



## AGEING: RESEARCH AND THEORY

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### Abstract

The researches in the field of gerontology are rising at a rapid speed as the older population is increasing in number due to various reasons. The current paper discusses the emerging interest in gerontological researches among researchers with a special focus on process of ageing. The paper defines ageing in numerous ways and establishes the factual data of elderly's demographic characteristics both at global and national level. The paper also talks about different theories that explain the process of ageing and people's life in old age. With this paper, an attempt has been made to popularise the life of older people among scholars, so as to their needs and requirements are well understood and necessary action plans can be taken by both government and non-government organisations. With changing trends and rising migration and urbanisation, the major population that is being affected is elderly and hence, taking their care is a social responsibility of all.

**Keywords:** Ageing, Old age, Ageing theory, Geriatric researches, Older Population Demographics

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In current research scenario, gerontology has successfully made a position for itself among researchers. The word 'ageing' has gained a significant amount of importance and attention over years as the older population remains increasing. Ageing is a developmental process wherein a person grows up and old and continues this throughout lifetime. Though, the process of ageing begins at birth and continues through childhood, with major developmental changes, ageing in this

paper will refer to physical, cognitive and socio-emotional changes undergone by older population.

Ageing can be defined in several ways. Chronological ageing implies to number of years a person has lived so far. On one hand, where biological ageing talks about loss of cells, tissues, poor metabolism and degrading physical functions, psychological ageing refers to loss of memory, learning, intelligence, changing personality and adopting coping in this



age. Social ageing exhibits shifting roles and relationships, changing family and friends circle and declining older contacts. Hagberg (2008) defines ageing as a periodic change in an individual's life implying that as time passes, the individual is undergoing constant changes both in conditions and in himself [1]. The process of ageing can neither be avoided nor stopped. It includes a slow process in which as time is passing, the structure and vital organs of both humans and animals are gradually degenerating [2]. Toner (2003) does not see ageing as an illness but rather as an independent, though associated, risk factor of disability and death. Ageing marks the beginning of a new life with bodily systems soon declining in their functionality. This new life has become an important research area [3].

World Health Organization in 1990 introduced the concept of active ageing as a response to challenge of global aging, which refers to optimizing health, safety and active lifestyle opportunities that enhance the quality of elderly life. This helps elderly in realizing their potential for physical, mental and social well-being and actively engage in communal, religious-spiritual and financial life depending on their needs and desires [4].

### **Demographic Characteristics of Older Population**

The increase in ageing population's number and proportion is witnessed today on a global level and will increase four times in next 50 years, as expected.

According to the data, older people aged 60+ have grown three times to reach around 2 billion by 2050, worldwide. Cheng, Chan & Phillips (2009) found that older population is rising at a very fast pace in developing East and Southeast Asia than societies in Europe and America. For instance, aged population in Hong Kong, Macau, Singapore and China increased to 243% from 2005 to 2050 in relation to 113% in developed world societies [5]. China alone has 334 million 65+ elderly which is more than entire Europe's 65+ population [6].

The greatest outcome of development of modern medicine is the boon of increased life expectancy of older population. This prolongation of life is witnessed in all the developed, developing and underdeveloped countries. In developed countries, 60+ aged elderly has been found to show largest population (Italy- 25.7%; Germany- 29.7%) and in Arab Emirates, smallest population has got registered (1.9%). Elder population is expected to reach 23.5% in 2030 from 17.1% in 2008 in EU states; 15% from 11% in Ireland by 2021; 23% from 18% in Sweden by 2030; 7% to 10% in Turkey by 2023 and 31% from 14% in UK by 2031. There is a trend in all countries' ageing population and that is men are reported to be lesser than women in terms of percentages. It has also been observed that the population of older people have outnumbered the younger ones and in around 5 years, 65+ will outnumber new generation. This trend of increasing ageing



population is largely seen in developing countries, as shown by United Nations [6]. Life expectancy has dramatically increased for East Asia where it increased to 74 from 45 in 1950. This increment is a result of major change in human health around the planet at differing rates and pathways. Rise in life expectancy of older generation can be noted to be increasing at varying proportion at very late ages. 12% in developed and 6% in developing countries constitute oldest olds (85+). It is estimated that this population will reach 351% between 2010 and 2050; 188% for 65+ and 22% for people under 65+. 524 million 65+ aged people held 8% of world's population in 2010. But by 2050, it was expected that this figure will rise to 1.5 billion, i.e., 16% of world's population. It has now seen that older population is rising rapidly in developing nations to 250% by 2050, in comparison to developed nation where they are 71%. This is a result of declining fertility and increasing life expectancy, with lesser child birth and longer older life. Women in 1950 gave birth to around 6 children which has fallen to 2-3 children per woman in 2005 in developing countries [7]. Currently, this figure of falling fertility rate is going further below from two child births. There is a swift increase in number and percentage of older people within a single generation in developing countries, in comparison to developed countries [8]. For example, it took only 2 decades for Brazil to unfold ageing that was same in France for over a century.

Similar to other developing nations, the older population in India is also greying at a very fast pace, which is next to China. According to the Census (1991), estimated total population of India was 846 million of which nearly 6.8% which was 57 million was constituted by elderly. The pattern of old becoming older showing ageing of the aged rapidly. By 1998, 8.5% males and 8.4% females were 80+ and soon by 2025, this will rise to 10.2% males and 11% females [9]. It is expected by United Nations [6] that around in a century, world's 15% of older population will come from India [10] as India has shown a steady increase in life expectancy of elderly. There were nearly 104 million elderly above 60+ years old, according to Population Census of 2011, wherein 53 million were females and 51 million were males [9]. It is expected by United Nations Population Fund and HelpAge India that older peoples in India will grow to 173 million by 2026 [11, 12].

Currently, according to a report by Technical Group on Population Projections for India and States 2011- 2036, there are nearly 138 million older adults in 2021, where males and females are 67 and 71 million respectively [13]. It is interesting to note that the gender difference in older population has been found to be fluctuating from females outnumber males in 1991 Census to reverse in last two decades. As per Census 2011, 71% of elderly live in rural regions and 29% in urban. Speaking of financial dependency in India, it has been seen that older



population from both rural and urban areas in 2017-18 are dependent on their children, followed by spouses, grandchildren and then others [14].

The report from Periodic Labour Force Survey (2018-19) stated 65% elderly men and 18% elderly women were seen participating in economic activity. However, a huge discrepancy has been found on place of residence. 72% males and 21% females in rural areas and 51% males and 10% females in urban older population were found to be working. This participation reduced with increasing age [15]. On terms of literacy, literate elderly rose from 27% in 1991 to 44% in 2011 where females are 28% and males are 59%. Many elderly population in India is found to have physical disability as well with locomotor disability to be most common followed by hearing and visual disability. The female elderly has been found higher than males to be living both in either some other's house or alone (not in old age home).

#### **Geriatric Researches and Action Plans**

However, developing countries do not seem ready for this change and have to adapt new policies and intervention programs that will provide economic support, health and social care to older people [16]. World Health Organization (2015) in its report on ageing and health stated that there is an urgent need to formulate older adults' public health action plan, which will require certain changes to be made about perception on ageing. The report exhibited a strategic

action plan that focused on healthy ageing by working on functional and intrinsic capacity of elderly. They planned in shifting the focus from mere disease to integrated care believing that this will return the socio-economic values of elderly in both health and wellbeing and communal participation [17].

Later, a Global strategy action plan was made to ensure healthier, and not just longer lives by WHA (2016), with objectives including: countries to commit to act; develop age friendly environment; align health system with elderly needs; develop sustainable and equitable long-term care. Importance was given on updating data and measurement through recent researches and older people participation [18].

The change in ageing pattern from low to high mortality and fertility and shift from communicable to NCDs is a recent occurrence in world. However, World Health Organization believes that developing nations are slow in formulating policies for ageing people and hence, has conducted a multi-country longitudinal study to gather information about ageing issues. WHO sampled six countries (China, Ghana, India, Mexico, Russia and South Africa) and made a cohort of 50 participants to represent nationally on Global Ageing and Adult Health (SAGE), and found that the elderly health status of these nations is declining with age and females to be performing poorer than males. The study also found that older people with disability had



higher tobacco use, alcohol consumption, high risk waist hip ratio, hypertension or obesity but varied by country [17].

SPRINT (2015) on older patients with cardiovascular diseases studies blood pressure management [19] and National Institute on Ageing (NIA) has also been conducting recent researches on genetic, biological, behavioral, social and economic issues and medical conditions related to ageing in order to understand their world with the objective of: to present world with data on ageing population so as the concerned authorities and government can formulate policies, strategies, treatment to prevent, delay or slow down the challenges and problems faced by elderly [20]. Asch, Troxel, Stewart, et al. (2015) studied elderly with cardiovascular diseases and found that shared financial incentives for physicians and patients helped in reduction of lipoprotein cholesterol responsible for the disease [21].

Other researches in ageing focus on barriers to healthy ageing like in a study by Sebastiani et al. (2017) found biomarkers of ageing to be significantly related with physical function, morbidity and mortality and hence reflect difference in biological ageing and functional decline [22]. Similarly, Evans et al. (2010) found barriers faced by elderly in implementing healthy ageing policies. Renton et al. (2015) have discovered risk genes for myasthenia gravis- weakness of muscles- and genetic mutation that are responsible for dementia in elderly [24]. Mishra (2009)

found prevention and delay of diabetes in old age by bringing changes in dietary habits and physical activity [25]. Schrack et al (2014) found the importance of health status, a global biomarker for old age [26].

This trend of increasing aged population in developing countries can also be attributed to rising chronic non-communicable diseases like cancer, diabetes and cardiovascular diseases which are a result of changing lifestyle and diet, in addition to economic and social costs attached with them [27]. World Health Organization reported 23 developing nations that are suffering with economic losses from non-communicable diseases between 2006 and 2015. Keys to lower these costs lie in reducing severe disabilities, enhancing health conditions, and improving environmental characteristics that determine if elderly can live independently. Economic costs can be reduced by keeping older people healthier for longer and providing good child health so that its nourishment can benefit people when they get older. However, rising poverty in developing nations, has been seen as an obstacle in achieving this goal health goal [17].

It is not only increasing life expectancy of elderly increasing their population, death rates of older people have fallen making them live for more than 80 years. An elder who is treated well with appropriate also reduced because of better medical policies keeping them healthy and independent in late ages and show



healthier participation in society. Other broad social trends like globalization, urbanization and technology advancement in developing countries are also affecting lives of older people. Because of migration very few children remain with elderly to look after them, because (a) people have fewer children; (b) they move for education or marriage; and (c) they are less likely to prefer to stay with old parents. Since, familial support is declining; society now requires formulating better information and tools for well-being of elder population.

### **Theories on Ageing**

The theories of aging help understand the process of human evolution and development and how an organism living a long and healthy life soon begins declining in various psycho motor skills as age advances. The perception and choices of older adults is influenced by a number of factors like cultural, spiritual, regional, socio-economic, educational, health status and environmental. A good geriatric theory combines knowledge, develops a causal explanation of a phenomenon, can predict outcomes, and present a holistic approach in defining all the processes of ageing a person go through [28]. The theories of aging can be studies under three heads: sociological theories of ageing, psychological theories of ageing and biological theories. Since the current study does not focus on biological perspective of ageing, only psychosocial theories are discussed henceforth.

The sociological theories on ageing focus on the changing roles, relationships and power status of elderly within a society and its impact on person's adapting ability. The culture plays an important role in asserting individual's role in his/ her community by establishing certain societal norms.

### **Activity Theory**

The activity theory was given by Havighurst and Albrecht (1953) studying a group of older people and claimed that in order to have a satisfactory later life, it is necessary to keep oneself occupied and involved in some activities of interest. They however, did not emphasize or suggested the types of activities but believed that activities are linked to life satisfaction as being active helps to prolong middle adult age and delay the adverse effects of old age leading to positive psychological health [29]. Lemon et al. (1972) found a direct relationship between life satisfaction and being active and also observed that elderly considered this to be improving their quality of life [30].

### **Disengagement theory**

The disengagement theory was given by Cumming and Henry (1961) and present a contrasting view than activity theory stating that ageing is a period of being disengaged gradually from society and relationships. They find this disengagement as a demand of older population and society and believes it to maintain social equilibrium among them. It asserts that disengagement make them



free from social responsibilities and hence give them some time for themselves. From the elderly the responsibilities get transfers to younger population and this way the functionality of society remains working. This disengagement results in building a new equilibrium that is ideal for both society and individual [31]. Adam (2004) studied older people and found with disengagement in practice they could keep up more with their hobbies, made plans for future, created things and took better care of others [32].

### ***Subculture theory***

Rose (1965) theorized subculture theory stating that older population is a unique population of our society forming a subculture within the society as a whole and helps its members to defend against society's negative attitude and beliefs toward ageing and accompanying one another in loss of status, power and position. He asserted that the social status of an individual is build by health and mobility than by profession, education or finances and since elderly are at loss of this status and associated respect, they like to interact among themselves and soothe one another in this common degradation [33].

### ***Continuity theory***

Havighurst, Neugarten & Tobin (1968) realized that activity, disengagement and subculture theories fails to fully explain successful ageing and hence they hypothesized continuity theory stating that the choices, roles and actions of an individual are influenced by his

personality and by the time the person reaches old age his personality is well developed and guide his life throughout consistently. They identified four personality types of older adults-integrated (well-adjusted to aging, engagement maybe broad and reorganised or focused, or disengaged), armored- defended (tend to continue the activities and roles during middle age), passive- dependent (either highly dependent or disinterested in external world) and unintegrated (least well-adjusted, fail to cope with ageing successfully) [34]. Havighurst (1972) defined certain tasks of older adults including adjusting to physical, social and financial decline; contemplating death; developing meaningful perspective on ending life. He suggests that accomplishing these tasks are important for older people in order to identify with one's age, feel compatible with environment and learn new societal roles. He also suggests that identifying personality type will help in predicting whether the elderly will adjust to changes and what activity engagements will be preferred. The continuity theory understands that the individual differences in coping with old age [35].

There are several studies in support with continuity theory. Troll and Skaff (1997) found that elderly who had stable personality believed that they are still the same person and had more positive affect [36]. Efkliedes et al (2003) found that individuals who had positive attitude



about adaptation to old age had better quality of life [37]. Agahi et al (2006) examined pattern of change in older people's activity participation and found that though active participation tended to decline with age, lifelong participation predicted involvement later in life [38].

### ***Age stratification theory***

Riley and colleagues (1972) studied the interdependence between elderly and society and observed that the society has divided different ages into categories and on their basis the resources, roles, status and deference from other society is allocated. They also observed that these age categories are influenced by their historical background and vary across generations on experiences, ideologies, orientations, attitudes, values and expectations [39]. This theory emphasizes on the importance of age groupings and associated socioeconomic and political cause on how individual age [40]. Many researchers used this theory to explain different differences like societal needs of specific age group [41]; varied status among older people [42]; and affect outcomes in residential setting [43, 44].

### ***Person- environment fit theory***

Lawton (1982) gave person environment fit theory and proposed that successful ageing depends on the individual's capacity to function in one's environment and this function is affected by ego strength, motor skills, biologic health, cognitive capacity, sensory perceptual

capacity and external environmental conditions. These functional capacities help elderly to adapt to his environment else the ones on the lower levels meet only few environmental demands [45].

### ***Gerotranscendence theory***

This theory of gerotranscendence by Tornstam (1994) proposes that senior citizens experience a transitioning period in their old age wherein they transform from a materialistic, rational perspective toward 'oneness' with universe. Successful transformation comprises of a more outward focus, accepting death without fear, emphasis on substantive relationships, sense of connectedness with preceding and future generations and spiritual unity with universe. The author believes that activity and engagement should result from one's own choices and that the control on one's life is important for successful ageing [46].

The psychological theories on ageing studies ageing as a lifelong process characterised by transitions and these transitions are related to personality, ego development and accompanying challenges associated with different life stage. These theories view the role of mental processes, emotions, attitudes, motivations and personality in influencing the adaption to changing demands.

### ***Human needs theory***





Human needs theory was theorized by Maslow in 1954 proposing that there is a hierarchy of needs that motivates human behavior comprising of physiological, safety, affection, self-esteem and self-actualization. Movement of need is multidirectional and dynamic in lifelong process. The older the persons get, a need to self-actualize emerges which is the freedom to express and pursue personal goals. He asserted that inability to fulfil these needs leads to feelings of failure, depression and meaningless perception of life [47].

### ***Stages of personality development theory***

Erikson (1963) stated that personality is developed in eight stages and each stage has a life task, failing or succeeding to which results in formation of a particular personality. In the last stage, 'ego integrity versus despair' the older person seeks for the meaning of their lives and evaluate their achievements, accomplishments and failures. Satisfaction leads to integrity or sense of despair emerge otherwise. Erikson claimed that in final stages, the elderly had to put in extra effort to face new challenges and life tasks like cognitive and health decline, accepting other's care and detaching from life [48]. Peck (1968) expanded Erikson's theory and included three more challenges- creating meaningful life post retirement; dealing with 'empty nest' post children living away; and, contemplating the inevitability of death [49]. In a study by Neumann

(2000) on elderly's meaning of their lives, she found higher levels of meaning and energy describing sense of connectedness, self-worth, love and respect and vice versa [50].

### ***Selective optimization with compensation theory***

Baltes' (1987) theorized a theory on successful ageing from his study on psychological processes across life span. He proposed that with the help of processes like selection, optimization and compensation, individuals learn to cope with functional losses associated with ageing. The older individuals adjust their activities and roles according to their declining functionality, and simultaneously, they look for those activities and roles that are more optimizing and satisfying in their age. Elderly who copes with illness and functional decline show greater or lesser risk of mortality [51]. Theorists asserts that the process of selective optimization with compensation is a tool of coping which facilitate successful ageing [52].

### **Conclusion**

The present paper made a successful attempt of bringing all the psychological and sociological ageing theories at one place for scholars to easy comprehend



them. They are useful in building a theoretical background for upcoming researches by researchers interested in studying the life of old age, what changes do process of ageing bring for older adults and how have theorists seen elderly dealing with changes. The paper also present the current demographic status of older population to bring in light the scenario of elderly working or retired, women or men, living in rural or urban region and living alone or with family. The author hopes that this paper can help organizations build interventions or policies to make a better life for older adults.

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