# Correlates of Socio-economic Status and Activity Levels of Rural Older Widows

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## Abstract

The changes in the joint family system and shifting social values have not only caused serious problems for the aged but also for the vulnerable groups such as women and widows. The feminisation of ageing has begun all over the world and a consistent agerelated increase is seen in widowed older individuals. Widowhood is generally considered as women's issue, particularly older women's issue. Due to cultural and societal norms elderly widows either are not permitted or they themselves voluntarily withdraw from taking part in social or physical activities. As a result they experience reduced mental functioning and restricted social participation. Hence, the present study is an empirical attempt to assess the exclusive variable activity and its contribution on the rural elderly widows residing at Kurumbalur village of Perambalur. It is a descriptive study and purposive sampling method was adopted to select 60 samples. Interview schedule method was adopted to collect the data from the required respondents. The major finding of the study revealed that majority of the respondents had a moderate level of physical activity (65.7%), psychological activity (61%), and social activities (63.6%).

Key words: Activity, Elderly, Widows, Gerontology

#### 1.0 Introduction

Since independence, India has experienced a number of changes in the areas of population health, economy, technology, and society. The country's elderly population is also growing at a faster rate. The issue of an aging population is not exclusive to India; it is now a concern for the entire world. Over the past few decades, there has been a significant increase in average life expectancy, which has accelerated aging. According to the India Ageing Report 2023, it was revealed that there were around 149 million older persons, i.e., 10.5 per cent of the country's

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population, and they are projected to double in number by 2050. The report on *Elderly in India* 2021 (NSO 2021) released by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India, projects a substantial increase in the population of senior citizens in Tamil Nadu from 75.10 lakhs in 2011 to 1.04 crores in 2021 and is expected to be 1.42 crores in 2031. Tamil Nadu with 13.6% of senior citizens in 2021 is projected to have the second highest proportion of senior citizens with 18.2% in 2031 (NSO 2021 and Gokhale 2024). The number of older women is higher than that of older men in India; it is believed that the country's aging population is becoming more feminine (Gupta 2015).

Women in India generally experience widowhood as a precarious time in their lives, marked by extreme poverty, a lack of social support, the inability to remarry, and a higher chance of dying young. A significant number of empirical studies have been conducted in the last two decades which through light on diverse aspects of vulnerability of widows. They lack access to optional sources of social and emotional support Sullivan & Fenelon 2014); their status is publicly stigmatised; and beliefs and customs in the culture maintain rigid standards for them (Krishnaraj 2006) and vulnerable socio-economic conditions impact their psychological health (Yadav & Arokiasamy 2014). In patriarchal culture, remarriage may not be a realistic option for older women, thus older women remain widowed and lack resources (Dreze & Srinivasan 1997). Omran (2005) has explained the complex changes in the pattern of health, instrumental activities, spirituality, falls, pain, and bereavement of elderly. S. Sumanth Hiremath (2012) found that a major proportion of rural elderly women were poor, less educated, and has recorded highest negative affective psychological conditions by the elderly widows. They were out of the work force, partially or totally dependent on others, and suffered from health problems with a sense of neglect by their family members. It is also indicated that rural women are illiterate, dependent, and suffer from various diseases. The above studies have sketched out the findings on socio-economic conditions and their influence on health.

It is also evident from studies that a positive association is seen between physical activity, participation, and improved health in older people (Langhammer 2018). Engaging in physical and psychosocial activities can help older people live longer and without disabilities (Gellert et al. 2019 and Carlson et al. 2015). Although it is one of the most neglected sectors, the health and quality of life of widows in India is a crucial issue that requires extensive development and research. Studies by Hossain and James (2023) and Carr (2009) on senior widows shed light on the difficulties they encounter and also contribute to solutions. Compared to older women in rural areas, those in urban areas have chronic illness, financial hardship, and physical stress, but the sufferings of rural widows are underreported. Bennett (2005) found that women who have been widowed for a long time are more likely to be the worst off due to long-term reduced access to resources and poor treatment by their husband's family.

Wherever there is some concern for the widow and elderly women, the focus on physical dimension is stressed. The majority of instruments are designed primarily for everyday use and physical exercises in general; they don't focus much on psychosocial activities together. An activity is a focused behaviour, an ability a person can perform. Mind and body do not work separately; activity is a unified concept. The activity of a human being comprises other aspects such as physical, social, and psychological constructs. The three elements of the study, such as

physical, psychological, and social activities, are based on socio-demographic traits and activities (Maheswari and Ilango 2014).

These studies and issues discussed above create interest on further studies on widow problems. In this study activity levels of the rural elderly widows are explored specifically because there is an assumption that elderly widows have more problems than others and they lack education, paid income, social participation and poor health and it is hoped that the findings will shed light on the understandings of elderly widows and their regular life activities. Further, it is envisaged that the results of this study will offer an empirical foundation for future research and development aimed at transforming older widows into content and optimistic members of society. In view of this, the researcher engages in the study of rural elderly widows and their involvement in psychosocial participation.

## **1.1** Review of Literature

Though academic interest in the study of widows is not very old, still there are works which shed light on different aspects of the issue. A few literatures on the topic are reviewed to understand the nature and scope of the topic. The study of Jana and Chattopadhyay (2022) is about elderly population which is equally applicable to the condition of widows. They have specified that the elderly population become dependent on factors such as education, financial status, gender, and living arrangements and numerous non-communicable diseases, including cancer, heart disease, stroke, respiratory disorders, etc., impact them and are the main cause of morbidity and mortality among the elderly. Urvashi Jain et al. (2022) find that transitioning to widowhood may induce significant strain upon a sudden change in resources, a change which leads to negative effects. This concern is evident in the study of Fan et al. (2021). Their studies reported that older widows living alone in rural and remote areas even face more stressors and fewer coping resources in their daily lives compared with their counterparts in urban areas. Ahmad (2009) finds the cause in the primary responsibility of a woman in India which is to look after her husband. Her primary duty gets disappeared after the death of her spouse and her in-laws consider widows as a financial burden. Bhattacharyya and Singh (2018) also identified cultural norms and taboos having direct or indirect effect on the economic wellbeing and autonomy over resources for widows in India.

Agrawal et al. (2021) hold widow marriage as one of the causes of widow plight. Widow marriage is a prevalent social stigma, and they are discouraged from getting remarried, though the widow is young. Yujin Sun (2023) examined the mediating roles of education, income, and psychological capital in physical activity's impact on health with a sample of 1778 rural older adults, and results indicated that physical activity impacts rural older adult health through multiple mediating pathways. Saha et al. (2022) compared the levels and determinants of self-rated health between rural and urban areas by considering the moderating effects of marital status and living arrangements and found that in addition to marital status and living situation, other factors that significantly influenced self-rated health were age, socio-cultural background (educational attainment and religion), economic background (employment status), health status (Activities of Daily Living and Instrumental Activities of Daily Living, multi-morbidities), and geographic background (region). A study by Srivatsava et al. (2021) revealed that widowhood in older women is associated with poorer mental health and reduced coping resources compared

with those living with their partners. Devi et al. (2022) explored the social and health concerns among elderly women in rural settings in Tiruppur District, Tamil Nadu, among 250 elderly women and revealed that only 27.6 per cent were literate, the majority of them (63.2%) were widows, 43.2 percent were living alone, and the majority of them (65%) suffered more than two co-morbidities, and the majority of them (61.2%) consumed tobacco. Factors like illiteracy, poverty, poor awareness of health services, and social factors like loneliness had a negative impact on quality of life. Shahar et al. (2019) found that there was a high prevalence of low SES among older adults in the rural area (50.6%) as compared to the urban area (49.4%). Samanta et al. (2015) conducted a study on health-related outcomes as a function of marital status among older adults in India and reported that worse health conditions were associated with widowed status than married and living with spouse groups.

Mohindra et al. (2012) examined a study on debt, shame, and survival living among the widows in rural Kerala and concluded that becoming a widow is a trauma, an economic dependency, and a burden for older women in rural Kerala. Studies (Gu et al. 2015) have shown that depression can be prevented and alleviated by actively engaging in social participation among older adults. Social participation provides opportunities to interact with others in society and ensures social support and social contact as is concluded by Won and Kim (2020) from their study. Isherwood et al. (2012) also found the importance of social participation from their study. The reported that for widowed older adults, social participation during widowhood may assist individuals in effectively overcoming the problems of spouse bereavement, regardless of how social participation changes after widowhood Moschny et al. (2011) described that highly educated men and women do not participate in sporting activities or domestic activities and stated that physical health was selectively associated with sporting activities or domestic activities among the elderly. Utz et al. (2002) found that widowed persons had higher levels of informal social participation than no widowed persons and social participation levels decreased before the death of a spouse because of poor spousal health and increased support from friends and relatives. After the loss of spouses, older widows become socially isolated, dependant and retreat from social media.

Based on the reviews it is understood that the socio-economic status, morbidity rate, physical activity and health status of women are dependent on their married partners and these factors influence the overall well-being of elderly women. But widows lack in these conditions. If those factors are fulfilled it may contribute to enhanced activity levels among the elderly widows. There is a research gap, as is evident from reviews, on the topic of activity level with regard to the wellbeing of the widows. Hence this study is a novel attempt to investigate the physical, psychological and social activities as a unified concept and understand the association of socio-economic conditions of rural elderly widows with it.

# 1.2 Research Methodology

The main aim of the study is to analyse the association between socio-demographic characteristics and activity levels among rural elderly widows. The objectives of the study were to: 1.) know about the socio-demographic characteristics of the respondents; 2.) understand the activity levels of the rural elderly widows; and 3.) to give suitable suggestions to improve the well being of elderly widows. In the present study, the researcher has made an effort to study the

level of activity among the rural elderly widows. The study provides a descriptive profile of the respondents based on their physical, psychological, social activities, and demographic characteristics such as age, educational qualification, marital status, religion, occupation, living arrangements, health status, assets, and leisure activities. Hence, a descriptive research design has been used for this study. The researcher has collected data from the community dwelling elderly widows living in Kurumbalur village of Perambalur District, and as the list of elderly widows is not available, the universe is infinite. The researcher has selected 60 respondents using the purposive sampling method, and therefore, the sample size is 60. Regarding the tools of data collection, a self-prepared interview schedule was used to collect the socio-demographic information and a standardised tool on the Activity Rating Scale for Older Persons (ARSOP) developed by K. Maheswari and P. Ilango in 2010 was used to measure the activity levels on various dimensions such as physical, psychological, and social activities. SPSS was used to analyse the data, and interpretations were given.

# 1.2.1 Standardized tool on Activity Rating Scale for Older Persons (ARSOP)

The ARSOP standardized tool consists of 30 items with all positive statements. It is a likert scale and for all the statements the score are: Strongly Agree = 5, Agree = 4, Undecided =3, Disagree =2, and Strongly Disagree=1. The score of ARSOP ranges from 30 to 150. The items in each domain are as follows:

- a) Physical activity = 1, 2, 5, 9, 12, 13, 19, 24, 29, 30.
- b) Psychological activity = 3, 14, 17, 18, 23, 26.
- c) Social activity = 4, 6, 7, 8, 10, 11, 15, 16, 20, 21, 22, 25, 27, 28.

The Guttmann Split-Half Reliability Co-efficient value is 0.8683 (Maheswari & Ilango 2014).

- a) Physical activity dimension included items on daily living activities (eating, bathing, cleaning, washing), physical fitness, performance of outdoor activities, eating food at regular intervals, initiation of acquaintances with new people, active as were in younger age, maintaining skills and abilities as were in young age.
- **b) Psychological activity** dimension included questions on recall of significant events in life, fear of death, want their children around them always, lead a happy life with all facilities, involvement in decision making, interest in people as age increases, participation in recreational activities and active involvement in family functions.
- c) Social Activity dimension consisted of questions like regular attendance of religious meetings, visit friends, have good contacts with relatives, neighbours, peers, full involvement in social activities, go out by myself, others visit me, participation in social gatherings and go on pilgrimages.

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#### **1.2** Results and Discussion

#### 1.3.1 Findings related to the Socio-economic Conditions of the Respondents

It is revealed from the study that less than half of the respondents (47%) were in the age group of 60-65 years, whereas 23 per cent were aged between 66 and 70 years, 15 per cent fell between 76 and 80 years of age, 11.3 per cent were aged between 71 and 75 years, and only 3.3 per cent were above 81 years of age. A similar study by Urvashi et al (2022) found that widowhood increases with age among both sexes and the increase is faster among women and widowhood is attained 50 per cent by the age group of 65-69. The majority of the respondents (65%) were illiterate in this study and Borodin et al. (2017) have explained that education influences the level of awareness and knowledge about widowhood and also about material resources that can be used for avoiding or managing demanding situations. Thus the need for education is emphasized. A vast majority of them (89%) were doing agriculture and it is similar to a study conducted by Lekshmi V. Nair (2012) that majority of the rural elderly depended on agriculture for the source of income (78%) and nearly 90 per cent of the total work force was employed in the unorganized sector whereas bout 34.25% of female elderly were engaged as farm/fishery/forestry works as against the corresponding figures of 43.51% for male elderly. Gwatkin et al (2000) have also indicated that socio-economic differences in health and nutrition are seen in elderly population due to poverty.

It is also noted from the study that the great majority of the respondents (82.3%) were residing in nuclear families, and only 17.7 percent lived in joint families (Gokhale 2024) reported that many elderly people, especially widowed women, are now forced to spend their twilight years alone and due to the withering of the joint family system. As a result, many elderly people are not being cared for by their family. More than half of the respondents (55%) said that they had lived with their spouse for more than three decades and Berkman et al (2012) has found those aged 60 and older are slightly less likely being close to their partners and the results were not significant and number of years living together does not mean they have better understanding. Regarding children, a little more than half of the respondents (54%) had 1–2 children, 28.7% had 3–4 children, and the remaining 17.3 percent did not have children and most of the female respondents lived with their children (66 %) Childlessness and poor physical health contribute much to the low quality of life of elderly women. Kalavar and Jamuna (2011) found that older women reported a higher degree of psychological closeness and contact with daughters than sons.

The occupation of majority of the respondents is agriculture, and it is their family occupation, so the family members are dependent on the respondents for their living (78.7%), and only 22.3 percent of the respondents have no dependents. In contrast Ramu Hariharan (2012) and Lloyd-Sherlock et al. (2015) have indicated that majority of the respondents were dependent (64%) on their children and 32 per cent were working in farms. Majority of the respondents (61%) income was between Rs. 1000–7,000 per month. While considering the activity levels experienced by the respondents, it was found that the majority of the respondents (65.7%) had a moderate level of physical activity and a study by whereas 61 percent had a moderate level of social activity and a similar study by Gonzalez-Hernandez et al. (2017) stated that physical activity and

exercise are associated with psychological and social well-being. Social gatherings are determined by their physical and economic circumstances as well as by the support of happy families. It is also noted from the study that the majority of the respondents (62%) had a moderate level of overall activity. Walking, regular exercise, and physical activity promote mental health, lower the risk of impairment, and keep people healthy throughout their lives.

# 1.3.2 Findings related to selected socio demographic variables and key variable

It is illustrated from the study that there is a significant difference among the age of the respondents and various dimensions of activity such as physical (F=3.311,p< 0.05), psychological (F=4.314, p< 0.05), and social activity (F=3.491 p< 0.05) and from the mean scores it is clear that respondents aged 60-65 years ( $\bar{X}$ =32.4615) had better physical activity than other age groups, it is noted that as age increases physical activity decreases and a contrast finding was shown by Granero-Jimenez et al. (2022) that no significant differences were observed in age and there was significant higher scores on physical activity of male compared to women in Spain. However, there was no significant difference among the education qualifications and various dimensions of activity levels of the respondents (F=0.602, p>0.05).

Religion does not play a significant role in the activity levels of older widows and found no significant association between the religion of the respondents and overall activity ( $X^2$  = 2.623, p >0.05), however studies by Singh et al. (2020) and Maselko and Kubzansky (2006) indicated persons with religious practice and who attend public religious activity weekly were significantly associated with better health and well-being. In this study majority of them followed Hinduism (79%) and widows did not go to temples frequently and they worshipped at home itself and it may be because of occupation and life style. It is clear from the study that, as majority of the respondents do agriculture (89%) and their activity levels are maintained to a certain extent and a significant association is seen between the occupation of the respondents and the dimensions of activity such as physical ( $X^2 = 5.991 < 0.05$ ), psychological ( $X^2 = 6.170$ , p < 0.05) and social activities ( $X^2 = 6.952$ , p< 0.05). There is a significant association between the income of the respondents and activity levels ( $X^2 = 8.163$ , p < 0.05) and other studies by Hallerod (2013), Liu et al. (2019) and Hahn et al. (2011) have indicated that focus is not given on housework and the transition to widowhood gave rise to insufficient income or inadequate skills household management and paid employment certainly holds an important space ensuring survival advantage among widows and family members prefer widows for care giving activities so that they will have a purpose and overall well-being. Cultural norms play a role and in contrast this study showed that majority of the respondents was independent. Regarding property, it does not improve the activity levels of the older widows because the majority were not the owners of any movable or immovable properties, and moreover, they did not have the freedom to use the property due to patriarchy and a similar study by Berkman et al. (2012) interpreted that no inheritance rights and property, and insufficient incomes and earnings expose elderly widows to deprivation and social isolation When it comes to the health status of the respondents, a significant association was found between health status and overall activity ( $X^2$  = 7.164,p< 0.05). Stahl and Schulz (2014) and Perkins et al. (2020) reported that elderly widows suffer from sleeping problems, psychological distress, worse self-rated health, and hypertension increased alcohol consumption, to maintain their functional ability after the loss of husband and it was noted that rural older persons do not suffer from chronic illnesses as urban elderly, and

their lifestyle and physical activities may be a reason and a findings by Jain et al. (2022) supported the study and found associations between marital status and health-related outcomes have remained even after adjusting for various sets of demographic and socio-economic characteristics.

There is no significant relationship between the number of children, family size, and income of the respondents with regard to various dimensions of physical activity, psychological activity, social activity, and overall activity. It is clear from the research study that, unless the older widows are educated, do paid work, possess assets, have good health and maintain and continue their activity levels as they were in adulthood their aging process will become a burden for themselves as well as for caregivers. Thus it is insisted to do regular exercises, activities of daily living by themselves, household chores, and outdoor activities, create acquaintances and visit friends, peers and relatives to experience active ageing.

# 1.4 Suggestions

Based on the study the following suggestions are made having policy implications, community obligation and human rights considerations.

- Decline in family ethical values have made members individualists; weakening of the family relationships and occupational primacy allow no or little time to young members to attend to the requirements of the elderly people.
- Due to transition of joint family system, technological advancement and migration for various needs, the rural elderly women are seen as burden and left behind in their native places. Thus, there arises the need of volunteers to take care of the elderly persons necessitating formation of voluntary services units in every district. Volunteers need to organise and carry out appropriate leisure activities on a regular basis so that their physical and psychological health can be activated throughout. Volunteers can be any person interested in supporting the older people; non-governmental organisations, students of national service scheme unit, national cadet corps, etc. can be part of the voluntary service.
- It is necessary to provide adequate health-care counselling to the elderly by hiring and equipping geriatric counsellors and health care delivery workers because ageing is considered as a normal process for all rural women in particular and geriatric care is not given much importance in our country. Counsellors can explain to the inactive older persons that their activities must be continuously maintained as they did it in adulthood to lead a healthy life.
- Findings from studies indicate that older women face lot of challenges. Interventions from the government and civil societies in dealing with specific problems of the older women and widows to lead a graceful ageing are fundamental to their human rights.
- Gerontological social work and geriatric care syllabus should be compulsory in the curriculum of higher education with specialisation course because in the coming years ageing will be the biggest challenge to deal with and the youth population will be out numbered. If the socio-economic conditions are improved, the active functioning of the aged on all dimensions has to be enhanced.

• The implementation of mobile care units and the reinforcement of geriatric care in rural areas are necessary because old age group women's health status and mental efficiency declines with age.

# **1.5 Conclusion**

Older widows have emerged as the most vulnerable victims in society as a result of the aged population's shifting societal perspectives, which demand that they be treated equally in both rural and urban settings. From the study it is evident that, majority of the respondents were in young old category (60-70 years), illiterate, do unpaid work in their lands, reside in nuclear families, and have no access to property and religion does not play a role in enhancing their life and were moderately active in all dimensions. Socio economic characteristics played a vital role in improving the activity levels of older widows. As the widows get older, they may experience a decline in their general level of activity, mental health, and physical health as a result of inadequate support from their families. Cognitive decline was less likely to affect women who were physically active at baseline. Thus it is concluded that physical, psychological and social activities must be seen as a single concept and it must be combined together and assessed to know the overall well-being of older individuals.

#### References

- Agrawal, A., C. Lalji and G. Pakrashi. 2021. 'He Has Gone to a Better Place, but She Has Not: Health Status of Hindu Widows in India'. *The Journal of Development Studies*, 57(5): 750–771. https://doi.org/10.1080/00220388.2020.1802008
- Ahmad, N. 2009. 'Dying for the Dead: A Socio-Legal Examination of Sati in India'. Asia-Pacific Journal on Human Rights and the Law, 9(2): 1-10. https://doi.org/10.1163/157181509789025255
- Bennett, K. M. 2005. 'Psychological wellbeing in later life: the longitudinal effects of marriage, widowhood and marital status change'. *International Journal of Geriatric Psychiatry*, 20(3): 280-284. https://doi.org/10.1002/gps.1280
- Berkman, L. F., T.V. Sekher, B. Capistrant and Y. Zheng. 2012. Social Networks, Family, and Care Giving Among Older Adults in India. Washington, DC: National Academies Press
- Bhattacharyya, R. and S. Singh. 2018. 'Exclusion (and seclusion): geographies of disowned widows of India'. *GeoJournal*, 83(4): 757-774. https://doi.org/10.1007/s10708-017-9800-0
- Brodin, Helene, L. Fredrik and Andersson. 2017. 'Household services for older people'. A Mapping and Analysis of the Interaction between the RUT-Deduction and the Growing Market for Household Services. Stockholm: Arena Idé.
- Carlson, S. A., J.E. Fulton, M. Pratt, Z. Yang and E.K. Adams. 2015. 'Inadequate Physical Activity and Health Care Expenditures in the United States'. *Progress in Cardiovascular Diseases*, 57(4), 315–323. https://doi.org/10.1016/j.pcad.2014.08.002
- Carr. D. 2009. Gender, Aging and Widowhood. In P. Uhlenberg (ed) International Handbook of Population Aging, 705–728. Dordrecht: Springer Netherlands.
- Devi, B. N., M. Megala and P. Saravanakumar. 2022. 'Social and health concerns of elderly women in rural area in Tirupur District, Tamil Nadu'. *Journal of Family Medicine and Primary Care*, 11(8):4447-4451. https://doi.org/10.4103/jfmpc.jfmpc\_42\_22

Disengagement, and Continuity Theories. The Gerontologist, 42(4):522-533.

- Drèze, J. and P.V. Srinivasan.1997. 'Widowhood and poverty in rural India: Some inferences from household survey data'. *Journal of Development Economics*, 54(2): 217–234. https://doi.org/10.1016/s0304-3878 (97) 00041-2
- Fan, V. S., R. Mahadevan and J. Leung. 2021. 'Effect of income inequality, community infrastructure and

individual stressors on adult depression'. *Health Promotion International*, 36(1):46-57. https://doi.org/10.1093/heapro/daaa036

- Gellert, P., J. Wienert, J. P., Ziegelmann and A. Kuhlmey. 2019. 'Profiles of physical activity biographies in relation to life and aging satisfaction in older adults: longitudinal findings'. *European Review of Aging and Physical Activity*, 16(14). https://doi.org/10.1186/s11556-019-0221-6
- Gokhale, O. 2024. 'Elderly persons neglected due to withering of joint family system: HC'. *The Indian Express*, Mumbai, 31 January 2024.
- Granero-Jiménez, J., M.M. López-Rodríguez, I. Dobarrio-Sanz and A. E. Cortés-Rodríguez. 2022 . 'Influence of Physical Exercise on Psychological Well-Being of Young Adults: A Quantitative Study'. *International Journal of Environmental Research and Public Health*, 19(7):4282. National Library of Medicine. https://doi.org/10.3390/ijerph19074282
- Gu, D., H. Zhu, T. Brown, H. Hoenig and Y. Zeng. 2015. 'Tourism Experiences and Self-Rated Health among Older Adults in China'. *Journal of Aging and Health*, 28(4):675–703. https://doi.org/10.1177/0898264315609906
- Gupta, Nidhi. 2015. 'Physical and Psychological Health of Older Women in Urban India'. *Indian Journal of Gerontology*, 29(1): 23–45.
- Gwatkin, D. R., S., Rustein, K. Johnson, R. P. Pande and A. Wagstaff 2000. Socioeconomic differences in health, nutrition, and population in India. Washington DC:World Bank.
- Hahn, E. A., K.E. Cichy, D. M. Almeida and W.E. Haley. 2011. 'Time Use and Well-Being in Older Widows: Adaptation and Resilience'. *Journal of Women & Aging*, 23(2): 149–159. https://doi.org/10.1080/08952841.2011.561139
- Halleröd, B. 2013. 'Gender inequality from beyond the grave: intra-household distribution and wellbeing after spousal loss'. *Ageing and Society*, 33(5): 783–803. https://doi.org/10.1017/s0144686x12000268
- Hariharan, R. 2012. Economic Satisfaction of the Elderly in Rural Tamil Nadu: A Study with Special Reference to the Madurai District. *Disability Studies Quarterly*, 32(2). https://doi.org/10.18061/dsq.v32i2.3199
- Hiremath, S. Sumanth. 2012. 'The Health Status of Rural Elderly Women in India: A Case Study'. *International Journal of Criminology and Sociological Theory*, 5(3). <u>https://ijcst.journals.yorku.ca/index.php/ijcst/article/view/36067</u>
- Hossain, B. and K. S. James. 2023. 'Widowhood status, morbidity, and mortality in India: evidence from a follow-up survey'. *Journal of Biosocial Science*, 56(3):574-589. https://doi.org/10.1017/s0021932023000226 https://doi.org/10.1080/00220388.2015.1066497
- Isherwood, L. M., D. S. King and M. A. Luszcz. 2012. 'A Longitudinal Analysis of Social Engagement in Late-Life Widowhood'. *The International Journal of Aging and Human Development*, 74(3): 211–229. https://doi.org/10.2190/ag.74.3.c
- Jain, U., H. Liu, K.M. Langa, M. Farron, M. Kabeto and J. Lee. 2022. 'Widowhood and cognition among older women in India: New insights on widowhood duration and mediators'. SSM -Population Health, 19(2):1-12. https://doi.org/10.1016/j.ssmph.2022.101242
- Jana, A. and A. Chattopadhyay. 2022. 'Prevalence and potential determinants of chronic disease among elderly in India: Rural-urban perspectives'. *PLOS ONE*, 17(3), e0264937. https://doi.org/10.1371/journal.pone.0264937
- Kalavar, J. M., & Jamuna, D. 2011. 'Aging of Indian Women in India: The Experience of Older Women in Formal Care Homes'. *Journal of Women & Aging*, 23(3): 203–215. https://doi.org/10.1080/08952841.2011.587730
- Krishnaraj, M. 2006. 'Food security, agrarian crisis and rural livelihoods: implications for women'. *Economic and Political Weekly*, 41(52):5376–5388.
- Langhammer, B., A. Bergland and E. Rydwik. 2018. 'The Importance of Physical Activity Exercise among Older People'. *BioMed Research International*, 2018 (1): 1–3.

https://doi.org/10.1155/2018/7856823

- Lee, J., S. Lau, E. Meijer and P. Hu. 2020. 'Living Longer, With or Without Disability? A Global and Longitudinal Perspective'. *The Journals of Gerontology: Series A*, 75(1):162–167. https://doi.org/10.1093/gerona/glz007
- Liu, H., Q. Jiang and M.W. Feldman. 2019. 'Widowhood and mortality risk of older people in rural China: do gender and living arrangement make a difference'? *Ageing and Society*, 40(9):1–17. https://doi.org/10.1017/s0144686x19000436
  Lloyd-Sherlock, P., B. Corso and N. Minicuci. 2015. 'Widowhood, Socio-Economic Status,

Health and Wellbeing in Low and Middle-Income Countries'. *The Journal of Development Studies*, 51(10):1374–1388. <u>https://doi.org/10.1080/00220388.2015.1066497</u>

- Maheswari. K. and Ponnuswami Ilango. 2010. 'Activity and Quality of Life among the Older Persons in Salem District, Tamilnadu'. *Unpublished Ph.D. Thesis*. Tiruchirappalli. Tamilnadu, Bharathidasan University.
- ----- 2014. 'Construction and Validation of Activity Rating Scale for Older Persons'. *Indian Journal of Gerontology*, 28(3): 348-356.
- Maselko, J. and L. D. Kubzansky. 2006. 'Gender differences in religious practices, spiritual experiences and health: Results from the US General Social Survey'. *Social Science & Medicine*, 62(11):2848–2860. https://doi.org/10.1016/j.socscimed.2005.11.008
- Mohindra, K. S., S. Haddad and D. Narayana. 2012. 'Debt, shame, and survival: becoming and living as widows in rural Kerala, India'. BMC International Health and Human Rights, 12(1). https://doi.org/10.1186/1472-698x-12-28
- Moschny, A., P. Platen, R. Klaaßen-Mielke, U. Trampisch and T. Hinrichs, T. 2011. 'Physical activity patterns in older men and women in Germany: A cross-sectional study'. *BMC Public Health*, 11(1):559. https://doi.org/10.1186/1471-2458-11-559
- Nair, V. Lekshmi. 2012. 'Elderly in Rural India: A Sociological Analysis'. *Rajagiri Journal of Social Development*, 4(2):5–24.
- NSO (National Statistical Office). 2021. *Elderly in India*. New Delhi: National Statistical Office, Ministry of Statistics and Programme Implementation, Government o India.
- Omran, A. R. 2005. 'The Epidemiologic Transition: A Theory of the Epidemiology of Population Change'. *Milbank Quarterly*, 83(4), 731–757. https://doi.org/10.1111/j.1468-0009.2005.00398.x
- Saha, A., M. Rahaman, B. Mandal, S. Biswas and D. Govil. 2022. 'Rural urban differences in self-rated health among older adults: examining the role of marital status and living arrangements'. *BMC Public Health*, 22(1). https://doi.org/10.1186/s12889-022-14569-9
- Samanta, T., F. Chen and R. Vanneman. 2015. 'Living Arrangements and Health of Older Adults in India'. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 70(6): 937–947. https://doi.org/10.1093/geronb/gbu164
- Shahar, S., D. Vanoh, A.F. M. Ludin, D.K. A. Singh and T.A. Hamid. 2019. 'Factors associated with poor socioeconomic status among Malaysian older adults: an analysis according to urban and rural settings'. *BMC Public Health*, 19(S4)549. https://doi.org/10.1186/s12889-019-6866-2
- Singh, K., M. Junnarkar, D. Singh, S. Suchday, S. Mitra and P. Dayal. 2020. 'Associations between Religious/Spiritual Practices and Well-Being in Indian Elderly Rural Women'. *Journal of Religion and Health*. 59:2753-2774. https://doi.org/10.1007/s10943-019-00877-9
- Srivastava, S., P. Debnath, N. Shri and T. Muhammad. 2021. 'The association of widowhood and living alone with depression among older adults in India'. *Scientific Reports*, 11(1) 21641. https://doi.org/10.1038/s41598-021-01238-x
- Stahl, S. T. and R. Schulz. 2014. 'Changes in Routine Health Behaviors Following Late-life Bereavement: A Systematic Review'. *Journal of Behavioral Medicine*, 37(4), 736–755. https://doi.org/10.1007/s10865-013-9524-7
- Sullivan, A. R., and A. Fenelon. 2014. 'Patterns of Widowhood Mortality'. *The Journals of Gerontology: Series B*, 69(1), 53–62. https://doi.org/10.1093/geronb/gbt079
- Sun, Y. 2023. 'Physical activity's impact on rural older adult health: The multiple mediating effects of

education, income, and psychological capital'. *Frontiers in Public Health*, 11,173217. https://doi.org/10.3389/fpubh.2023.1173217

Utz, Rebecca L., Deborah Carr, Randolph Nesse, Camille B. Wortman. 2002. 'The Effect of

Widowhood on Older Adults' Social Participation: An Evaluation of Activity, Disengagement, and Continuity Theories'. *Gerontologists*, 44(4):522-533.

- Won, S. and H. Kim, H. 2020. 'Social participation, health-related behavior, and depression of older adults living alone in Korea'. Asian Social Work and Policy Review, 14(1): 61–71. https://doi.org/10.1111/aswp.12193
- Yadav, S. and P. Arokiasamy. 2014. 'Understanding epidemiological transition in India'. *Global Health Action*, 7(1) 23248. https://doi.org/10.3402/gha.v7.23248