11.33 \pm 3.21 | 8.33 \pm 4.04 | 9.67 \pm 2.08 |
| Post Graduate | 11.00 \pm 1.82 | 13.25 \pm 0.5 | 8.00 \pm 2.45 | 10.00 \pm 2.16 |
| Occupation | | | | |
| Unemployed | 10.40 \pm 1.24 | 11.03 \pm 1.99 | 7.86 \pm 1.75 | 8.28 \pm 1.23 |
| Retired | 11.38 \pm 2.24 | 11.45 \pm 2.32 | 8.51 \pm 2.17 | 8.60 \pm 1.35 |
| Financial Dependency | | | | |
| Independent | 10.50 \pm 0.71 | 12.00 \pm 1.41 | 5.00 \pm 0.02 | 10.5 \pm 3.53 |
| Partially dependent | 10.00 \pm 1.41 | 9.50 \pm 0.71 | 4.00 \pm 0.01 | 7.50 \pm 0.71 |
| Fully dependent | 11.03 \pm 1.99 | 11.31 \pm 2.2 | 8.43 \pm 1.90 | 8.45 \pm 1.23 |
| Health related issues | | | | |
| Present | 10.22 \pm 1.47 | 11.02 \pm 2.01 | 8.16 \pm 2.12 | 8.45 \pm 1.37 |
| Absent | 11.93 \pm 2.09 | 11.61 \pm 2.39 | 8.36 \pm 1.93 | 8.51 \pm 1.25 |

Table 5: Correlation between GDS and Quality of Life (QOL) in OAH

| QOL (Range 4-20) | Correlation with GDS | P-value | Correlation with GDS* | P-value |
|----------------------------------|-------------------------|---------|--------------------------|---------|
| Domain 1 Physical Health | -0.53 | <0.001 | -0.52 | <0.001 |
| Domain 2 Psychological Health | -0.65 | <0.001 | -0.64 | <0.001 |
| Domain 3 Social Relationship | -0.43 | <0.001 | -0.45 | <0.001 |
| Domain 4 Environment Health | -0.35 | <0.001 | -0.36 | 0.001 |

*Adjusted for age, sex, religion, marital status, education, occupation, financial dependency and co-morbidities.

Discussion

This study highlights the higher prevalence of depression among elderly populations in the old age home (88.9%) settings, which is consistent with previous research (7,8). The level of depression is also higher among females than males, in old age home (91.9%) settings, which is supported by previous studies (6,9). The study also reports on the co-morbidities among the elderly, with a higher prevalence of co-morbidity in the old age home (54.4%) with hypertension, diabetes mellitus, arthritis, asthma, and misty vision being the most commonly reported conditions, consistent with previous research (9).

Financial dependency was found to be significantly correlated with geriatric depression, which is consistent with other studies (10). Additionally, the study found that the quality of life among the elderly was better in the physical health domain, but worse in the psychological domain, with marital status, financial dependency, and mobility status influencing quality of life (4,11).

Strength of study:

In this study multistage simple random sampling technique was used. The screening tools which were used in this study were validated and widely used worldwide. All the tools used were administered by a trained Clinical Psychologist. This study also reported the relationship between the depression and the quality of life among the elderly population.

Limitations of study:

The major limitations of this study were the relatively small sample size and the study was conducted in only one OAH due to time and resource constraints. This can contribute to an under-generalization of the study results.

Conclusion

India's traditional joint family system provided care for the elderly, but the shift towards nuclear families has left them without support. This has led to increased depression and a decrease in quality of life. Financial dependency exacerbates these issues. To improve the situation, the government should establish more friendly and homely old age homes with recreational facilities, as well as create elderly people's clubs for education on diseases, healthy diets, exercise, and recreational activities.

Recommendations: The study found that some elderly individuals receive pensions as low as 200 to 300 rupees. To improve the quality of life for the elderly population, policies and programs should be implemented.

Conflict of Interest: The study on depression among OAH elderly population has no conflict of interest. The researchers have no financial or personal relationships that could influence the outcome. Their sole objective is to investigate depression prevalence and risk factors, following ethical guidelines. The study aims to provide valuable insights for prevention and treatment strategies.

Source of Funding: This study is self-funded, and no external organization is involved in the

research. The researchers have not received any financial or personal support from any individual or organization that may have a direct interest in the findings of this study.

Ethical Clearance: The study obtained ethical clearance from the Indian Institute of Public Health, Delhi, which verified all aspects of the study and its perspectives. This ensures the study was conducted ethically, with consideration for the protection and rights of human participants.

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