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RESEARCH ARTICLE

PARTICIPATION RESTRICTIONS AMONG ELDERLY- A NARRATIVE REVIEW

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ABSTRACT

Background and Purpose: Participation restriction means lack of capability to participate in any activity or perform any activity. Participation restriction in older adults indicates lack of any older adult to perform any activity due to one or other problems whether physical or mental or social. This study enlists different reasons that influence participation restriction. **Method:** 27 different articles were searched about participation restrictions among elder adults and the factors that influenced the restriction. Out of these, 18 articles have been selected on basis of inclusion and exclusion criteria. All the articles showed different factors that affected the participation in elders. Stroke, impairment and many other factors that influence participation restriction and how the factors that correlate with each other in participation restriction. **Result and Conclusion:** Different studies have included different number of adults using different types of scales to assess the factors. The study's result says that the factors assessed, affected the AL and PR of the adults.

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INTRODUCTION

Aging is a fundamental part of living. It is a process of growing old, describes a wide array of physiology changes in the body systems, complex and variable which increased prevalence of acute and chronic illness which is further compounded by impairment of special sensory functions like vision and hearing and difficulties in performing their ADL.[1] Old people often have limited regenerative abilities therefore they are more susceptible to disease, syndromes, injuries and sickness. The organic process of aging is senescence. Old age is not a definite biological stage, as the chronological age denoted as 'old age' varies culturally and historically. Usually it is a later part of life after youth and middle age, with reference to deterioration. The WHO set 55 as the beginning of old age. At the same time, WHO recognized that the developing world often defines old age, not by years, but by new roles, losses of previous roles, or inability to make active contributions to society[2]. Basically there are three categories of elderly: (1) Young elderly: ages 65-74; (2) Old elderly: ages 75-84; (3) Old, frail elderly: ages >85.[3]

Old age refers to ages nearing or surpassing the life expectancy of human beings and is thus the end of human life cycle. In India people of age 60 or above are considered as senior citizens or elderly [4]. Both share and size of elderly population is increasing over time. There are 5.6% elders in 1961 which has increased to 8.6% in 2011[5]. According to population census 2011, there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million females and 51 million males. According to a report released by the United Nations Population Fund and Help Age India suggests that the number of elderly person is expected to grow to 173 million by 2026. The distinguishing characteristics of old age are both physical and mental.[6] The marks of old age are different for persons. A basic mark of old age that affects both body and mind is "slowness of behavior".[7] Physical marks of old age include: chronic diseases (hypertension, arthritis, heart diseases), bone diseases, essential tremor, falls, loss of sensations, cardiac problems, eyesight problem, balance problems, mobility impairment and so on. While mental marks include: Depressed mood, reduce cognitive ability, memory loss (dementia), mental disorders etc [8]. Participation restriction refers to health problems that can hinder people's involvement in different life events.

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The International Classification of Functioning, Disability, and Health (WHO-ICF) describes participation Restriction as one aspect of disability.[9] It is rational to believe that the prevalence of participation restriction increases among a frail population. It is defined as how an older person's health-related issues and personal and environmental hindrances limit that person's involvement in valued life events. Participation can be made easier or difficult as a result of environmental factors, such as technology, support and relationships.[10] The World Health Organization (WHO) defines " participation restriction " (PR), a key feature of the revised International Classification of Functioning, Disability and Health (ICF), as " problems an individual may experience in involvement in life situations, " and it reflects the negative consequences of health conditions on important personal and societal domains.[11] Community participation is an important type of participation because having and maintaining valued life roles and activities is associated with better psychological well-being and self-rated health and may be especially important for older adults, who are often at risk for unwanted declines in participation.[12] There is a growing interest in PR from public health, medical, and social perspectives, partly because " even when poor health persists, participation may still be maintained "[13]

As the proportion of older people rises, age-related changes in functioning within society are gaining attention and there has been a call for research into the risk factors and causes of disability. Despite the well-documented health benefits of physical activity in older adults, participation levels remain low. With rapid global population ageing, intensive efforts are needed to encourage higher levels of participation to ameliorate the negative effects of physical inactivity for older individuals and society as a whole. [16] Participation restriction is the term used to describe problems an individual may experience in involvement in life situations such as managing finances, social interaction, community mobility and work. To recognize and target older people at risk of Participation restriction, underlying risk factors and processes must be identified. [17]. Since there have not been many researches done on this topic, we would like to find out how much prevalence rate of participation restriction is there among elder people. This would help us to find out the factors that affect participation restriction in elder people. To review and discuss studies conducted in older adults with participation restriction due to different factors.

METHODOLOGY

A review has been done on participation restriction among the older adults. Articles published between 2004 to 2019 have been taken for the study. Articles have been searched by pub med, goggle scholar, open J gate and science direct. Inclusion Criteria for the study are Language of articles in English only, observational studies, review articles with full texts and studies with full texts from reference list of articles available in search database from the year 2004-2019 and studies which have included adults with participation restriction in activities due to different factors like stroke, multiple sclerosis, leg impairment and others. 27 articles of PR and AL have been taken. Articles have been selected according to PR in older adults due to one or the other factors affecting it. Ageing, participation restriction, balance, walking capacity, visual and auditory defects, depression

were some key words used to search these articles. Randomized and non-randomized controlled trials, systemic review were selected for this review in relation to participation restriction among older adults. Every article have studied and carried different methods to find out about participation restriction among the elderly people. Out of 27 articles, 18 articles have been selected for the review as they met the inclusion criteria. Following table shows list of articles taken for the review.

RESULTS

18 articles were taken for this study. Out of these, 1 was from UK and other was from India.

Characteristics of the included studies: Adults with age 70 years and above were taken. All studies included both male and female participants. Some studies used questionnaires and some assessment using different scales to measure PR in adults. In adults with PR after stroke, Physical, cognitive, perceptual and psychological abilities were assessed.

In study with AL and PR in veterans of Indian Armed Forces, questionnaire was designed using ICF and Health Questionnaire and WHO Disability Assessment schedule. In some adults, PR was measured using the Late-Life Function and Disability Instrument. In one of the study adults with falls-efficacy with stroke, AL and PR were measured using Pearson's correlation coefficient and regression model.

In study of adults with leg and trunk impairment, PR was analyzed using Late-Life Disability Instrument. In study of adults with multiple sclerosis, AL and PR were assessed using Frenchay Activities Index. Different scales were used for different criterias for measuring PR among the adults. The characteristics of the included studies are mentioned in above discussion.

DISCUSSION

Independence in activities of daily life is usually the main concern for the elderly and their family members. Often they need assistance for various tasks in their routine activities. We know that as age advances our body shows changes of senescence. Our special senses get weaker with age. The elderly thus face loss of hearing, decreased vision, and loss of taste and smell.

Our main objective of this study is to perform a review to find out participation restriction among the older adults and the factors that affect them. In our study, higher consultation rate was reported for vision or locomotion related problems. This reflected the fact that these problems were the major concern of the elderly as these significantly affected their day to day life. Other major problems reported were insomnia, anxiety, and depression. Our study includes articles in which studies were done to see how this above factors affected elderly people with participation. A variety of outcome measures were utilized in almost all studies. Each study was done on adults. The most commonly used outcome measures in the reviewed studies were Balance Scale, Depression scale and ICF model. The study includes veterans of Indian armed forces, stroke patients and other adults.

Table 1. Summery of Literature Review

Study title	Publication Year	Description	Conclusion
Activity limitation and participation restriction in veterans of Indian Armed Forces: A cross-sectional study.	2019	This community based, cross sectional study was conducted among 406 veterans and their spouses over 6 months (July - Dec 2016). The questionnaire used in the study was designed by incorporating elements from the ICF and Health questionnaire and the WHO Disability Assessment schedule. There were 14 questions to assess AL and 9 questions to assess PR with 0-5 scoring scale. The total attainable score for AL was 70 and for PR were 45 respectively.	Despite multiple ailments, our veterans have low AL and PR. Hypertension is the most common morbidity in this population. Assessment of the AL and PR is useful planning geriatric care and educating caregivers and families to improve the quality of life of the elders.
Activity limitations and participation restrictions in people with multiple sclerosis: a detailed 10- year perspective	2019	The study was done on 264 people with multiple sclerosis. Changes in 10 years in personal and instrumental activities in daily living using KATZ Activities and participation in social activities using the Frenchay Activities Index were assessed. A majority of people with severe multiple sclerosis showed restricted participation in all social activities at 10-year follow up.	There was a long term increase in AL and PR occurred in people with severe multiple sclerosis. AL and PR were most in people with moderate multiple sclerosis. People with mild multiple sclerosis were dependent more in instrumental activities while those severely affected increased their dependency in personal activities of daily living.
The Severity and Associated Factors of Participation Restriction Among Community- Dwelling Frail Older People: An Application of the International Classification of Functioning, Disability and Health (WHO-ICF).	2017	A cross-section of 299 community-dwelling frail older people with a mean age of 79.5 participated in this study. They had to have been identified as being either pre-frail or frail based on the five common characteristics of the frailty phenotype. Their level of participation restriction was assessed based on the Chinese Reintegration to Nursing Living Index (C- RNLI). All other independent variables were identified and systematically linked to different components in the WHO-ICF framework.	Among all participants, 207 (69.2%) were identified as encountering participation restrictions in at least one aspect of their life. A multivariate regression analysis showed that the participants' status of frailty, self-perceived social status, level of exhibited depressive mood, sleep quality, mobility, level of fear of falling, and physical activity levels had a significant association with participation restriction. When all of the variables, regardless of significance, were included, the factors together explained 67.1% of the variance in the participants' participation restriction. This finding supports the view that participation restriction is multifactorial in nature.
Measurement of AL and PR: examination of ICF linked content and scale properties of the FIM and PC-PART instruments.	2017	Activities of daily living. Personal care participation assessment and resource tool (PC-PART) item content was linked to ICF categories and were compared using a patient scenario to explore the instruments' separate measurement constructs.	Measurement of both AL and PR in activities of daily living required for community life helped to give better rehabilitation outcomes than measuring the outcome of only one of them.
Leg and trunk impairments predict participation in life roles in older adults.	2015	430 patient of mean age of 77 years with leg and trunk impairments having self- reported mobility limitation were analyzed for 2 years. The Late-Life Disability Instrument was used to examine frequency of participation restriction. Structural equation modeling with latent growth curve analysis was used to identify the impairment which predicted the participation at 2nd year having changes in activities.	This study concluded that leg speed, ankle ROM and trunk extensor endurance are affected in leg and trunk impairments which require exercise to enhance participation.
Walking capacity and falls-efficacy correlates with participation restriction in individuals with chronic stroke.	2015	30 subjects were assessed for – walking capacity (6 minute walk test) and self- efficacy for falls.AL and PR was measured. Data was analyzed using Pearson's correlation coefficient and regression model. Walking distance and Falls-efficacy is correlated with Participation Restriction. Walking distance correlated with Activity Limitation.	There is significant relation between falls self-efficacy, walking capacity and post-stroke activity and participation. Participation can be affected by factors such as self- motivation and confidence about one's balance abilities. This is reflected by the correlation between falls efficacy and participation. Physical parameters such as the distance walked can contribute to participating in the community, and can predict variation in AL- PR.

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Crosswalk of participation self-reported measures for aphasia to the ICF: what content is being measured?	2015	Community participation is of importance to people with aphasia, who are at risk of becoming socially isolated. This study investigates the content of measure of community and social participation for this population by cross walking items to the ICF. Instruments were identified from four systemic reviews and a literature search. 111 instruments that were self-reported, developed for adults and published in English were identified. Items were linked to ICF domains, and third-level categories of activities and Participation chapter.	Ninety instruments (2426 items) were included. Of these, 29 instruments contained over 50% participation items. The most frequently included participation categories in this subset were education, paid employment, recreation, community life, volunteer work. Self-care, mobility and domestic life concepts were also reported. Commonly used response formats were restriction, frequency and satisfaction.
Participation restriction, not fear of falling, predicts actual balance and mobility abilities in rural community-dwelling older adults	2013	In this study 82 community dwelling older adults with mean age of 74 participated. FOF and participation restriction were assessed using Survey of Activities and Fear of Falling in the Elderly (SAFE), a self-assessment survey. It assessed 11 functional activities and also fear to which it was source of participation restriction.	We can conclude that the relationship between self-reported participation restriction and objectively measured balance and mobility abilities is stronger than relationship between self-reported FOF and objectively measured balance and mobility abilities. Participation restriction may be the critical mediating factor between FOF, balance and mobility limitations, and fall risk.
Activity limitation and participation restriction among the elderly in North India: determinants and related management practices.	2013	This study was conducted in Chandigarh among 100 elderly people each from rural, urban and slum areas. AL and PR were assessed according to the ICF questionnaire. Result show that AL was more prevalent in rural area and PR was higher in the elderly living with the families.	This study revealed that most of the elder in all 3 areas were having major diseases. Diabetes, asthma, constipation were most common in elders aged over 70 years. Urban areas had more elders with AL than other 2 areas. PR was more prevalent in elders staying alone than elders staying with family.
Staging Activity Limitation and Participation restriction in elderly community-dwelling persons according to difficulties in self care and domestic life functioning	2012	This study aimed to describe development of activity limitation and participation restriction staging system for adults 70 years or older. N=9447 were used to develop IADL stages through the analysis of self and proxy-reported difficulties in performing IADLs. ADL and IADLs stages were combined to profile status for independent living. 29 patterns of AL expressing the individual's potential for participating in life situation with combined ADL and IADL stages were defined.	ADL and IADL helps to differentiate between groups of people according to severity and types of limitation experienced during home or outpatient assessments.
Balance and balance self-efficacy are associated with activity and participation after stroke.	2012	People (n=77) with stroke greater than 6 months ago were included in the study if they were referred to physical therapy for physical deficit as a result of the stroke scored >4 out of 6 on the short, 6-item mini mental state. Examination, and were between ages of 50 and 85. Activity and participation were measured with ICF, disability. Gait speed, walking capacity and balance were also included.	Only balance self-efficacy was found to be independently associated with post stroke activity. This study indicates a need to further evaluate and address the psychological factors of balance and falls self-efficacy to obtain the best stroke recovery.
Participation Frequency and Perceived Participation Restrictions at Older Age: Applying the International Classification of Functioning, disability and health (ICF framework)	2011	Participants (N = 186) were community-living, 65-88 years old and 52% men. The dependent variables, participation frequency (linear regression) and perceived participation restrictions (logistic regression), were measured using The Late-Life function and disability instrument. Independent variables were selected from various ICF components. To identify variables from different components of International Classification of Functioning, Disability and Health (ICF) associated with older people's participation frequency and perceived participation restrictions.	Higher participation frequency was associated with living in urban rather than rural community ($\beta = 2.8, p < 0.001$), physically active lifestyle ($\beta = 4.6, p < 0.001$) and higher cognitive function ($\beta = 0.3, p = 0.009$). Lower participation frequency was associated with being older ($\beta = -0.2, p = 0.002$) and depressive symptoms ($\beta = -0.2, p = 0.002$) and depressive symptoms ($\beta = -0.2, p = 0.029$). Older adults living in urban areas, having more advanced lower extremities capacity, or that were employed had higher odds of less perceived participation restrictions (adjusted odds ratio [OR] = 5.5, $p = 0.001$; OR = 1.09, $p < 0.001$; OR = 3.7, $p = 0.011$; respectively). In contrast, the odds of less perceived participation restriction decreased as depressive symptoms increased (OR = 0.8, $p = 0.011$)

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Comparison and Correlates of Participation in Older Adults Without Disabilities.	2009	Study involved 350 randomly recruited community-dwelling older adults. Participation in daily activities and social roles were measured with the Assessment of Life Habits (LIFE-H). Demographic, health-related and environmental data were also collected.	A decline with age was observed in four of the six daily activities domains and two of the four social roles domains of participation. However, these lower scores are mainly explained by the 85+ group
Can personal and environmental factors explain participation of older adults.	2009	Two hundred older adults with chronic conditions completed the following assessments: Participation, Balance Confidence Scale, Timed Up and Go Test, Epidemiological Studies Depression Scale. Mobility and balance confidence explained 30% of the level of participation in social roles. In this participation in daily activities, sex had a significant contribution to the model.	We can conclude that personal factors do explain participation of elder's physical and mental ability. Environmental barriers are also the key factors identified.
Short term changes in and predictors of participation of older adults after stroke following acute care and rehabilitation.	2008	In these study 197 older adults who had stroke was evaluated at 2 to 3 weeks (T1), 3 months (T2), and 6 months (T3) after being discharged from home. Physical, cognitive, perceptual and psychological abilities were assessed at T1. Walking and acceptance of the stroke or fewer depressive symptoms were the best predictors of the level of participation after stroke.	The study concludes that participation was affected initially after discharge but increased after returning home. Also psychological factors were affected after stroke.
Onset and persistence of person- perceived participation restriction in older adults: a 3-year follow-up study in the general population	2008	Participants were included in this study if they completed all the items of Keele assessment of participation at baseline (n=6965). 3 years follow up of onset and persistence of person perceived participation restriction were calculated for each aspect of life and account of sample attrition was done by age and gender using attrition re-weighted logistic regression. This study shows that Onset and persistence both increased with age, and were most frequently recorded for restricted mobility outside the home.	This study concludes that person perceived participation is more common in adult aged over 50 years. Older patients did not change their overall participation status during a 3-year period. Person-perceived participation is more common in older age group.
The prevalence of person perceived participation restriction in community- dwelling older adults.	2006	This survey was done among 11,055 adults aged 50years in UK. Person perceived participation restriction was measured using Keele Assessment of Participation for 11 different aspects. Four-week period calculation was done for restriction in any aspect. Prevalence of participation restriction was 51.8%. it increased with age and was more in women	This study concludes that participation restriction is common in general population and increases with age. Person perceived participation restriction is similar to impairments and activity limitations in community-dwelling older adults.
Is social participation associated with quality of life of older adults with physical disabilities?	2004	To explore the relationships between subjective quality of life and social participation of older adults with physical disabilities. A cross-sectional design was used with a convenience sample of aged 60 to 90 living in the community. Subjective quality if life was estimated with the Quality of life Index and social participation with the Assessment of Life habits. Interpersonal relationships, responsibilities, fitness and recreation were the categories of social participation most associated with quality of life. Social roles were more associated with quality of life than daily activities. Only a weak relationship was found between total scores of quality of life and social participation.	Satisfaction with the accomplishment of life habits was also more associated with quality of life than the performance itself. The importance of social participation in regard to the quality of life of older persons with physical disabilities living in the community is partially supported by these findings. Other studies are needed to clearly how social participation influence quality of life in this population.

The studies were done at different places with different people including both men and women. The studies are done in Chandigarh and at many places in India. Also one of the studies was done in UK. Every article have studied and carried different methods to find out about participation restriction among the elderly people. Restrictions like stroke, multiple sclerosis, balance and walking difficulty, leg and trunk impairment are considered in the articles. Functional activities were measured testing ADL activities. Balance impairment was tested using balance scales. Some studies included questionnaire. There were few studies addressing the long term or short term effects of stroke or multiple sclerosis which were limited with physical therapy. Lack of personal care and physical therapy and exercises or follow up after stroke or other diseases lead to participation restrictions among the elders. The limitation of the our study is that varied factors affecting participation restriction in adults with different age groups limit the ability to generalize the factor that affect the restriction most among them. Further studies should be done that explain the most common factor affecting the restriction in elders and the effects of exercise and its follow up that lessen the participation restriction.

Conclusion

This study concludes that different types of factors affect participation among the elderly population which should consider for better quality of life of elderly. Moreover, participation become worsen with the other diseases.

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