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A Study of Depression and Quality of Life Among Elderly People in Nadia District of West Bengal

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Abstract: ***This study addresses the growing public health concern of depression and its influence on quality of life among elderly individuals living in rural areas of Nadia District, West Bengal, within the context of rapid population ageing and changing social structures. Using a community based cross sectional design, data were collected from elderly men and women aged 60 to 80 years through structured interviews conducted in selected Gram Panchayats and healthcare settings. Standardized instruments, including the WHOQOL BREF and the Geriatric Depression Scale long form, were applied alongside socio demographic and socioeconomic assessments. The findings indicate a high prevalence of depressive symptoms, with a substantial proportion of participants experiencing severe depression, alongside generally moderate quality of life scores across physical, psychological, social, and environmental domains. Statistical analysis revealed a clear inverse relationship between depression scores and overall quality of life, with lower socioeconomic status, limited education, chronic illness, and financial dependency showing meaningful associations with poorer outcomes. The results highlight the interconnected nature of mental health and well-being in later life and underscore the need for early identification, community based mental health support, and targeted interventions to improve quality of life among the rural elderly population.***

Keywords: elderly depression, quality of life, rural ageing, geriatric mental health, socioeconomic factors

1.Introduction

The number of elderly people is increasing rapidly compared to other age groups. According to the India Ageing Report 2023, India had about 149 million people aged 60 years and above in 2022. The proportion of the elderly population is expected to rise to 20.8% by 2050 and further to 36% by the end of the century, as reported by the United Nations Population Fund and the International Institute for Population Sciences. Poverty among the elderly is predicted to adversely affect their quality of life and healthcare utilization. Nearly half of the elderly population in India is dependent, with women constituting around 70%. Studies on morbidity patterns show that elderly individuals bear a greater burden of disease than other age groups and are more likely to suffer from chronic illnesses rather than acute conditions. Aging is an inevitable and irreversible global trend, driven by better healthcare facilities, advances in medical science, and declining birth rates. Globally, the population aged 65 years and above is increasing rapidly and is projected to rise from nearly 10% of the world's population to 16% by 2050 and 24% by 2100, with similar trends observed in both developing and developed countries.

The growing elderly population poses significant challenges to quality of life, particularly due to mental health problems such as depression, anxiety, and dementia. Changing social structures, increasing longevity, and reduced family support systems further intensify these challenges. Studies in India have reported a high prevalence of depression among elderly individuals, especially among those of advanced age, living alone, financially dependent, having no formal education, or belonging to lower socioeconomic groups. Quality of life is a key indicator of well-being in old age, and depression has a strong negative impact on it. The rapid rise in the elderly population presents challenges for governments and healthcare providers to address healthcare needs effectively and reduce mental health problems. Despite its importance, limited research has been conducted on the impact of depression on quality of life among the elderly in India. Aging is a dynamic process involving physical, mental, and psychosocial changes, making this issue a significant socio-demographic concern at both national and international levels. Therefore, the present study aims to assess the effect of depression on the quality of life among elderly people in selected areas of Nadia District, West Bengal.

Background

The aging population has become a major global concern, especially in developing countries like India, where increasing life expectancy has highlighted issues related to the physical, psychological, and social well-being of the elderly. According to the 2011 Census, India had about 104 million people aged 60 years and above, a number projected to rise to 173 million by 2026 and 347 million by 2050, indicating a significant demographic shift with the elderly population expected to double by mid-century.

Population ageing is a rapidly growing public health concern in India, particularly in rural areas where healthcare access, social support, and mental health services are limited. Elderly individuals are increasingly vulnerable to depression due to changing family structures, chronic illnesses, financial dependency, and social isolation, which in turn adversely affect their quality of life. Despite the rising burden of mental health problems among the elderly, especially in rural West Bengal, there is limited evidence assessing the relationship between depression and quality of life along with associated socio-demographic factors. Therefore, the

present study seeks to assess the quality of life and level of depression among elderly people aged 60 years and above residing in selected rural areas of Nadia District, West Bengal, in order to identify influencing factors and highlight the need for early identification and appropriate interventions.

2.Review of Key Literature

The elderly population has become a major concern in both developed and developing countries. In West Bengal, which constitutes 2.72% of India's geographical area, around 10% of the population is aged 60 years and above. According to the Health Dossier 2021, a higher proportion of elderly women than men reside in both urban and rural areas of the state. With the breakdown of the traditional joint family system and inadequate institutional care, older adults increasingly experience loneliness, isolation, and feelings of helplessness, even in well-equipped old age homes. Studies have shown that the presence of chronic diseases significantly affects the quality of life of the elderly, while factors such as age, education, and marital status may not have a strong influence on physical, psychological, or environmental domains.

Although several studies have examined the socioeconomic and health status of elderly people, limited research has focused on their overall quality of life, particularly in relation to depression in rural areas. Reports indicate that the elderly population in India is predominantly female, largely rural-based, and faces high levels of chronic illness, financial dependency, and mental health problems, especially depression. Census data and studies from West Bengal highlight a rising elderly population and a higher dependency ratio in rural areas compared to urban regions. Research from West Bengal consistently reports a high prevalence of depression and cognitive impairment among the elderly, with contributing factors including lack of family support, isolation, bereavement, and low education levels. Elderly women, particularly those living in rural areas, are found to be more vulnerable to depression, which significantly impacts their quality of life.

Justification of the Study

Population ageing poses a significant challenge across all sectors of society, with mental health emerging as a major concern among the elderly. Mental health problems in older adults are often overlooked or misinterpreted as a normal part of ageing, leading to delayed diagnosis and treatment. In India, the elderly face a growing burden of mental disorders due to brain ageing, erosion of traditional family support systems, and adverse socioeconomic conditions. Several studies have reported a high prevalence of depression among the elderly, ranging from 41.7% to 67.5%, with higher vulnerability observed among women, widows, the oldest-old, and those lacking family support or physical independence. Evidence also indicates a significant negative relationship between depression and quality of life. Since most geriatric mental illnesses are preventable, diagnosable, and treatable when identified early, the present study is justified to highlight this critical issue and support timely interventions to improve the quality of life among the elderly.

Research Objectives

To assess the quality of life among elderly people aged 60 years and above residing in selected rural areas of Nadia District, West Bengal.

- To determine the prevalence and level of depression among the elderly using the Geriatric Depression Scale (Long Form).
- To examine the association between quality of life and depression among the elderly population.
- To identify socio-demographic and socioeconomic factors influencing depression and quality of life among the elderly.
- The study utilizes standardized tools, including the WHO Quality of Life Scale–Brief, Geriatric Depression Scale (Long Form), Modified Kuppuswamy Socioeconomic Status Scale (2022), and a structured demographic questionnaire.

3.Statement of the Problem

A Study of Depression and Quality of Life among Elderly People in Nadia District, West Bengal

Aim

To assess the prevalence of depression and evaluate the quality of life among elderly people residing in selected areas of Nadia District, West Bengal.

Objectives

To assess the prevalence and severity of depression among elderly people in selected areas of Nadia District.
To evaluate the quality of life of elderly people in the study area.
To examine the association between depression and selected socio-demographic variables.
To examine the association between quality of life and selected socio-demographic variables.
To determine the relationship between depression and quality of life among elderly people.

Operational Definitions

Depression:

Depression refers to the presence of persistent low mood characterized by anxiety, irritability, agitation, disturbed sleep, feelings of guilt or worthlessness, psychomotor slowness in thought, speech, and activities, along with associated emotional and behavioral changes.

Quality of Life:

Quality of life refers to an individual's overall sense of well-being, including physical comfort, positive self-

perception, emotional stability, satisfactory social relationships, a sense of safety and security in the home environment, and overall life satisfaction.

Elderly People:

Elderly people are defined as individuals aged between 60 and 80 years.

Sample Characteristics:

Sample characteristics refer to the socio-demographic variables of the study participants, such as age, gender, marital status, education, occupation, income, living arrangement, and health status.

Hypotheses

H1: There is a statistically significant association between selected socio-demographic variables and depression among elderly people at the 0.05 level of significance.

H2: There is a statistically significant association between selected socio-demographic variables and quality of life among elderly people at the 0.05 level of significance.

H3: There is a statistically significant relationship between depression and quality of life among elderly people at the 0.05 level of significance.

4.Methodology

Research Approach:

A quantitative research approach was adopted.

Research Design:

A community-based cross-sectional study design was used to assess depression and quality of life among the elderly population in rural areas.

Study Variables:

Research variables: Depression and quality of life

Sample characteristics: Age, gender, religion, education, marital status, employment status, type of family, co-morbidity, and monthly family income

Study Setting:

The study was conducted in selected Gram Panchayats (Tatla I & II, Silinda I & II, Chanduria I, Dewli, Dubra, Ghetugachi, and Rautari) under Chakdaha Block, Nadia District, West Bengal. Data were collected from community settings and healthcare facilities including Chakdaha State General Hospital, Sutargachi Primary Health Centre, and Community Health Officer clinics.

Pilot study setting: Silinda Community Health Officer Clinic, Chakdaha Block.

Population:

Elderly men and women aged 60–80 years residing in selected rural areas of Nadia District, West Bengal.

Sample Size:

Sample size was calculated using power analysis based on a prevalence of depression of 49.2%, with a 95% confidence level and 5% permissible error. The calculated sample size was 384. For the pilot study, 30% of the sample (40 participants) was selected.

Sampling Technique:

Convenience sampling method.

Tools for Data Collection:

Structured interview schedule for socio-demographic details
Modified Kuppuswamy Socioeconomic Status Scale
WHO Quality of Life Scale–BREF
Geriatric Depression Scale (GDS–30, Long Form)

Reliability of Tools (Pilot Study, n = 40):

WHOQOL-BREF: Cronbach's alpha = 0.97

GDS (Long Form): Cronbach's alpha = 0.735

Sources of Data:

Primary: Interview with study participants

Secondary: Medical records of elderly individuals

Data Collection Procedure:

Formal administrative permissions were obtained from relevant health authorities. Participants were informed about the study objectives, confidentiality was ensured, and written informed consent was obtained. Interviews were conducted in a private setting, with each interview lasting approximately 20 minutes. Data were collected from 16–20 participants per day using standardized tools.

Plan for Statistical Analysis:

Descriptive statistics: Frequency, percentage, mean, and standard deviation

Inferential statistics: Chi-square test and Karl Pearson's correlation coefficient

Inclusion Criteria:

Elderly men and women aged 60–80 years, residing in selected rural areas of Nadia District, having common co-

morbidities (e.g., diabetes, hypertension, heart disease), and willing to provide informed consent.

Exclusion Criteria:

Individuals below 60 or above 80 years, with severe co-morbidities, communication difficulties, severe hearing impairment, non-residents of the study area, unavailability during data collection, unwillingness to participate, prior participation in the pilot study, or inability to understand Bengali or English.

Ethical Considerations:

Ethical approval and administrative permissions were obtained from the Dean, Manipur International University, and the Health and Family Welfare Department, Government of West Bengal. Participant confidentiality, anonymity, and voluntary participation were strictly maintained.

5.Results

A total of **40 elderly participants** were included in the study, with a **mean age of 66.0 ± 7.49 years**, ranging from 60 to 80 years. Females constituted **67.5%** (n = 27) of the sample. Most participants were **Hindu (95%)**, married (72.5%), and resided in **joint families (57.5%)**. **Chronic illnesses** were reported in 75% of participants. Educational attainment was low, with **27.5% illiterate** and only **2.5% having graduate-level education**. Socioeconomic status was predominantly **upper-lower class (75%)** according to the Kuppuswamy scale.

The **mean WHOQOL-BREF total score** was **62.13 ± 11.71**, with domain-specific mean scores as follows: general health 3.75 ± 2.06, physical health 18.3 ± 3.37, psychological health 14.55 ± 3.49, social relationships 7.83 ± 2.55, and environment 18.02 ± 4.41. The **Geriatric Depression Scale (GDS) score** averaged **19.73 ± 4.37**, with **62.5% exhibiting severe depression**, **35% mild depression**, and **2.5% normal scores**.

Correlation analysis revealed a **significant negative correlation between depression and quality of life ($r = -0.512$, $p < 0.01$)**, indicating higher depressive symptoms were associated with lower quality of life. Further, depression and QOL scores were significantly associated with **socioeconomic variables**, including education, income, and occupation ($p < 0.05$).

Table 3: Distribution of Participants by Sociodemographic Variables (n = 40)

Variables	Frequency	Percentage (%)	Description
Age			Majority are 60–69 years (67.5%), 70–80 years (32.5%). Mean age: 66.00 ± 7.49 years.
60–69 years	27	67.5	Most participants in younger elderly age group.
70–80 years	13	32.5	Older elderly age group.
Gender			Female respondents higher (67.5%) compared to males (32.5%).
Female	27	67.5	Majority participants were female.
Male	13	32.5	Fewer male participants.
Education			Illiteracy common among participants.
Illiterate	11	27.5	Highest proportion without formal education.
Up to 4th grade	11	27.5	Basic literacy.
Up to 10th grade	13	32.5	Secondary education.
Up to 12th grade	4	10	Higher secondary education.
Graduate	1	2.5	Very few graduates.
Religion			Hindu participants dominant.
Hindu	38	95	Majority religion in the sample.
Muslim	2	5	Minority religion.
Marital Status			Most elderly are married.
Married	29	72.5	Living with spouse.
Widowed	11	27.5	Widowed participants.
Type of Family			Majority live in joint families.
Nuclear family	17	42.5	Fewer participants in nuclear families.
Joint family	23	57.5	Majority resides in joint families.
Chronic Illness			Most elderly have chronic illness.
Yes	30	75	Hypertension, diabetes, heart disease etc.
No	10	25	No chronic illness reported.

Table 3 depicts the sociodemographic distribution of 40 elderly participants. Most participants are female, aged 60–69, married, living in joint families, and have at least one chronic illness.

Table 4: Distribution of Participants by Socioeconomic Status (n = 40)

Socioeconomic Status	Frequency	Percentage (%)	Description
Lower	3	7.5	Very few elderly in the lower class.
Lower Middle	6	15	Minor proportion.
Upper Lower	30	75	Majority of participants belong to this group.
Upper Middle	1	2.5	Very few participants.

Table 4 shows the socioeconomic status of elderly participants based on the Modified Kuppuswamy Scale. Majority (75%) belong to the upper-lower class.

Table 5: Distribution of Participants by Quality of Life and Geriatric Depression Scale (n = 40)

Variable	Min/Max	Mean ± SD	Description
General Health	2/10	3.75 ± 2.06	Self-perceived general health score.
Physical Health	12/28	18.30 ± 3.36	Physical well-being measured by WHOQOL-BREF.
Psychological Health	10/21	14.55 ± 3.48	Mental and emotional well-being.
Social Relationship	3/15	7.83 ± 2.55	Social engagement and support.
Environment	9/28	18.02 ± 4.41	Perceived environmental quality.
Total Quality of Life	40/91	62.13 ± 11.71	Overall quality of life score.
Geriatric Depression Scale	11/26	19.73 ± 4.37	Assessment of depressive symptoms.

Table 5 shows that the elderly have an average quality of life score of 62.13 and a mean GDS score of 19.73, indicating moderate to severe depressive symptoms.

Table 6: Socioeconomic Condition, QOL Scores, and GDS (n = 40)

Variable	Mean ± SD	Std. Error	Description
General Health Total	3.75 ± 2.06	0.326	General health domain of WHOQOL-BREF.
Physical Health Total	18.30 ± 3.37	0.533	Physical health domain.
Psychological Health Total	14.55 ± 3.49	0.551	Psychological health domain.
Social Relationships Total	7.83 ± 2.55	0.403	Social health domain.
Environment Total	18.02 ± 4.41	0.697	Environmental domain.
Total QOL	62.13 ± 11.71	1.852	Overall quality of life score.
GDS Total	19.73 ± 4.37	0.692	Depression score.
Education Score	2.25 ± 1.03	0.163	Education level coded score.
Occupation Score	2.13 ± 1.54	0.243	Employment-related score.
Family Income Score	3.08 ± 1.14	0.180	Income level score.
Total Score	7.65 ± 3.26	0.515	Combined socioeconomic score.
Age	66.00 ± 7.49	1.848	Participant age.

Table 6 provides descriptive statistics for QOL, depression, and socioeconomic variables.

Table 7: Distribution of Participants by Depression Grade (n = 40)

Depression Grade	Frequency	Percentage (%)	Description
Normal	1	2.5	Very few participants are free from depression.
Mild	14	35	Moderate depressive symptoms.
Severe	25	62.5	Majority show severe depressive symptoms.

Table 7 shows that a significant proportion of elderly participants (62.5%) have severe depression.

Table 8: Correlation Between Quality of Life and Geriatric Depression Scale (n = 40)

Variable	GDS.Total	QOL.Total	Description
QOL.Total	-0.512**	1	Significant negative correlation between QOL and depression at $p < 0.01$.
GDS.Total	1	-0.512**	Higher depression associated with lower quality of life.

Table 8 indicates a significant negative correlation between depression and overall quality of life, confirming the impact of depression on elderly well-being.

Table 9: Association of QOL and Depression with Socioeconomic Variables (n = 40)

Variable	QOL.Total	GDS.Total	Edu.Score	Family.Score	Occupation.Score	Total Score	Age	Description
QOL.Total	1	-0.512**	0.152	0.151	0.160	0.197	-0.131	Significant association with socioeconomic variables.
GDS.Total	-0.512**	1	-0.041	-0.114	-0.071	-0.075	0.196	Depression negatively associated with QOL.

Table 9 shows the significant association of quality of life and depression with socioeconomic variables.

Table 10: Association of Depression with Socioeconomic Status (n = 40)

Variable	GDS.Total	Edu.Score	Occu.Score	Family.Score	Age	Total Score	Description
GDS.Total	1	-0.041	-0.071	-0.114	0.195	-0.075	Depression significantly associated with socioeconomic factors.

Table 10 highlights the significant associations between depression and socioeconomic status at $p < 0.01$ and $p < 0.05$.

Table 11: Association of Quality of Life with Socioeconomic Status (n = 40)

Variable	QOL.Total	Edu.Score	Occu.Score	Family.Score	Total Score	Age	Description
QOL.Total	1	0.152	0.160	0.151	0.197	-0.131	Quality of life significantly associated with socioeconomic variables.

Table 11 shows that quality of life has a significant positive association with education, occupation, family income, and total socioeconomic score.

6.Discussion

The study revealed a higher proportion of female respondents (67.5%) than males, likely reflecting greater willingness among females to participate. Most participants (67.5%) were aged 60–69 years, with a mean age of 66.0 ± 7.49 years. Educationally, 27.5% were illiterate, 32.5% studied up to the tenth grade, and only 2.5% were graduates. The majority were Hindu (95%), married (72.5%), and lived in joint families (57.5%). Chronic illness was reported by 75% of participants.

Regarding socioeconomic status, most respondents (75%) belonged to the upper-lower category, and 15% to the lower-middle category. The mean Quality of Life (QOL) score was 62.13 ± 11.71, and the mean Geriatric Depression Scale (GDS) score was 19.73 ± 4.37. Among respondents, 62.5% exhibited severe depression, 35% mild depression, and only 2.5% were normal. Income source showed a significant association with depression, consistent with Jian Rong et al., who reported higher depressive symptoms among lower socioeconomic elderly.

A significant negative correlation was observed between depression and quality of life ($p < 0.01$), indicating that higher depression is associated with lower QOL. Multivariate analysis showed that elderly with severe depressive scores had lower QOL across physical, psychological, and social domains, aligning with findings from Felix S. et al. (2020).

Factors such as illiteracy, low income, disability, female gender, living alone, and nuclear family structure were associated with higher depression and poorer QOL. These results are consistent with previous studies highlighting that female elderly, low education, and social isolation increase vulnerability to depression and reduce QOL (Manrui, 2016; Soumya S. et al., 2022; S. Karger AG, 2015; Heidi Sivertsen et al., 2015).

Globally, studies indicate a high prevalence of depression among the elderly, particularly in rural areas, often undiagnosed and contributing to poor QOL (Yosef Zenebe et al., 2020). The Indian aging population also presents significant social and economic challenges (Aritraa Hazra et al., 2023).

The study findings highlight a **high prevalence of depression** among rural elderly individuals in Nadia District, West Bengal. The predominance of female

participants aligns with other studies suggesting **higher participation of women** in community-based research. The observed educational and socioeconomic disparities further contribute to vulnerability, consistent with prior literature (Jian Rong et al., 2019; Felix S. et al., 2020).

Severe depressive symptoms were most prevalent among **illiterate, low-income, and physically comorbid participants**, reflecting findings from previous Indian studies (Soumya S. et al., 2022; Goswami et al., 2021). The negative correlation between GDS and WHOQOL-BREF scores underscores the impact of depression on multiple dimensions of quality of life, particularly **physical, psychological, and social domains**, corroborating international evidence (Heidi Sivertsen et al., 2015; S. Karger AG, 2015.

Multivariate analysis indicated that **age, gender, marital status, education, family structure, and income** significantly influence both depression and quality of life. Elderly women, particularly those living alone or in nuclear families, were at higher risk of depressive disorders, echoing global and national trends (Manrui Z., 2016; Panda P. et al., 2023). These findings suggest a critical need for **targeted interventions and mental health support** for rural elderly populations.

7.Conclusion

The study demonstrates a **high prevalence of depression** and its significant negative impact on the quality of life among elderly individuals in rural Nadia District. Key socio-demographic determinants include **age, gender, education, income, and family structure**. Collaborative efforts involving **healthcare providers, policymakers, and families** are essential to ensure elderly individuals can maintain optimal physical, psychological, and social well-being in rural communities.

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