Determinants of Depression Status of Elderly in Kancheepuram District: A Community Based Neighborhood Study

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Abstract

Background: Depression is common psychiatric disorder, affects both mind and body, leads decrease in productivity, disability and increased suicide rates. Prevalence rate ranged from 21 – 83 % in general population and among elderly 21.9% in India. Very few population based studies at village levels from India; hence this study was attempted to find the depression status and associated risk factors among elderly, which may serve as baseline data and also help in planning the health services and policies for them. The objective of the study is to find geriatric depression and its determinants in rural area of kancheepuram district, Tamilnadu.

Methods: A cross sectional study was conducted in selected villages of kancheepuram district Tamilnadu from Nov 2018 to May 2019. 963 Study participants aged 60 years and above both gender were selected by probability proportion to size, administered by pre tested semi structured questionnaire, WHOBREF, CESD after obtained informed consent. Descriptive statistics N, % Mean and SD calculated; Correlation coefficient was calculated at 5% level of significance by using SPSS 16V.

Results: The prevalence of geriatric depression were mild 10%, Moderate 26% and severe 38%. Religion, Socio economic status, work participation, economic dependency, living arrangement and subjective wellbeing, neighborhood variables availability and distance to reach facilities such as transport, health, communication and recreation had significant association with geriatric depression.

Conclusions: This study is first kind of community based neighborhood study at village level from Tamilnadu on prevalence of geriatric depression and its determinants.

Keywords: *Geriatric, Quality of life, Depression, neighborhood*

Introduction

Depression is common mental health problem among geriatric population.[1] According to WHO global burden of disease report 2004 depression was ranked as third leading cause of burden of disease worldwide.[2] A meta-analysis showed that the prevalence rate ranged from 21 – 83 % in general population and among elderly 21.9% in India. Demographic transition, increased life expectancy lead increasing geriatric population with rising chronic non communicable diseases, which expected to have high magnitude of depression.[2, 3]

The studies were describes that geriatric mental health particularly sensitive to ambient neighborhood conditions since elderly people tend to be less mobile and more reliant on local provided services and amenities.[4] Glass and Balfour proposed the model for neighborhood effect on ageing based on two components supportive and detrimental environments.[1]

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Adverse neighborhood attributes increase risk of various health issues independently of the characteristics of the population who live in that neighborhood.[5] The studies had shown that stressful life, reduced social support and capital are associated with mental disorders among elderly.[5] Hence this study attempted**.** The objective was to find geriatric depression and its determinants based on neighborhood components in villages of kancheepuram district, Tamilnadu.

Materials and Method

A cross sectional study was conducted in selected villages of kancheepuram district Tamilnadu from Nov 2018 to April 2019. 963 samples were selected by probability proportional to size, from the spatially clustered villages by neighborhood sampling, considering the prevalence rate of 21.9% of geriatric depression using the formula n = 4pqxdesign effect/ d^2.

Study participants aged 60 years and above both gender were administered by pre tested semi structured questionnaire along with center for epidemiology scale for depression, after obtained informed consent. The questionnaire consists of geo codes, village code, village name and various domains such as demographic, socio economic, work participation and economic dependency, migration, living arrangement, subjective wellbeing, Morbidity.

The data was collected by personal interview method and entered in ODK forms. Further data was retrieved in MS Excel for missing data analysis. Then, data were merged with neighborhood variables, factor scores of census tract domains, such as Population, area, water, sanitation, communication, recreation, transport and health, both facilities availability and km in distances for the selected villages using their village code as indicator in SPSS.

Descriptive statistics Mean, SD, Percentages were calculated. Inferential statistics such as chi square test and correlation were calculated at 5% level of significance by using SPSS 16V. The ethical clearance was obtained from Institutional Ethics Committee and permission was taken from college authorities to conduct this study.

Results

Among 963 geriatric study participants the prevalence of depression was approximately 74% and classified mild (10%), moderate (26%), severe (38%) only 26% had no depression. Among 963 study participants majority were female 59.2% and belong to Hindu religion 76.1%. Gender had no significant association but religion had negative correlation with depression r =36.3%, p = 0.001

50% were illiterate and 44.4% studied up to primary which had no significant relationship with depression status. Majority were in lower middle class 45.1% and 25.4 % were in lower socio economic class, had negative correlation with depression status (p=0.001) lower SES tend to have more depression than upper class.

Nearly 67.7% were living alone and 32.3 % were living with their children; 23.1% were migrated for various reasons such as working, education and marriage of their descendants however, they were not correlated with depression in elderly.

63% were working at present either by choice and economic need. 56.9% had their personal income either by rental, business, agriculture and 10% of them getting government pension. Whatever their income 83.5% spending for their day today needs. Work participation had (r = 29.2%) positive correlation (p=0.001), structure of work (r = 22.1%) and reason for work had (r =13%) positively correlated with depression (p =0.001)

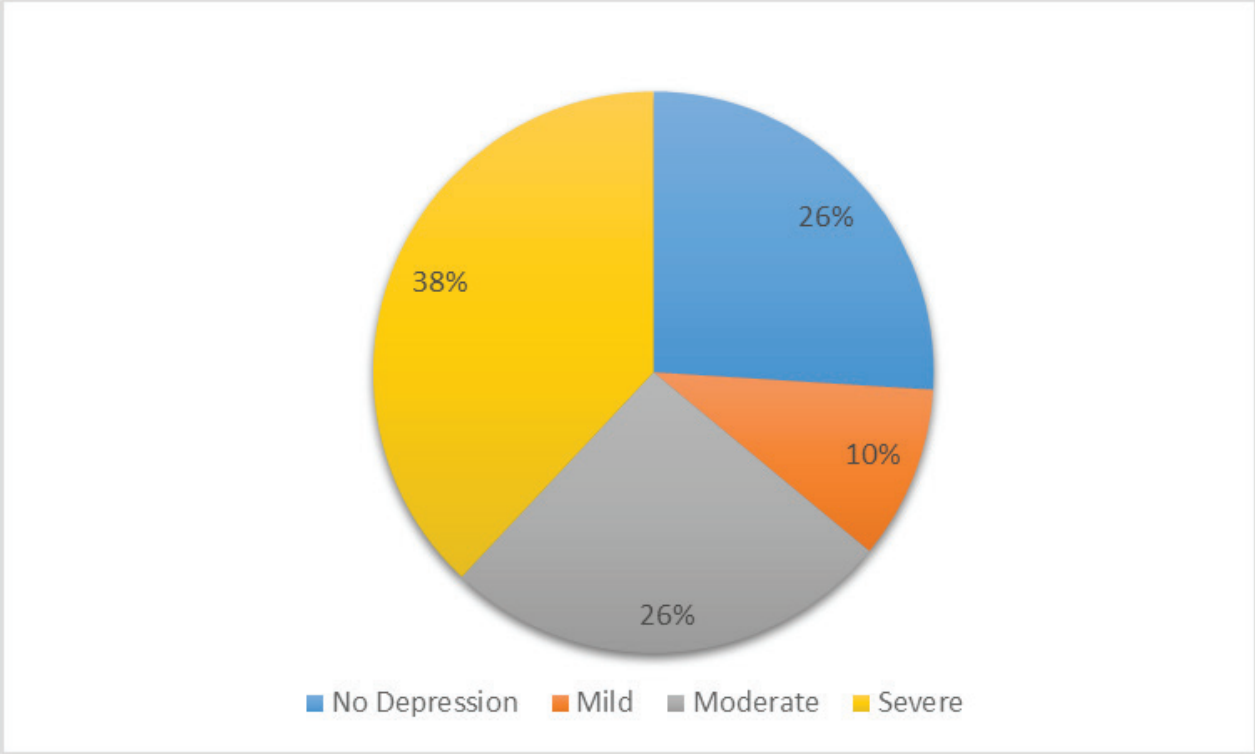
Nearly 77.3% were economically depended with their spouse or children, had significant correlation with their status. 57.5% of study participants live with their spouse and 26% were living alone. Regarding perception about living arrangement half of them told can't say, don't know only and 54.7% told satisfied however there was significant positive correlation (r =59.7%) with depression (p=0.0001)

Social interaction had significant relationship with depression those who deprived due to health, safety and financial problems tend to have more depression (p=0.001). Those who need full assistance for their daily activities (r = 61.6%), instrumental (r=60.3%) and loco motor (r = 61.9%) tend to have increased depression status (p = 0.0001).

The neighborhood variables such as water, sanitation, and housing did not had any significant

correlation with depression in elderly. Wherein, lack of communication, health, banking, markets, recreation and transport facilities and their distance to reach these facilities had significant correlation with geriatric depression (p =0.001)

The quality of life was assessed with four domains such as physical, psychological, social and environmental by WHO BREF scale. These mean scores had significant negative correlation with depression in elderly; which interprets increase in quality of life score leads decreased level of depression. Physical domain 64.9%, psychological domain 64.2%, Social relationship 71.7 % and Environmental domain had 64.1% statistically significant negative correlation with depression status respectively in elderly (p=0.0001)



Graph 1: Prevalence of Geriatric depression among study Participants

Table1: Association of demographic, socio environmental factors with geriatric depression

Demographic Variables	Correlation (p value)
Age	- 20.0 % (0.01)
Religion	- 36.3 % (0.01)
Housing	- 16.0 % (0.01)
Work Participation	29.2 % (0.01)
Economic Support, Assets	- 44.0 % (0.001)

Table 2: Association of Living arrangements, Migration and Social Interaction with geriatric depression

Living Arrangements	**Correlation (p value)**
Type of living	16.5 % (0.01)
Perception	59.7 % (0.001)
Preferable support	18.8 % (0.01)
Money	21.8 % (0.01)
Involvement in decision making	41.7 % (0.001)
Social Interaction	- 27.5 % (0.01)

Table 3: Association of subjective wellbeing, ADL, Loco motor with geriatric depression

Subjective Well Being, ADL, Loco Motor	**Correlation (p value)**
SWB: Self rated health	-65.1 % (0.0001)
SWB: Current health status	-66.2 % (0.0001)
SWB: Last one year	-55.5 % (0.0001)
Active Daily Living	-61.6 % (0.0001)
Instrumental (need assistance)	- 60.3 % (0.0001)
Loco Motor (need assistance)	- 61.9 % (0.0001)

Table 4: Association of Quality of life with depression status among elderly

Quality of Life of Elderly	**Mean ± SD**	**Correlation (p value)**
Physical Domain	66.8 ± 21.42	- 64.9% (0.0001)
Psychosocial Domain	55.26 ± 18.4	- 64.2% (0.0001)
Social Relationship Domain	68.72 ± 21.66	- 71.7% (0.0001)
Environmental Domain	65.34 ± 23.29	-64.1% (0.0001)

Discussion

In this study majority were female participants (59.2%) which was similar in study by Anil et al (58.8%) and Poongothai et al (54.6%).[6-8] approximately, half of them were not literate in current study which was similar to Piramanayagam et al (78%).[7,8] Three forth of the participants belong to lower and lower middle class which was almost similar to Syed et al.[8,9]

Two third of study participants were living alone which was more than the study done by Usha et al (55%) and higher compare to 2011 census of tamilnadu (16%).[12] 63% of them still working which was higher than the 2011 census which says that 30% in men and 20% in female.[12] half of the elderly people had personal income wherein the other were dependent on their descendants.

The prevalence of depression was graded as mild (10%), moderate (26%), severe (38%) which was higher than median prevalence rate of India.[14,15] in this study there is significant impact on geriatric depression due to age, religion and type of housing which was almost similar to most of Indian studies.[14-18] Work participation and nature of work had reason for working had significant positive correlation with geriatric depression.[14, 15]

Even though water and sanitation facilities not having any impact on depression but the other facilities such as availability of grocery shops and market, health facilities, recreation facilities and communication facilities had significant impact on geriatric depression. These natural neighborhood clusters according to these physical and social domains had significant relationship with their mental health. Those who live with good amenities neighborhood tend to live with good mental health compare to those who live poor neighborhood. Similar results were found with studies done by Kubzanskey et al (2005) and Scootman et al (2007).[4, 5,19]

All most all the study participants had one or more diseases; their quality of life was assessed and the mean scores of domains were 66.8 ± 21.42, 55.26 ± 18.4, 68.72 ± 21.66, 65.34 ± 23.29 respectively; these scores were indirectly proportional to depression among elderly which was almost similar to otherstudies.[10, 11, 13]

Conclusion

This study is first kind of community based neighborhood study at village level from Tamilnadu on prevalence of geriatric depression and its determinants. There were increased depression status at villages of kancheepuram district. It is so important to identify association of neighborhood characteristics along with individual level assessment with depression status in elderly. Such studies will help us to plan structural interventions and improving health of elderly.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical Clearance: The ethical clearance was obtained from institutional ethical committee of KIMSRC.

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