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Depressed elderly population and social support

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Abstract

Nearly one-fifth of the elderly people in the rural areas of Allahabad were suffering from depression. Female sex, lack of or poor social and family engagement in the form of not being involved in leisure time activities, not meeting relatives and friends on a regular basis, not having good relationship with family members, and not being cared for by family members, especially during illness, are the important predictors of depression among elderly. Appropriate implementation of national program and screening and management at the primary level is need of the hour for reducing the burden of depression among rural elderly. Apart from medical management, innovative interventions focused on improving the social and family engagement of elderly people with special focus on elderly females may go a long way in addressing the depression.

Keywords: Depression, Elderly, Family relations, Morbidity, Social support

Introduction

Depression among elderly population is a major public health issue affecting nearly 5% to 7% of the world's elderly. In the coming years, a major share will be contributed by developing countries like India. In the rural areas of Allahabad district of Uttar Pradesh, there is scarce data on the depression. With about 322 million people in the world are living with depression today, it has become the third leading cause of disability globally ^[1]. Nearly half of these are from South-East Asia and Western Pacific regions. The global prevalence of depression is estimated to be 4.4% and it is more common among females (5.1%) than males (3.6%). Prevalence is also higher among older age group people ^[2].

The world's population is ageing rapidly. Using the United Nations Population Fund (UNFPA) benchmark of referring to older people as those above 60 years ^[3], the proportion of the world's elderly is estimated to reach almost 22% by 2050—almost double from the 2015 levels. In absolute terms, this is an expected increase from 900 million to 2 billion people ^[4]. Similarly, in Asia, the proportion of the elderly is expected to increase from 11.6% to 24.6% during 2015–2050 ^[5]. In India, the share of elderly population is projected to increase from 8% in 2015 to 19% in 2050 ^[6].

The elderly age groups are known to suffer from special physical and mental health a challenge which thus needs public health attention. Over one-fifth of elderly are known to suffer from a mental or neurological disorder attributing to disability-adjusted life years (DALYs) of 6.6% and 17.4% of Years lived with disability (YLDs). Of special note is depression which is one of the most common mental disorders in this age group accounting for high burden (4%–7% prevalence) and YLDs (~5.7%). However, depression continues to remain one of the most under-diagnosed and poorly managed conditions, especially in primary care settings, thereby adding to impaired daily functions, poor perception of health and costs.

In the rural areas of Allahabad district of Uttar Pradesh, there is scarce data on the depression and its associated factors among the elderly. Hence, this study was planned to ascertain the prevalence of depression and assess its predictors among elderly population.

This is a community-based cross-sectional study conducted among elderly in rural areas of Allahabad district of Uttar Pradesh. The study area was selected by multistage random sampling method where, in the first stage, two community development blocks of Allahabad district, viz., Jasra in the Trans Yamuna area and Bahadurpur in the Trans Ganga area, were selected randomly. In the second stage, from the list of villages, 8 villages in each of these blocks were randomly selected. In the third stage, a list of elderly persons in each of these 8

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villages was obtained and 25 study subjects from each of these villages were randomly selected using a random number table.

Considering the prevalence of depression as 52.2% [7], we estimated sample size requirement as 404 at 10% relative error, 95% confidence interval, and 10% contingency. This was calculated using the formula $n = Z^2 P (1-P)/L^2$, where n = sample size, P = prevalence of depression in elderly (52.2%), and L = allowable error (taken as 10% of P). Finally, 411 subjects were included in the study.

Persons aged 60 years and above were invited for participation in the study. WHO Technical Report Series-779 refers to those aged 60 years and over as elderly people and the same criterion was used in this study [8]. Any document issued by the revenue or education department (10th marks sheet, voter's ID card, and ration card) which contained the age of the person was used while ascertaining the age of the subjects. Informed consent was taken after explaining the purpose and objective of the study to the subjects.

A pretested, predesigned, and semistructured questionnaire was used to interview the study participants which included sociodemographic profile like age, sex, marital status, education, religion etc., Occupational status was categorized as involved in economically gainful work (landowner, service, artisan, and daily wager) and not involved in gainful work (unemployed, housewife, and retired). Socioeconomic status was assessed using the Modified BG Prasad classification corrected to the latest AICPI (All India Consumer Price Index). History of any addiction like tobacco smoking (beedi, cigarettes, chillum, etc.) or chewing (Khaini, gutka, etc.), and substance abuse like cannabis was recorded. Depression was assessed using geriatric depression scale-short form consisting of 15 items and a score of more than 5 was considered as depression [9]. It was translated to Hindi language and back-translated by an independent translator and pilot tested before use.

All the participants were interviewed and assessed in detail for any symptoms and signs of any disease. The diagnosis was based on history, physical examination, and review of the previous records. Blood pressure was measured in a sitting position in the right upper arm using mercury sphygmomanometer by an auscultatory method. Average of two separate measurements taken 5 min apart was recorded. Subjects with systolic BP of less than 140 and diastolic BP of less than 90 mm of Hg were considered as nonhypertensives and those with more than that were considered to be hypertensives [10]. Visual disorders like cataract and refractive errors were examined using purkinje images and Snellen's chart, respectively. Hearing impairment was assessed using the whisper test. Subjects with any morbidity were referred to the nearest health center for further evaluation and management.

All the data collected was analyzed using the Statistical Package for Social Sciences (SPSS ver. 23). All categorical variables were described using proportions and analyzed using Chi-square test or Fischer Exact test as applicable. Multiple binary logistic regression analysis was done by enter method including the variables which showed a significance at 10% level on univariate analysis. Hosmer and Lemeshow goodness of fit test and Naegelkerke R square were also calculated. A P value < 0.05 was considered as statistically significant.

Geriatric depression is a frequently overlooked clinical diagnosis and often considered a normal response to aging or other life events. It causes excess disability and has an adverse interaction with physical health [11].

The prevalence of depression was found to be 19.7% in the present study. This is almost similar to the findings of the study done by Pilia *et al.* in rural Haryana (14.4) [12]. Goel *et al.* in an urban slum Muzaffarnagar city of Uttar Pradesh found 9.4% elderly to be depressed [13]. Similarly, Gupta *et al.* 2015 in Lucknow city of Uttar Pradesh found 15.6% elderly to be depressed [14]. In different studies in India, the prevalence of geriatric depression varied from 8.9%–52.2% [15]. The National Mental Health Survey 2016 has used MINI tool and reported the lifetime prevalence of depression as 6.93% [16]. A recent systematic review has found a pooled prevalence of depression to be 34.4% among elderly persons aged 60 years and above which is almost double than what we have found in our study. However, in the same study, they have reported the pooled prevalence of depression among them as 10.9% [8.3%–13.6%] in the state of Uttar Pradesh which is nearly half of that we have found in our study [17]. While these differences may be due to the variations in the methodology and the tool/scale used for assessment of depression, it can also indicate subtle underlying risk indicators like environmental predisposition. After adjusting for multiple factors, it was found that elderly women (30.5%) had higher odds of depression compared to elderly men (9.8%) [aOR 2.4; 95% CI: 1.1–5.1] which was similar to other studies conducted globally and in India [18]. Three systematic reviews done in 2003, 2006, and 2019 have also found similar results indicating the female sex to be a significant risk factor across different time periods and geographic regions [19]. Women are known to have a longer life expectancy because of biological reasons and also maybe because they are less likely than men to engage in health-endangering or life-shortening behaviors such as smoking, drinking excessive alcohol, fighting, and other aggressive behaviors [20]. Hence, there are greater chances that they live longer without their spouse, with multiple morbidities and disability and also lack of adequate social support system, which can be significant contributor to depression [21].

In this study, we found that absence of regular meeting with relatives and friends was the most important risk factor contributing toward depression [aOR 4.7; 95% CI: 1.9–11.6]. Elderly persons who were regularly meeting relatives and friends had a lower risk of depression in comparison to those who were occasionally meeting them.

Similarly, depression was associated with not being involved in leisure time activities [aOR 2.5; 95% CI: 1.3–4.9]. Elderly without any leisure time activities had about 2.5 times higher odds of depression. Similar findings were reported in the study done by Pilia *et al.* and by Sandhya [22]. This may be due to the fact that these leisure time activities act as distractors for depressive thoughts and improve the person's self-esteem. While there is a biological mechanism where physical activity leading to endorphin release and limbic system activation, thereby having a protective role in depression is well documented [23]. The similar mechanism between recreational leisure time activities and depression is yet to be explored further.

In a study in China, poor social engagement like lower frequency of participation in social activities and leisure activities, loss of social contact, and absence of a friendly

companion were the significant predictors of depression among older adults [24]. In another study done by Carayanni *et al.* in Greece, meeting with friends in free time was found to be a protective factor for depression.

Regular involvement with friends and relatives during leisure time or at workplace provides mental support and opportunity to share, which has a preventive role against the development of depression.

Higher levels of social engagement in the form of increased frequency of participation in social and leisure time activities is found to be protective against geriatric depression, thereby higher levels of well-being and longer survival [25].

While a majority of the study participants reported some form of morbidity like visual, cardiovascular, neurological, or gastrointestinal disorders, these were not significantly associated with depression. However, not being cared by family members during illness significantly predisposed to depression [aOR 3.9; 95%CI: 1.2–12.9]. In addition, elderly subjects having less-than-good relationship with family members had higher odds of depression [aOR 2.7; 95% CI: 1.2–6.0].

In two studies done among older adults in Nepal, lack of family engagement like not having enough time spent with family members, not being considered in family decision-making, and physical and/or verbal abuse by family members were significantly associated with depression [26].

The family relationships, sense of being valued in the family, and availability of family help at times of need play an important role in mental well-being and prevention of depression among the elderly. However, failure to receive relevant care as well psychological and emotional support, especially during ill health when it is absolutely needed, results in a greater risk of depression among the elderly people. These findings clearly indicate the importance of good family relationship and family support system in the mental health of the elderly.

The traditional family system in India is a joint family system. This family system provides healthy management of an entire family with the division of labor, care of children, and when people grow old they are respected, obeyed, and taken care of by the younger generation. In this family hierarchy, the elderly hold a place of authority. But with rapid industrialization and urbanization, over the past few decades, there is disruption in the joint family system, younger generation have migrated away in search of better job opportunities. Many have settled in cities with nuclear families leaving behind the older adults in the rural areas and many have abandoned the elderly owing to pressures of urban family life.

The National Program for the Health Care of Elderly” [NPHCE], 2010 envisions to address various health problems of the elderly. However, the implementation framework is far from ideal due to lack of trained manpower and infrastructure dedicated toward mental health problems of the elderly [27]. The National Mental Health Program in coordination with the NPHCE can embark on strengthening the health infrastructure to promote timely diagnosis and evidence-based management of mental health problems of the elderly [28]. This still does not address the need of family and social engagement among the elderly with an aim to curb mental health problems. Government of India has enacted the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 which has penal provisions against

abandonment of the elderly [29]. Elderly social groups, laughter clubs, and yoga groups are some novel ways of bringing people together which has the potential of addressing the mental health needs. However, much more social research into timely diagnosis and innovative interventions for social and family support are required to prevent depression from becoming a giant public health problem among the elderly. Thus, it is most important to add life to years of the elderly rather than just adding years to life.

In the context of improving the quality of life and thereby adding life to years of elderly, primary care physician or family medicine practitioner plays a crucial role. As it is well known, family medicine practice envisages wholistic approach which involves medical management of the disease as well as addressing ideas, concerns, and expectations of patient, and also the involvement of family members or caregivers as relevant to the case. Evidence from this study emphasizes the need of primary care physician to focus on the commonly prevalent mental health problem among the elderly-depression. Based on the identified risk factors, the study points to the role of a family physician in improving and maintaining family relationships through counselling and motivation of caregivers involved in elderly care. Also, as a leader of the health team, family physician should steer community to provide opportunities for socialization and free time activities relevant to elderly. The study area belongs to a backward state in India where the health indicators are still poor compared to other well-performing states of India. The study was done in the rural areas of Allahabad district and the results may not be generalizable to the entire nation. However, it represents the living conditions of the rural part of the eastern Uttar Pradesh and hence is a valid estimate for that region.

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