Prevalence and Associated Risk Factors for Depressive Symptoms among the Elderly in India (Extended Abstract)

Background: Advancement in medical science and standard of living has caused a dramatic increase in life expectancy and shifted the population structure. The number of older persons is expected to double by 2050, and is projected to reach about 2.1 billion. (UN, World Population Ageing, 2017) In the 2011 census, people aged 60 and above accounted for 8.6% of the total Indian population. The share of the elderly population in India is projected to further rise to 19.5% by 2050 (UN Population Division, 2019).

Population ageing has brought many unprecedented public health risks. Along with increased morbidity and functional loss older adults experience a multitude of social and financial problems. With the advancement of age psychological resilience weakens. Chronic diseases, impairment, frustration with limitations in activities, dependence, adverse life events like bereavement, isolation, drop in socioeconomic status, and lack of adequate social support can trigger depressive symptoms. Due to its co-occurrence with geriatric syndromes and age-associated medical problems, it's often left underdiagnosed and considered a common ageing phenomenon. Depression decreases physical, cognitive, and social functioning. It deteriorates the quality of life, aggravates the incidence of other chronic diseases and disabilities.

The study aims to (1) analyse the association of risk factors and depressive symptoms among the elderly (2) aims to evaluate disparity in prevalence of depressive symptoms among socioeconomic groups.

Data and Methods: The study used data from Wave 1 of the Longitudinal Ageing study in India. The LASI Wave 1 is a nationally representative survey of 72,250 older adults age 45 and above. The data was collected from all states and union territories of India (excluding Sikkim) between April 2017 to December 2018.

Depressive symptoms were assessed utilizing a short version of the Center for Epidemiologic Studies–Depression Scale (CES-D) containing 10 items. Demographic characteristics considered in the study were age (60–69, 70-79, 80 years and older), sex, place of residence. Socioeconomic characteristics considered in the study were monthly per capita expenditure quintile, educational attainment (no education, less than primary, primary completed, middle completed, at least secondary completed), current employment status, presence of health insurance, old-age pension, social activity and history of elderly abuse. Social activity is measured by frequency of these elements -(1) Eat out of the house (Restaurant/Hotel) (2) going to park/beach for relaxing/entertainment (3) playing cards or indoor games (4) playing out door games/sports/exercise/jog/yoga (5) visiting relatives /friends (6) attending cultural performances /shows/cinema (7) attending religious functions /events such as

bhajan/satsang/prayer (8) attending political/community/organization group meetings (9) reading books/newspapers/magazines (10) watching television/listen radio (11) using a computer for e-mail/net surfing etc. Elderly abuse is estimated by occurence of any physical abuse, verbal abuse, economic exploitation, emotional abuse and neglect during past one year.

Health-related factors considered in the study presence of chronic diseases, presence of any form of impairment, alcohol consumption, smoking habit, self rated health status and composite international diagnostic interview index (CIDI) for mental health. Chronic disease includes (1) hypertension (2) diabetes (3) cancer or malignant tumour (4) chronic lung disease such as asthma (5) chronic obstructive pulmonary disease/chronic bronchitis or other chronic lung problems (6) chronic heart diseases such as coronary heart disease (heart attack or myocardial Infarction), congestive heart failure, or other chronic heart problems (7) stroke (8) arthritis or rheumatism/ osteoporosis or other bone/joint diseases (9) high cholestrol (10) Any neurological, or psychiatric problems such as depression , Alzheimer's/Dementia, unipolar/bipolar disorders, convulsions, Parkinson's etc. Health impairment includes any form of physical, mental, visual, hearing and speech disability.

Concentration curve and concentration index is used to depict the inequalities in the prevalence of depressive symptoms by wealth quintile. Multivariate logistic regression models are used to study the impact of each risk factors. Further logistic regression is carried out separately for each group categorised by place of residence and sex.

Results: The study includes 31,464 older adults (aged 60 and above) comprising 15,098 men (47.98) and 16,366 women (52.02). 53.68% have never attended school, 5.16% live alone, 54.17% have at least one chronic disease and 9.38% have at least one form of physical or mental impairment. Proper living arrangements and social support are crucial for those with health issues. 7.08% of those with any form of physical or mental impairment and 5.41% of those with chronic disease live alone.

Half of the elderly population in India has depressive symptoms (CES-D>=10). Women have a higher prevalence than men and it is highest among women living in rural areas. Risk of experiencing depressive symptoms decreases as we move up the monthly per capita expenditure quintile. People belonging to the lower mcpe quintile are more prone to stressful life events and thus are at greater risk. Financial security like the provision of pension, health insurance, and employment decreases the risk among the elderly. The risk of developing depressive symptoms is inversely proportional to educational attainment.

The risk increases with age and it's highest for those aged 80 and above. Intergenerational exchange of social, financial, and emotional support is associated with good geriatric psychological health. Living with family or others lowers the risk compared to those living alone. Those living with spouses had the

least risk. It is also found that depressive symptoms were more prevalent among older adults who have a history of elderly abuse.

Health issues have a bidirectional relationship with depression. The mean CES-D score is 11.37 for those with physical impairment, 12.36 for those with mental impairment, 10.90 for those with hearing impairment, 11.64 for visual impairment, 11.90 for speech impairment, and 10.12 for those with chronic disease. Regular interaction and involvement in social activities have a positive influence on mental health. Among the elderly social participation decreases the chances of developing depressive symptoms.

Depression should be recognised as a major health concern among the elderly. Preventive interventions especially for the vulnerable groups should be incorporated in public health policy. The study suggests depressive symptoms can be curtailed by encouraging social interaction, awareness, providing security, freedom and social support but most importantly by designing comprehensive and sustainable geriatric healthcare policies and programmes.