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SCHOOL OF SCIENCE AND HUMANITIES

DEPARTMENT OF PSYCHOLOGY

UNIT – I -INTRODUCTION -GERONTOLOGY PSYCHOLOGY-SPSY1401

Introduction

Gerontology

With an understanding of gerontology, an individual can make plans for her or his own life course and needs, and communities and legislators can make necessary public policy choices. Public policy decisions are critical because of the tremendous growth of our population aged 65. Georgia's older adult population is the fourth fastest growing in the nation and currently numbers 1.2 million. The South added nearly 2.5 million older adults between 2000 and 2010. Nationally, it is projected that the older population will double to 89 million by 2050 – a rate of growth that is twice as fast as the under age 50 population. The demand for professionals with expertise in gerontology will mirror these increases.

Definition of Gerontology

Gerontology is the study of aging and older adults. The science of gerontology has evolved as longevity has improved. Researchers in this field are diverse and are trained in areas such as physiology, social science, psychology, public health, and policy. A more complete definition of gerontology includes all of the following:

- Scientific studies of processes associated with the bodily changes from middle age through later life;
- Multidisciplinary investigation of societal changes resulting from an aging population and ranging from the humanities (e.g., history, philosophy, literature) to economics; and
- Applications of this knowledge to policies and programs.

Gerontology is the study of aging. It comes from the Greek words *geron*, meaning "old man", and *-ology*, a suffix meaning "the study of". Gerontology is a multidisciplinary field. It involves the scientific study of physical, mental, and social changes that occur in older people, the investigation of societal changes from an economic, historical, and philosophical standpoint, and the carrying out of policies and procedures to aid older people with information from gerontology in mind. Gerontologists in the field of biology study the biological changes that

occur in older individuals. Gerontology is not to be confused with geriatrics, which specifically refers to the medical care and treatment of older people.

History of Gerontology

People have been fascinated with aging since ancient times. Of course, many ancient cultures, much like today's society, were highly interested in slowing the aging process or reversing it. The earliest known recipe for an anti-aging ointment is from an Egyptian papyrus dating back to 2800-2700 B.C. called "The Book for Transforming an Old Man into a Youth of Twenty". It claimed to beautify the skin and remove any disfiguring signs of age. Another ancient papyrus from 1550 B.C. describes some of the biological changes that can occur with aging, such as heart pain, deafness, blindness, and what would later be known as cancer.

Gerontology research, and other forms of scientific research, really took off during the 19th Century, when the use of the compound microscope became widespread. Many scientists at first began to study bacteria under the microscope in order to study senescence, or aging, but this proved difficult because bacteria reproduce by dividing themselves into two cells and do not become senescent in the way that the cells of multicellular organisms do. Multicellular animal models had to be used instead, and this is one reason why the use of mice became so ubiquitous in research. With the use of the microscope, scientific knowledge advanced a great deal. For the first time, researchers could examine the processes of aging at the cellular level, and really begin to understand the specific changes that take place in the cells of older people. People began to develop theories about why aging occurs; August Weissman, a German embryologist, proposed that lifespan was related to an evolutionary selective advantage, and that species with different body sizes, intelligence, and ecology had different lifespans. The term gerontology was coined in 1903 by Élie Metchnikoff, a Russian zoologist who did immunology research and won the Nobel Prize in Physiology or Medicine for his work.

In the mid-20th century when the structure of DNA was uncovered, another paradigm shift occurred in gerontology research. Scientists could now study genetics relating to aging; for example, they looked at unique mutations in abnormally long-lived or short-lived fruit flies.

Other ways of extending an organism's lifespan were also found, like putting mice on calorie-restricted diets or putting fruit flies in very small cages so that they couldn't fly as much. Further progress was made when age-related decline in certain hormones, like growth hormone, thyroid hormone, and estrogen, was discovered. More recently, genome sequencing has been used to identify genes associated with aging.

A New Concept:

Ageing is not an event but a process. For the development theorists and practitioners ageing is one of the most neglected issues mainly because aged people are considered as disempowered and non-resourceful persons. They are not considered as a class category or status group neither by economists nor by sociologists. Though ageing is universal, till a decade back ageing is considered as natural and evolutionary process and hence it is not taken seriously. Till 1980s the problems of the old were not known to the state in the developing countries and therefore they were not attended. There are many ways to reduce the child population whereas the old population cannot be stopped as the developing countries like Asian countries methodically ignored the structure of the population.

Ageing can generally be described as the process of growing old and is an intricate part of the life cycle. Basically it is a multi-dimensional process and affects almost every aspect of human life. Introduction to the study of human ageing have typically emphasized changes in demography focusing on the _ageing of population'- a trend, which has characterized industrial societies throughout the twentieth century but in recent decades, has become a worldwide phenomenon.

Population ageing is the most significant result of the process known as demographic transition. Two dimensions of demographic transition are:

a) Reduction of fertility that leads to a decline in theproportion of the young in the population.

b) Reduction of mortality which means a longer life span forindividuals.

Jean Bourgeois Pichat (1979) has called attention to two process in ageing which reflects the two dimension of demographic transition.

a) Ageing at the base b) Ageing at the apex.

Ageing at the base occurs when fertility falls, thus decreasing the proportion of children and ageing at the apex occurs when the proportion of aged persons increases presumably due to declining mortality at older ages.

Population ageing involves a shift fromhigh mortality / high fertility to low mortality / lowfertility and consequently an increased proportionof older people in the total population (Prakash,1999).

Dimensions and definition of Ageing

Ageing has been defined in various ways by different scholars and it is measured in many ways according to the academic background of the person who study them. Some have regarded ageing as period of physiological deterioration, others regard it as simply the advancement of years and still others have emphasized that ageing involves a restriction on cultural roles.

According to Bhatia (1983) the term ‗ageing' is a broad one and can be studied under three types – Biological, Psychological, and Socio-cultural.

In the broadest sense, Charles S Becker (1959) defines ageing ‗as those changes occurring in an individual, which are the result of the passage of time'. These may be, according to him, anatomical, physiological, psychological and even social and economic. He further adds: Ageing consists of two simultaneous components – anabolic building up and catabolic breaking down. In the middle years there is an essential balance between expansion and decay, while growth predominates in youth; degenerative changes which start occurring very clearly in life pre-dominate in the late life span. Edward J. Stieglitz (1960) defines ageing as ‗the element of time in living'. According to him, ‗ageing is a part of living. Ageing begins with conception and terminates with death. It cannot be arrested unless we arrest life.

According to Tibbitts (1960) ageing may be best defined as the survival of a growing number of people who have completed the traditional roles of making a living and child rearing and years following the completion of these tasks represent an extension of life.‖ He also says, ageing is an inevitable and irreversible biological process.

According to Hooyman and Kiyak (1994), the gerontologist view ageing in terms of the following four distinct process or dimensions:

Four dimensions of ageing are commonly identified: chronological, biological, psychological and social ageing.

Chronological ageing refers to the number of years since someone was born Chronological age also provides individuals with a means of distinguishing roles and relationships in terms of the behaviour and expectations that are linked to different chronological groupings. But it is generally not recognised as an adequate measure of the extent of ageing because, as a process, it is thought to vary between individuals.

Biological ageing, often known as senescence (declines of a cell or organism due to ageing) and sometimes functional ageing, refers to biological events occurring across time which progressively impair the physiological system so that the organism becomes less able to withstand disease, ultimately increasing its susceptibility to death. From this perspective, the ageing process stems from several physiological factors, and is modified throughout the life course by environmental factors (such as nutrition), experiences of disease, genetic factors and life stage. This is usually associated with decline in the regulation and proper functioning of the vital organs of the body. However, not all people experience decreased organ function in the same proportion. Some individuals have healthier hearts at age 80 than others do at age 60.

Psychological ageing focuses upon changes that occur during adulthood to an individual‘s personality,mental functioning (e.g. memory, learning and intelligence) and sensory and perceptual processes. Jegede (2003) stated that the indices of psychological ageing include feelings, motivation, memory, emotions, and experience and self-identify. For instance, people who had intention of traveling abroad may decide to drop the idea and contribute to the growth of their own economy. Psychological ageing is heterogeneous and continuous as an individual passes through life.

Social ageing refers to the changing experiences that individuals will encounter in their roles and relationships with other people and as members of broader social structures (such as a religious group) as they pass through different phases of their life course. In sociological ageing, personal or attitude and interaction within the community are used to assess a person‘s maturation and ageing. As a person ages socially, he/she calculates his/her utterances, limits the use of vulgar language, prunes relationship to mature friends, changes his/her mode of dressing, reduces nocturnal clubs. As a person ages socially, he/she tends to be guided by the norms of the society to which the person belongs.As an individual experience, social ageing affects perceptions of who we are, but can also be shaped or _constructed‘ by social and cultural contexts which dictate the normative expectations about the roles, positions and behaviour of older people in society.

While all three dimensions of biological, social and psychological ageing generally interact, the pace at which each dimension is experienced may be different for the same individual. This is usually how a person relates with others in the society.

Strehler (1962) has proposed four criteria for ageing, reported in Tyagi (1999). They are:

- Ageing is universal, which means it occurs in all members of population.
- Ageing is progressive, a continuous process.
- Ageing is intrinsic to the organism
- Ageing is degenerative

Thus, ageing is an inevitable, ubiquitous and universal phenomena of human life because it is a natural process. Finally, population ageing, sometimes referred to as societal ageing, is a process whereby a group (such as a country or an ethnic group) experiences the progressive increase in the actual numbers and proportion of older people within its total population. This change, brought about largely by socio-economic improvements in health and living standards, progressively reduces mortality and fertility, resulting in increased life expectancy and fewer births, and ultimately, an increase in the older population in relation to younger age groups. Population ageing has long-term implications for governments in terms, for example, of the cost of health and social care for an increasingly important number ofolder people.

Cavanaught (1993) in Osunde and Obiunu (2005) divided ageing into three types, the primary ageing, the secondary ageing and the tertiary ageing.

The Primary Ageing: Primary ageing is considered as the normal process which has nothing to do with illness. It simply involves changes in the biological, social and psychological domains. These occur due to tear and wear of vital organs of the body

The Secondary Ageing: This process is associated with different kinds of terminal illness which prevent normal functioning of the individual.

The Tertiary Ageing: This occurs when there are loses brought about by death or disasters like war(s) on a family member or close friends that could lead to a gradual decline in the proper functioning of the individual.

Demographic dividend: The growing global economic support ratio could have beneficial effects on the macro-economy, through the so-called *demographic dividend*. The demographic dividend is defined as the increase of per capita consumption brought about by a growing economic support ratio. Demographic dividend, as defined by the United Nations Population Fund (UNFPA) means, ―the economic growth potential that can result from shifts in a population‘s age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older).‖ In other words it is ―a boost in economic productivity that occurs when there are growing numbers of people in the workforce relative to the number of dependents.‖ UNFPA stated that, ―A country with both increasing numbers of young people and declining fertility has the potential to reap a demographic dividend.

Demographic profile of the older population

Ageing is taking place in the world‘s adult population and within the older population itself. The proportion of persons aged 80 years or over within the older population increased from 7 percent in 1950 to 14 per cent in 2013.

According to the projection, this proportion of ―oldest-old‖ within older persons is expected to reach 19 per cent in 2050 and 28 per cent in 2100.

If this projection is realized, there will be 830 million persons aged 80 years or over by the end of the century, seven times as many as in 2013.

The rise in the population aged 80 years or over is occurring at a faster pace in the less developed regions than in the more developed regions.

In 1950, there were 6 million people aged 80 years or over in the less developed regions and 8 million in the more developed regions, but by 2013, people aged 80 years or over are already slightly more numerous in the less developed regions than in the more developed regions

The present number of persons aged 80 years or over is the result of

a) The birth rates of many decades ago, which determined the initial size of these cohorts and

b) The survival rates, which have been improving dramatically since these cohorts were born. The number and proportion of centenarians (people aged 100 years or more) is growing even

faster. The number of centenarians in the world is projected to increase rapidly from approximately 441,000 in 2013 to 3.4 million in 2050 and 20.1 million in 2100.

DEMOGRAPHIC TRANSITION IN INDIA

Population ageing is the most significant result of the process known as demographic transition. Population ageing involves a shift from high mortality/high fertility to low mortality/low fertility and consequently an increased proportion of older people in the total population. India is undergoing such a demographic transition. In 1947, when India became independent from British rule, life expectancywas around 32 years.

The National Sample Survey Organisation (NSSO) for the first time, conducted a survey on the elderly(persons of age 60 years and above), along with the survey on social consumption in its 42nddround (July1986 – June 1987), to assess the nature and dimensions of the socio-economic problems of the aged.Again NSSO repeated the survey on social consumption in its 52nddround (July 1995 – June 1996) and in 60thRound (January – June, 2004). Information on the socio-economic condition of the aged, data onsome chronic diseases and physical disabilities were also collected during these rounds of the NSS surveys where the main objective was to focus on the socio-economic and health conditions of the current aged population, and the emerging policy issues for elderly care in India in the coming years.

2 DEMOGRAPHIC TRANSITIONS Ageing is a global phenomenon. Ageing plays a vital role in the global demographic transition. According to projections by the UN Population Division, there will be two old age persons for every child in the world by 2050. This implies that the aged 60 and above, which currently constitute less than 20% of the population will account for 32% of the population by 2050 . The world old age population (aged 60+) in 1980 accounted for 8.6% of the total population and is fast growing and would reach 12.9% in the year 2020. Old age population is growing twice as fast in developing countries. The old age people in India accounted for 5.7% in 1990 and it is estimated to reach 12.6% in the year 2020 AD. Other predictions indicate that India will be having the second largest population of elderly in the world in 2025 with 13% of the total population8 . The projected increase in both the absolute and relative size of the old age population in many third world countries is a subject for concern. Thus the aged population is becoming an important segment of the population pyramid for public policy making. In India, the population of the old age is growing rapidly and is emerging as a

serious area of concern for the government and the policy planners. According to data on the age of India‟s population, as per the Census 2001, there are a little over 76.6 million people above 60 years, constituting 7.2 per cent of the population. The number of people over 60 years in 1991 was 6.8 per cent of the country‟s population. Recently, with 90 million persons over 60 years of age, India has the second largest population of older people in the world. Furthermore, between now and 2050 the Indian population over 60 years of age will almost quadruple. The low level of benefits and their limited coverage push large numbers of older people, particularly older women, to continue working in the informal economy. The combination of old-age, lack of access to decent work, poverty and exclusion is therefore of great concern 9 . According to Irudaya Rajan in 2008, globally, life expectancy at birth increased from 47 years in the 1950s to 67 in 2008, an increase of 20 years in the space of half a century. In India, the increase has been 21 years. On average, an older person is expected to live 18-20 years upon reaching 60. Some consequence of ageing population are declining participation of in economy by the old age people, financial strains on account of retirement trends and increasing demand for health care and other welfare measures. In India the process of industrialization and urbanization has weakened the joint family system. Migration of youth to other cities and developed regions had brought problems to old age people, which were unheard of in the past. Hence research on ageing in India has gained importance and is very vital for allocation of resources, effective planning and utilization of human resources and to design welfare packages. According to Easwaramoorthy 1995, The concept of quality of life has gained significance in Gerontology due to the need for an integrated approach towards understanding the aged and requirement for an outcome measure for health care and welfare policies. Moreover ageing is a multidimensional phenomenon and this is in fact empirically well established. There are economic, physical, psychological and social dimensions acting on an ageing individual, variables related to these dimensions are interactive and interdependent and can be best understood in the light of a multidimensional approach. Many governments in the world, including Government of India, have their support systems in place for old age persons such as social security welfare measures and free or discounted medical care. For example, however, most of these systems were built on the premise that there will always be significantly fewer older persons than younger or middle-aged individuals living at one time. Because of declining death rates, these systems are beginning to feel a strain that will only increase over time. Additionally, the older-person support ratio is

falling in both more and less developed regions, which could further lessen the ability of societies and governments to care for their ageing populations. These demographic trends create unique challenges for all people, particularly for the governments of nation-states around the globe. There is also a prevalent belief among many that old age persons are worthless in today‟s fast-paced, globalize and increasingly industrialized world. Obviously, with the number of old age population is rising rapidly, there is an increased urgency to address the rights and roles of old age persons in our world10 . The family provides the ambience for affection and social bonding throughout the life-cycle. It is not only supportive by nature but also contributes to the social integration of the old age people. It is within the domain of the family that the old age people seek care, and for emotional, social, economic and health support in old age. Caring for the old age people constitutes a major concern for most families especially in rural sector and remains to be a problem, despite changes such as accelerated ageing, urbanization, industrialization and modernization taking place in society. These are likely to have consequences on family structure and individual lifestyles. These, in turn, will have a bearing on the well being of the old age people. The life expectancy has also gone beyond 70 years today. Better medical facilities, care and liberal family planning policies made the old age persons the fastest

The UN defines a country as „agein will have exceeded that proportion (7.7%) and is expected to reach 12.6% in 2025. g" where the proportion of people over 60 reaches 7 per cent.By 2000 India growing section of the society in India11. With fast changing socio-economic scenario, industrialization, rapid urbanization, higher aspirations among the youth and the increasing participation of women in the workforce, roots of traditional joint family system has been eroding very fast. In urban areas of the country, traditional joint family system has become a matter of past. In such changing situations, majority of older persons, who have passed most part of their life with their joint or extended families are on the verge of isolation or marginalization in old age. At this age, when they need family support, mostly they have to live on their own. Even basic needs and rights of many of them are not addressed. Social marginalization, loneliness, isolation and even negligence in old age lead violation of Human Rights of Old age Persons. Ironically, in India, older generations are not aware of human rights due to high prevalence of illiteracy and lack of awareness12. On the other hand, due to comparatively high physical as well as psychological vulnerability their cries for help remain

within four-walls, that‟s why only a few cases of violation of human rights of old age people come out. Ever-increasing numbers of distress calls from older persons clearly indicate disturbing condition of Human Rights of Old age Persons in India. According to Universal Declaration of Human Rights Definition as per Article 25, “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”

Characteristics of the older population

HEALTH OF THE OLDER POPULATION

The health profile of populations has changed in parallel with the demographictransition. The importance of communicable or infectious diseases hasdeclined and that of non-communicable or chronic diseases has increased. This phenomenon is referred to as the epidemiological transition. Its implications,particularly for the delivery of health and long-term care services to older persons, needs to be examined.

While episodes of communicable disease can have disabling consequences, non-communicable diseases, such as cardiovascular disease and cancer,often bring about a long period of poor health and diminished functioning.In addition, some non-fatal (but often chronic) conditions can have animportant impact on the quality of life and health-care costs for olderindividuals. Examples of such conditions include hearing and vision loss,musculoskeletal conditions such as osteoarthritis, and cognitive impairments including Alzheimer's disease and other dementias.

Increasing life expectancy raises the question of whether longer life spans result in more years of life in good health, or whether it is associated with increased morbidity and more years spent in prolonged disability and dependency.

The major causes of disability and healthproblems in old age are non-communicable diseases including the ―four giants of geriatrics,‖ namely:

1. Memory loss,
2. Urinary incontinence,
3. Depression and falls or immobility,
4. Communicable diseases and injuries.

As population ageing takes place, health expenditures tend to grow rapidly since older persons usually require more health care in general and more specialized services to deal with their more complex pathologies. The number of deaths also increases sharply due to the exponential increase in mortality with age. Furthermore, older women generally experience higher rates of morbidity and disability than older men, in large part because of their longer life expectancy (WHO, 2007).

The world‘s crude death rate is defined as the ratio of annual total deaths to the total population. This is increasing because population ageing shifts the age distribution

towards the older ages, which are subject to higher risk of mortality. Because of this, population ageing causes two seemingly contrasting situations:

(1) An increase in the crude death rates despite the increasingly longer life expectancy and

(2) Highest crude death rates observed in regions with the lowest overall levels of mortality.

 The annual number of deaths in the world was rather stable, even slightly declining from 1960 to 1970, a decade in which the lowest level—51 million—of deaths per annum was recorded.

 From then on, the annual number of deaths has been rising; in 2010, it reached 64 million.

 The global crude death rate is expected to reach its lowest point in 2015 with about 8.0 deaths per 1,000 population per year, and to gradually increase thereafter, reaching 9.8 deaths per 1,000 population by 2050.

 In 1950-1955, 45 per cent of deaths were of children under the age of 15, while deaths of persons aged 65 years or older represented only 22 per cent of the total.

 As countries have made progress in their demographic transitions, the distribution of deaths has shifted towards older ages.

 In 2005-2010, over half (53 per cent) of all deaths in the world were concentrated in the population aged 65 years or over, while the proportion of deaths among children (aged 0-14) had declined to 15 per cent.

As more people are living longer almost everywhere in the world, the causes of death anddisability are changing from infectious to non-communicable diseases, and in some countries, to injuries. The disability-adjusted life years (DALY) measure the burden of disease, injury and

death in a given population. The main causes of DALY for the older population are almost everywhere non-communicable diseases such as heart disease, cancer and diabetes, in all development groups.

 The distribution of DALYs by age group varies greatly across development regions and it is closely associated with the level of development.

 In the more developed regions, 33 per cent of persons aged 60 years or above in 2004 had Disability Adjusted life years.

 By contrast, in the less developed regions, only around 12 per cent were affected with DALY, and in the least developed countries, the proportion was even lower, of only 6 per cent.

 At the world level, 85 per cent of persons aged 60 years or above died from non-communicable diseases in 2008.

 The percentage by region for persons aged 60 years or above who died from non-communicable diseasesare

 More developed regions –92%,

 Less developed regions --83%and

 Least developed countries–74%.

 Furthermore, the increasing levels of exposure to risk factors such as tobacco use, unhealthy diet, physical inactivity, sedentary lifestyle and the harmful use of alcohol enhances the chances of non-communicable diseases (Palloni, 2013).

 Communicable diseases are also responsible for death among elderly but it varies according to regions. In 2008, the proportions of old-age deaths due to communicable diseases were

 More developed regions –5%,

 Less developed regions –13%and

 Least developed countries–21%.

 Deaths caused by communicable diseases are commonly associated with low income, poor diets and limited sanitary, health care infrastructure, low awareness, and less government intervention found in developing regions (WHO and U.S. NIA, 2011).

Per capita health expenditure, both public and private, tends to increase with population ageing.Population ageing is associated with higher health expenditure due to the increase in the proportion of older persons, which have higher prevalence of morbidity and demand for health care than younger adults. Again, because of scientific developments life expectancy has increased which leads to survival ofall old age groups (60 and above) and this lengthens the period between onset of significant morbidity or disability and death.

In the more developed regionswith comprehensive social security systems, the majority of the health expenditure is covered by social insurance schemes. In the less developed regions with low levels of health care coverage, health expenditure is mainly financed with private spending by individuals.

Introduction Most people are not comfortable to hear that they are ageing or growing old. This is simply because it tends to suggest advance in age, decline of organ function, and loss of flexibility, hearing and vision decline, lessen of muscular strength, flexibility of the skin and blood vessels, appearance of wrinkles on the skin etc. But it is a known fact that the process of maturation and ageing in living organisms (human beings) are inevitable because life cycle continues and is not reversible until death comes. Ageing, should be conceived as a natural stage of development which comes when it should come. Ageing comes about as a result of the cessation of cell division that takes place in human beings. Today, ageing and anti-ageing have become a global phenomenon and the endless struggle against becoming old, the refusal to accept changes in the body and the millions of money spent on cosmetic and plastic surgery all point to the fact that nobody wants to get old. However, ageing just like death, is inevitable. No matter how you try to conceal it, it will definitely manifest with time. Osunde and Obiunu (2005) stated that ageing goes beyond biological change. It includes physical, mental, social, and intellectual decline. All these negative indicators which show decline in the functions of body organs due to ageing make the adult person feel uncomfortable to be associated with ageing. This feeling affects the adult person emotionally, and psychologically. The ageing population (the retired and the retrenched adult person) need relevant adult education programmes to enable them cope and adjust to changing and challenging conditions of their lives and to enable them feel they are still relevant in human society. Such adult education programmes should be able to motivate the retired adult and make him feel that he can still learn new tricks in order to continue to exist comfortable in human environment or society. Osunde and Obiunu (2005) stated that for

elderly adults to say they are too old to learn make them shun their responsibilities as active members of the society.

2. Perspectives of Ageing The ageing process can be viewed from three major perspectives; namely, biological ageing, sociological ageing and psychological ageing.

Biological Ageing: This is usually associated with decline in the regulation and proper functioning of the vital organs of the body. However, not all people experience decreased organ function in the same proportion. Some individuals have healthier hearts at age 80 than others do at age 60.

Sociological Ageing: This is usually how a person relates with others in the society. In sociological ageing, personal or attitude and interaction within the community are used to assess a person's maturation and ageing.

As a person ages socially, he/she calculates his/her utterances, limits the use of vulgar language, prunes relationship to mature friends, changes his/her mode of dressing, reduces nocturnal clubs. As a person ages socially, he/she tends to be guided by the norms of the society to which the person belongs. Psychological Ageing: Jegede (2003) stated that the indices of psychological ageing include feelings, motivation, memory, emotions, experience and self-identify. For instance, people who had intention of traveling abroad may decide to jettison the idea and contribute to the growth of their own economy. Psychological ageing is heterogeneous and continuous as an individual passes through life. Cavanaught (1993) in Osunde and Obiunu (2005) divided ageing into three viz, the primary ageing, the secondary ageing and the tertiary ageing.

The Primary Ageing: Primary ageing is considered as the normal process which has noting to do with illness. It simply involves changes in the biological, social and psychological domains. These occur due to tear and wear of vital organs of the body.

The Secondary Ageing: This process is associated with different kinds of terminal illness which prevent normal functioning of the individual.

The Tertiary Ageing: This occurs when there are loses brought about by death or disasters like war(s) on a family member or close friends that could lead to a gradual decline in the proper functioning of the individual.

Gerontology Gerontology is derived from two Greek words “geron” which means “old man” and “logos” which means “discourse” or “study”. Gerontology is the study of the phenomenon of old age. It is the study of the social psychological and biological aspects of ageing in an adult person. Gerontology is distinguished from geriatrics which is the branch of medicine that studies the diseases and care of the elderly person. The elderly adult deserves intensive medical attention as he continues to grow old. The Oxford Minireference Dictionary defined gerontology as the study of ageing. The new Websters Dictionary of English Language (1994) edition, defines gerontology as a study of the phenomenon of old age. Also, the encyclopedia on ageing (volume 2, 297-298) defined gerontology as the scientific study of ageing and older population. As the adult advances in age, the need for gerontology becomes necessary. Contemporary gerontology concerns itself with the ageing population. Considering the above definitions and explanations, gerontology encompasses the following: i) Studying the physical, mental and social changes in people (adults) as they age. ii) Investigating the ageing process itself (biogerontology). iii) Investigating the interface of normal ageing and age related diseases (geroscience). iv) Investigating the effects of our ageing population on our society; including the fiscal effects of pensions, entitlements, life and health insurance and retirement planning. v) Applying knowledge to policies and programmes; including a macroscopic perspective i.e. (running a nursing home). These five scopes of gerontology can simply be referred to as multidisciplinary. This is so because there are a number of sub-fields in it, as well as psychology and sociology. The field of gerontology is relatively a late developed field of study. This simply means it is a recent field of study. This made it possible for it to lack structural and institutional support required. However, the huge increase in the elderly population in the post industrial western nations made gerontology to become most rapidly growing field of study. Currently, gerontology is a well paid field for many all over the world.

The Myths and Stereotypes of Aging

Ageist stereotypes about seniors are unfortunately pervasive in our culture. In films, on television and even in the jokes we hear, misconceptions about aging and seniors are ever present.

Some of the top myths and stereotypes of aging include:

1. Myth: Aging Dulls Wits

While aging can create cognitive changes, older people may perform better in certain areas of intelligence and poorer in others. While seniors may have slower reaction times, "mental capabilities that depend most heavily on accumulated experience and knowledge, like settling disputes and enlarging one's vocabulary, clearly get better over time," writes Patricia Cohen in the New York Times.

2. Myth: Aging Erases Your Libido

Discussing the love and sex lives of seniors is largely taboo and has led to the stereotype that the elderly are sexless. This stereotype is harmful because it can cause seniors to have conflicted feelings or unnecessary guilt about their sexuality, while simultaneously causing younger people to hold misconceptions about aging and the elderly. As a state of Oregon document notes: "Research has found that sexual activity and enjoyment do not decrease with age. People with physical health, a sense of well-being and a willing partner are more likely to continue sexual relations. People who are bored with their partner, mentally or physically tired, afraid of failure or overindulge in food or drink are unlikely to engage in sexual activity. These reasons do not differ a great deal when considering whether or not a person will engage in sex at any age."

3. Myth: Aging Is Depressing

Contrary to the myth that aging is depressing, many studies find that seniors are among the happiest age group. Happiness levels by age follow a U-shaped curve, with self-reported levels of happiness at their lowest at age 40, but then growing thereafter.

4. Myth: Aging Leads to Loneliness

Though social isolation can be a problem for seniors, especially to those who have limited mobility, most seniors are able to stay socially engaged. Activities with family and friends and visits at places such as the local senior center or a place of worship, also help seniors stay active and happy.

5. Myth: Aging Makes You Less Creative

There are countless examples that dispel the myth that aging makes you less creative. In fact, many artists actually find their calling or achieve mastery in their later years. A great example is American artist "Grandma Moses," who held her first one-woman art show in 1940 when she was 80 and continued to paint until she was 101.

6. Myth: Aging Makes You More Religious

Seniors certainly have a higher rate of religious attendance, but this is a generational phenomenon rather than an aging phenomenon. If you regularly attended church growing up, you're likely to continue to do so as you age. Today's senior's haven't become more religious with time. Instead, they grew up in a time when more people went to church, which is why seniors are the most religious age group.

7. Myth: Aging Makes You Unable to Adapt to New Situations

Older people are not only able to adapt to new situations, they are actually experts at adapting. By the time one has become a senior, they have had to adapt to innumerable changes and transitions in life. Seniors may be slower to change their opinions, but one of humanity's' greatest traits, adaptability, is generally retained as we grow old.

8. Myth: Aging Makes You Unproductive

Though retired people may have left the workforce, they are hardly unproductive. They contribute countless hours to activities like helping with child-rearing and volunteering, which makes an enormous impact on society. In fact, a report by the Bureau of Labor Statistics indicates 24% of senior citizens report engaging in volunteer work after retirement.

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SCHOOL OF SCIENCE AND HUMANITIES

DEPARTMENT OF PSYCHOLOGY

UNIT – II -PHYSIOLOGICAL AND PSYCHOLOGICAL PROBLEMS OF ELDERLY -GERONTOLOGY PSYCHOLOGY-SPSY1401

Biological Changes That Occur During Aging

Young adulthood: The period of young adulthood begins from the age of twenty years onward. The major concerns of young adults in 20s are to establish themselves in life, job, and family. The young adult wants to seek social and economic security in preparing for a role of greater independence and responsibility in society.

Middle Age: From the period of his twenties and thirties, the individual arrives at middle age in the forties and fifties. Middle age is characterized by competence, maturity, responsibility and stability. These are the important characteristics formiddle-aged adults. This is the time when one wants to enjoy the success of job, satisfaction derived from family and social life. The individual looks forward to the successes of children. Attention gets more focussed on health, the fate of children, aging parents, use of leisure time and plans for old age. For women, menopause occurs between the age of forty-five and fifty. Menopause is sometimes accompanied by some distressing physical and psychological symptoms in women. Men during this period show greater amount of concern towards their health, strength, power, and sexual potency.

Old Age: The period of old age begins at the age of sixty. At this age most individuals retire from their jobs formally. They begin to develop some concern and occasional anxiety over their physical and psychological health. In our society, the elderly are typically perceived as not so active, deteriorating intellectually, narrow-minded and attaching new significance to religion. Many of the old people lose their spouses and because of which they may suffer from emotional insecurity. **'Nobody has ever died of old age',** is a true statement. Since old age is close to the end point of life, death has been associated with old age. Death is actually caused by disease, pollution, stress, and other factors acting on the body. In the biological sense, some organs and systems of the body may start deteriorating. In the psychological sense, there may be measurable changes in the cognitive and perceptual abilities. There are also changes in the way a person feels about him/ herself.

You must have come across old people who are very active in life and socially very particiaptive. Such persons seem to be productive and stable and happy. Mental or physical decline does not necessarily have to occur. Persons can remain vigorous, active, and dignified until their eighties or even nineties. In fact, the older persons have vast reservoir of knowledge, experience, and wisdom on which the community can draw. In view of increase in life expectancy increasingly greater proportion of society is joining the group of aged people. Hence they need greater attention in national planning and making them feel as an integral part of society.

PHYSICAL AND COGNITIVE CHANGES

DURING ADULTHOOD AND AGING

Normally people see old age as a period of decline in physical and mental health. This section deals with physical and psychological aspects of aging. With advancing age, there are certain inevitable and universal changes such as chemical changes in cells, or gradual loss of adaptive reserve capacity. There are also certain cognitive changes taking place from middle adulthood onwards. These changes are slow and gradual. They become more prominent among the elderly people.

(a) Physical Changes

It has been found that the organ system of most persons show a 0.8 to 1 percent decline per year in functional ability after the age of 30. Some of this decline is normal, some is disease related and some are caused by factors such as stress, occupational status, nutritional status and various environmental factors.

Major physical changes with ageing are described as

(1) external changes

(2) internal changes, and

(3) changes in sensory capacities.

1. External Changes

External changes refer to the outward symptoms of growing old. The more observable changes are those associated with the skin, hair, teeth, and general posture. There are changes in the skin. The most pronounced change is wrinkling. Wrinkling process begins during middle years. Skin also becomes thick, hard and less elastic. It becomes brittle and dry. With advancing age, the hair of the person continues to turn white and loses its luster. It continues to thin. By the age of fifty-five, about 65 percent of men become bald. It is estimated that at age 65, fifty percent people have lost all their teeth. For many, dentures become a way of life. Over the time, the production of saliva is diminished. This increases the risk of tooth decay.

Physical strength begins to decline from age 30 to age 80 and above. Most weakening occurs in the back and leg muscles, less in the arm muscles. There is a progressive decline in energy production. Bones become increasingly brittle and tend to break easily. Calcium deposits and disease of the joints increase with age. Muscle tissue decreases in size and strength. Muscle tone becomes increasingly difficult to maintain with age because of an increase in fatty substance within the muscle fibres. This is often caused by the relative inactive role thrust on the elderly in our society. Exercise can help maintain power and sometimes even restore strength to the unused muscles. Changes in the general posture become more evident in old age. The loss of teeth, balding and greying of the hair, wrinkling of the skin, and lack of physical strength all have a potentially negative effect on an individual's self-concept and confidence.

2. Internal Changes

Internal changes refer to the symptoms of growing old that are not visible or obvious. We shall examine some of the changes taking place with increasing age in the respiratory system, gastrointestinal system, cardiovascular system, and central nervous system.

The Respiratory System: With increasing age, there is reduction in breathing efficiency. The lungs of an old person do not expand to take in as much air as the lungs of a young person. Decreased oxygen supply makes the old person less active, less aware and less strong. This decline seems to be part of normal aging process.

The Gastrointestinal System : With increasing age there is decreased capacity for biting and chewing, decrease in the production of digestive enzymes, decreased gastric and intestinal mobility and lack of appetite.

The Cardiovascular System: Cardiovascular system which includes the heart and the blood vessels show the effects of normal aging rather slowly. With the aging process there is a decrease in the elasticity of blood vessels and blood cell production also. Increase-in time required for heart to return to rest and arterial resistance to the passage of blood is also found. Many old individuals are found to be suffering from high blood pressure. However, healthy old individuals are found to have blood pressure similar to those of young healthy indiciduals.

The Central Nervous System (CNS) : The CNS shows certain universal changes as a function of age. There is decreasing rate of arterial and venous flow. Beginning at about age 60, there is a reduction of cerebral blood flow. There is also a decline in oxygen and glucose consumption. Number of cells and cell endings are found to be decreasing. The most definite change is the slowing down of responses.

3. Changes in Sensory Capacities

With advancing age, there is gradual slow down in the sensory abilities. We communicate with the outer world through our senses. Losses in any senses can have profound psychological consequences.

Vision: Increasing age brings in several problems in vision. The lens continues to lose elasticity. The pupils become smaller, irregular in shape. The eyelids have a tendency to sag. Colour vision becomes less efficient. Cataract and glaucoma are commonly found among the elderly. People with cataracts have blurred vision. This also interferes with normal vision.

Hearing: Hearing seems to be at best around the age 20. From then onwards there is a gradual decline. Most hearing loss is not noticed. However, in the case of hearing problem, it can be improved by a hearing aid.

Other senses: The senses of taste and smell decline with old age. This decline affects appetite and nutritional requirements of the elderly. You must have noticed that many old persons demand food that is overly sweet or spicy. This is because the four basic tastes, sweet, bitter, sour, and salty, all generally diminish in sensitivity. Sensitivity to touch appears to increase from birth to about 45 and then decreases sharply.

4 COGNITIVE CHANGES DURING ADULTHOOD AND AGING

The term 'Cognition' refers to the processes by which information is acquired, stored, and used. In this section, four major aspect of cognition-memory, learning, attention and intelligence will be discussed in relation to adulthood and aging.

a) Memory

Memory is one of the most central aspects of cognition. Memory has been defined as 'the mental processes of retaining information for later use and retrieving such information'. No significant age differences may be found in short-term memory task like forward digit span or word span. Older subjects do not perform as well on the tasks that demand repeating numbers in reverse order. Old persons are found to perform poorer than young ones on long-term memory tasks which require processing of information and organization of material.

b) Memory of the Elderly

Memory performance with advanced age is affected by several factors. Some of the important factors are given below.

(i) Beliefs about Memory

Old persons' beliefs and attitudes about their memory ability affect their memory performance. Research shows the role of beliefs, perceptions, attitudes, and knowledge in memory abilities. Questionnaires typically ask respondents how frequently they forget names and events, how anxious they are about forgetting, what they know about how to improve memory and what strategies they employ in remembering. Older adults have been found to have

more difficulties with their memory than do younger adults. The common expression among elderly has been 'I am getting old'. Elderly persons are often found to be complaining about their memory failures.

(ii) Use of Memory Strategies

Memory requires the use of strategies. Memory performance would be better for those who can use effective memory strategies. An example of memory strategy is repeating to yourself over and over again the items you want to buy is connected with something that is familiar. For example, if you want to remember the name of somebody, you may associate that person with some popular figure. You can also use memory aids such as a diary or writing out a list of items you want to buy at the grocery store. Most of us use some such strategies every now and then but we are not aware of using them. In their everyday lives, the elderly persons are more likely to use diaries, making lists of things to buy, etc. than using rehearsal or association strategy.

(iii) Life Styles of Elderly

The type of daily activities in which elderly persons engage determines their memory performance. The elderly persons who engage in daily activities like playing chess or bridge, their performance on some of the memory and reasoning tasks is found to be better than elderly non-players. Another aspect of lifestyle determining cognitive performance is regularity in the structure of daily life. Regularity of sleep patterns, daily exercise, following regular schedule of every day activities helps to maintain everyday cognitive functioning.

b. Learning

Learning involves formation of new association. It means acquisition of general rules and knowledge about the world. It is believed that learning performance tends to be poorer during late than early adulthood. Can older people acquire new information and skills? Can they try new careers? Such questions are difficult to answer. We must note that the ability to learn may be relatively unchanged in old persons. Factors such as poor motivation, lack of confidence, test anxiety, etc. may lower performance on learning tasks.Old persons' learning

performance maybe very close to that of young persons if older persons are allowed more time or can self-pace the tests. They were found to perform better when there is no time pressure and the material is presented very distinctly and in a simplified manner.

c. Attention

The term attention refers to the manner in which we focus on what we are doing. People vary in how wide their attention span is. If attention span is too narrow, one looses a lot of information. Old people may not differ from young people in terms of their attention span as such. However, they get easily distracted by any kind of interference. With training, attention can be improved.

d. Intelligence

As has been pointed out earlier many of our impressions of old age originate from inaccurate knowledge or misconceptions. How do elderly persons perform on intelligence test? Most of the intelligence tests require speed of performance. We have already discussed that old persons are slower on reaction time. Thus lower performance on intelligence tests may be due to slower reaction time than due to a decline in intellectual functions. General knowledge does not decline with age. Among the elderly, we often find reduced abilities for complex decision makingand slowing of performance. Hardly any losses in verbal comprehension, social awareness and the application of experience may be noticed among the older people. Intelligence in adulthood and aging maybe viewed as enabling the individual to cope with a variety of demanding everyday tasks and events. Everyday intelligence of the elderly maybe determined by their ability in reading road maps, understanding labels, filling out forms, understanding charts, conversations, TV programmes, doing shopping, driving during rush hours, and performing many other daily jobs. You may remember that we have already discussed that elderly work best when they are away from pressure and can set their own pace. Moreover, the factor of general health is very important to be considered. Healthy individuals and those who lead happy and active life generally show no or little loss of intellectual abilities during old age.

Many changes occur during normal aging. Genetics and lifestyle both play a role in signs of aging exhibited by the body. Skin becomes dryer and less elastic, leading to lines and wrinkles. Hair thins, and gray hair increases. High-pitched sounds become harder to hear, and vision declines; most people need reading glasses when they're in their 40s. Changes in sleep patterns also occur, with older people generally needing less sleep and waking up more during the night. Bones may become less dense, height decreases, metabolism slows, and blood flow to the brain decreases. Sexual functioning also decreases. Men produce fewer sperm, and women go through menopause and stop ovulating (and menstruating), which means that they can no longer get pregnant. All of these changes are found to some extent in older people, but the choices a person makes—such as eating healthy and exercising—can help moderate the effects of aging.

In individual cells, senescence occurs when a cell can no longer divide. Cells at first divide quickly, then more slowly, until eventually mitosis stops. The size and shape of the cells changes, and debris accumulates inside them. In addition, genetic damage can accumulate in cells over time through exposure to sunlight and radiation, and through free radicals that are cell by-products. Telomeres, which are regions of DNA at the end of a chromosome, are ultimately responsible for the stopping of mitosis. Telomeres shorten with each cell division, and over time when they become very short, the cell can no longer divide.

Mental Illness in the Elderly

Elderly behavioral problems can stem from a decline in mental health. In seniors, these issues frequently go undiagnosed or unaddressed. In fact, about 20% of U.S. adults age 55 or older experience some type of mental health concern, but nearly one in three of those seniors do not receive treatment.Data from CDC. The statistics on mental illness in seniors are sobering,

but with knowledge and vigilance, caregivers can stay aware of the emotional and mental health of their older loved ones and make sure they are properly treated if they are experiencing a problem.

You might not be surprised to read that the most common mental health issue among the elderly is severe cognitive impairment or dementia. An estimated 5 million adults 65 and older currently have Alzheimer's disease — about 11% of seniors, according to the Alzheimer's Association. Depression and mood disorders are also fairly widespread among older adults, and disturbingly, they often go undiagnosed and untreated. The CDC reports that 5% of seniors 65 and older reported having current depression and about 10.5% reported a diagnosis of depression at some point in their lives.

Often going along with depression, anxiety is also one of the more prevalent mental health problems among the elderly. Anxiety disorders encompass a range of issues, from hoarding syndrome and obsessive-compulsive disorder to phobias and post-traumatic stress disorder (PTSD). About 7.6% of those over 65 have been diagnosed with an anxiety disorder at some point in their lives, says the CDC.

Assessing Common Areas of Elderly Behavior Problems

A number of issues may arise as a result of elderly behavior problems. A Place for Mom medical expert geriatrician Dr. Leslie Kernisan recommends 5 areas to assess when visiting your loved ones and some tips on what you can do when elderly loved ones resist help.

Risk Factors for Mental Illness

One of the ongoing problems with diagnosis and treatment of mental illness in seniors is the fact that older adults are more likely to report physical symptoms than psychiatric complaints. However, even the normal emotional and physical stresses that go along with aging can be risk factors for mental illnesses, like anxiety and depression.

The Geriatric Mental Health Foundation lists a number of potential triggers for mental illness in the elderly:

- Alcohol or substance abuse
- Change of environment, like moving into assisted living
- Dementia-causing illness (e.g. Alzheimer's disease)

- Illness or loss of a loved one
- Long-term illness (e.g., cancer or heart disease)
- Medication interactions
- Physical disability
- Physical illnesses that can affect emotion, memory and thought
- Poor diet or malnutrition

10 Symptoms of Mental Illness

As our loved ones age, it's natural for some changes to occur. Regular forgetfulness is one thing, however; persistent cognitive or memory loss is another thing and potentially serious. The same goes for extreme anxiety or long-term depression. Caregivers should keep an eye out for the following warning signs, which could indicate a mental health concern:

1. Changes in appearance or dress, or problems maintaining the home or yard.
2. Confusion, disorientation, problems with concentration or decision-making.
3. Decrease or increase in appetite; changes in weight.
4. Depressed mood lasting longer than two weeks.
5. Feelings of worthlessness, inappropriate guilt, helplessness; thoughts of suicide.
6. Memory loss, especially recent or short-term memory problems.
7. Physical problems that can't otherwise be explained: aches, constipation, etc.
8. Social withdrawal; loss of interest in things that used to be enjoyable.
9. Trouble handling finances or working with numbers.
10. Unexplained fatigue, energy loss or sleep changes.

Depression

Depression is a type of mood disorder that ranks as the most pervasive mental health concern among older adults. If untreated, it can lead to physical and mental impairments and impede social functioning. Additionally, depression can interfere with the symptoms and treatment of other chronic health problems.

Common symptoms of depression include ongoing sadness, problems sleeping, physical pain or discomfort, distancing from activities previously enjoyed, and a general "slowing down."

Seniors suffering from depression generally visit ERs and doctors more frequently, take more medications, and experience longer hospital stays than their same-age peers. Women are more likely to be affected than men.

Late-Onset Depression Risk Factors to Watch Out For

- Physical Illness
- Widowhood
- Lack of education (below high school level)
- Diminished functional status
- Heavy drinking

On the bright side, depression can typically be successfully treated in older adults. If you suspect a loved one or client is showing signs of depression, seek help immediately.

Dementia symptoms

The most common form of dementia is Alzheimer's disease, which causes cells in the brain that control memory to die. It is an irreversible condition that occurs in severe and moderate stages in three million people over the age of 65.

While dementia does affect all individuals differently, the main symptoms of dementia include:

- **Difficulty communicating.** Dementia patients often have a difficult time completing sentences or finding the right words. Also, words can get mixed up or used incorrectly.
- **Increased memory issues.** Forgetfulness will start to occur more and more often, along with problems remembering how to do daily activities like cooking, cleaning and dressing.
- **General confusion.** Those with dementia begin getting confused about what time of day it is, or even what year they're living in. They also have a hard time recognizing friends and family members or think they are someone else entirely. Dementia patients may also start losing or misplacing items, even accusing others of stealing their belongings.
- **Personality and emotional changes.** Dementia will cause personality changes to individuals, and can affect their moods as well. Those with dementia are often fearful or depressed and experience severe mood swings.

Common Mental Illnesses in the Elderly

If a senior is displaying signs of mental illness, it's important to recognize the symptoms and seek treatment as soon as possible. Some of the common mental illnesses the elderly experience are:

- **Depression.** Depression is considered the most common mental disorder among seniors. Social isolation plays a major role in emotional wellness, so when a senior spends long periods alone because they are unable to drive or live far away from friends and family, depression can easily set in. It is also a symptom of dementia and tends to get overlooked as a treatable ailment.
- **Late onset bipolar.** Most bipolar patients are diagnosed in early adulthood. Late onset bipolar can be difficult to diagnose because of its similarities to dementia symptoms like agitation, manic behavior and delusions.
- **Late onset schizophrenia.** This disorder also presents a challenge to diagnose. It can manifest in adults after age 45 and appears as the patient ages. Symptoms are similar to dementia, once again, with hallucinations and paranoia the most common, but these symptoms are milder than when this illness appears in younger adults.

Mental illnesses are treatable, but the trick is a correct diagnosis. Even if a senior had good mental health throughout their entire life, the risk of mental illness in later years is still there. Seek medical treatment as soon as possible if there are any noticeable changes beginning to occur.

Loneliness is a painful universal phenomenon that has an evolutionary basis. Loneliness reminds us of the pain and warns us of the threat of becoming isolated. Loneliness is the absence of imperative social relations and lack of affection in current social relationships. Loneliness is one of the main indicators of social well-being. Loneliness is caused not by being alone, but by being without some definite needed relationship or set of relationships. Research addressing loneliness has increased dramatically over the past 2 decades; however, despite the mental health risks associated with being lonely, the relationship between loneliness and psychiatric disorders has not been sufficiently explored. In India very little research has been done on psychological and physical affect of loneliness. There are just a few studies in India, in which relationship of loneliness with other psychiatric disorders has been studied .However most of these studies were done in elderly patients only.

Loneliness is a common experience with 80% of population below 18 years of age and 40% of population above 65 years of age report loneliness at least sometimes in their life. Loneliness is generally reported more among adolescents and young children, contrary to the myth that it occurs more in elderly. The reason for this is that elder people have definite copying skills and can adjust accordingly to solitude, while as adolescents lack definite copying skills and adolescent period is the time of life when being accepted and loved is of such major importance to the formation of one's identity. However elderly who have physical illness and disability report higher prevalence of loneliness, compared to elderly without physical illness and disability. In India elderly patient population is increasing and their psychological problems are on a rise. India is destined to become the second largest population of elderly people in the coming years. Therefore it is necessary to intervene at the right time to prevent the psychological problems and physical disorders arising due to affects of loneliness in elderly population. Further loneliness gradually diminishes through the middle adult years, and then again increases in old age (i.e., ≥70 years) .

Risk factors: The risk factors associated with loneliness include being female, being widowed, living alone, being aged, health factors, material resources and a limited number of 'social' resources .

Types of loneliness

There are 3 types of loneliness i.e. situational loneliness, developmental loneliness and internal loneliness .

1. **Situational Loneliness:** The various factors associated with situational loneliness are environmental factors (unpleasant experiences, discrepancy between the levels of his/her needs), migration of people, inter personal conflicts, accidents and disasters, etc .
2. **Developmental Loneliness:** The various factors associated with developmental loneliness are personal inadequacies, developmental deficits, significant separations, poverty, living arrangements, and physical/psychological disabilities .

3. **Internal Loneliness:** The various factors associated with internal loneliness are personality factors, locus of control, mental distress, low self-esteem, guilt feeling , and poor coping strategies with situations .

   Further Weiss et al., reported 2 types of loneliness i.e. emotional and social loneliness. Emotional loneliness defined by the absence of an attachment figure and social isolation, characterized by the absence of a social network .

Psychiatric Disorders and Loneliness

1. **Depression :** Lonely people suffer from more depressive symptoms, as they have than been reported to be less happy, less satisfied and more pessimistic [16]. Further loneliness and depression share common symptoms like helplessness and pain. There is so much similarity in between loneliness and depression that many authors consider it a subset of depression. However the distinction can be made by the fact that loneliness is characterized by the hope that all would be fine, if the lonely person could be united with another longed for person [2]. In patients, who are both lonely and depressed, loneliness is positively correlated with negative feelings and negative judgment of personality attributes and negatively correlated with it .It has been seen that there is an association between insecure attachment styles and depression. Several studies further suggest insecure attachment styles increases vulnerability to depression. The vulnerability to depression can be due to the fact that insecurely attached have tendency to develop low self esteem, difficulty or inability in developing and maintaining relationships with others, poor problem solving skills, and an unstable self- concept [17]. In a study done by Singh A et al., of elder persons in the age group of 60-80 in Delhi (India) based regions (living in various housing societies), found out an increase in level of depression with increase in level of loneliness. However no gender difference in elder males and females was found between loneliness and depression. The absence of significant gender difference is in contrast to the belief, as well as what has been reported in the literature that older females are more vulnerable to depression. The reason for this could be that all elderly females were not working women before 60 years of age. The transition in their lifestyle in their old age included breaking ties with their colleagues, friends and loss of status. However the transition in their lifestyle was slow, which could have prevented any change in mood [4]. In a study done by Bhatia SPS et al., found

higher mean loneliness score in elderly women , compared to elderly males. He further concluded that older people, who were living alone were experiencing higher loneliness ,compared to who were living with their spouses or their families.

1. **Alzheimer's disease :** Loneliness is associated with more then two fold risk of dementia, as loneliness is associated with loss of cognition in old age. In fact some authors signal it as prodromal stage of dementia. In loneliness, there is more rapid decline in global cognition, semantic memory, perceptual speed, and visuospatial ability. The basis of association of loneliness with Alzheimer's disease (AD) can be attributed to two possibilities. First possibility is that loneliness is a consequence of dementia, perhaps as a behavioral reaction to diminished cognition or as a direct result of the pathology contributing to dementia. Second possibility is that loneliness might somehow compromise neural systems underlying cognition and memory, thereby making lonely individuals more vulnerable to the deleterious effects of age-related neuropathology and thereby decreasing neural reserves. In one study, the incidence of AD was predicted by degree of baseline loneliness, after adjusting for age, sex, and education. It was found that those in the top deciles of loneliness scores were 2.1 times more likely to develop AD than those in the bottom deciles of loneliness scores. The prevalence of AD is lower in India compared to other countries. There are wide variations in the incidence rates in community based as well as urban based studies in India. Various risk factors have been identified in the causation of AD in India. However, to the best of the knowledge of the author, there are no studies which assesses relationship of loneliness with AD.

2. **Alcoholism:** Loneliness is recognized as a contributing, maintaining and poor prognostic factor in the development of alcohol abuse. Further it is recognized as an essential risk factor in all the stages of alcoholism. Various studies have demonstrated lonely people with heavy drinking are more vulnerable to alcohol related problems. The reasons attributed to this are due to lack of social support, and distinct perceptions of community pressure. However presently in India as well as in the world, there are no studies which compares loneliness in alcoholics with loneliness in nonalcoholic.

3. **Child abuse :** Loneliness is more prevalent among child abusers and those who disregard than who take good care of their children. Women abused in the past were noted to be more lonely and had more negative network orientation, compared to women, who were not abused. Further

in whom abuse lasted for a longer duration period and involving multiple incidents were more loneliness and had lower network orientation. In a study conducted by Dhal A et al., of 110 adolescents of Delhi (India) found that two third of children reported higher level of loneliness and one third of children reported lower level of loneliness. Further low self esteem in the adolescents was associated with loneliness .The adolescents with low self esteem develop loneliness ,as they feel rejected.They also lacked confidence and skills in initiating and maintaining relationships. Psychological intervention like copying skills, talking with friends and maintaining relationships can benefit adolescents in dealing with psychological affects of loneliness.

4. **Bereavement:** Loneliness is expected when people grieve the loss of someone to whom they were closely attached. Widows express loneliness usually with the absence of a spouse or a social support. Various studies report 86% of widows experience loneliness, however the proportion decreases with increasing number of children and with the support system. It must be noted that loneliness in grief is associated with acute absence of an attachment figure, rather than absence of a social support. Further loneliness in bereavement is in itself a risk factor for the development of depression.

5. **Stress, Immune system**: Loneliness is not only a source of acute stress, but also chronic stress. Recently, there has been extensive research on psychosocial effects of stress on neuroendocrine and immune systems. Whether loneliness qualifies as stress may be debatable [2,20,28]. However there is ample data, which gives evidence of immune system getting involved in loneliness. Loneliness has been associated with impaired cellular immunity, as reflected by lower natural killer (NK) cell activity and higher antibody titers. In addition, loneliness among middle-age adults has been found associated with smaller increase in NK cell numbers ,in response to acute stress associated with various tasks.

6. **Suicide:** Research on suicide has revealed that there is a strong association between suicide ideation, parasuicide and loneliness .The prevalence of suicide ideation and parasuicide rises with the degree of loneliness. Further the peak season for loneliness has been reported to be winter and spring, the same season for which peak incidence of suicide has been reported. However there is minimal differences in suicide between men and women related to loneliness. SC Tiwari attributes loneliness as an important factor in etiology of suicide and parasuicide .He

also considers loneliness as a disease and wants its place in classification of psychiatric disorders.

7. **Personality disorder :** The various personality disorders associated with loneliness include borderline personality disorder and schizoid personality disorder Intolerance of aloneness is considered a core feature of borderline personality disorder (BPD). Loneliness also potentiates other symptoms associated with BPD. The various Theories of Aloneness in BPD are The Need for Time Alone, Signaling the Need, Development of the Capacity to be Alone, The Holding Environment and Internal Representation. Several psychoanalytic theorists have suggested that emotional deprivation plays a critical role in the development of schizoid personality disorder. As a result of emotional deprivation and lack of ability to gain security, a lack of contentedness in interpersonal relationships has been observed as components in attachment distortion. Further contributing to the development of schizoid personality disorder is the maladaptive schema's and attached cognitive behavior associated with emotional deprivation. In India, there are no studies which assess relationship of personality disorders with loneliness. In future, research should be done in India, which focuses on psychological affects of loneliness on various personality disorders.

8. **Sleep:** Loneliness has been associated with poor sleep quality with daytime dysfunction like low energy, fatigue. However loneliness has no relationship with sleep duration. As greater daytime dysfunction is a marker of poor sleep quality, loneliness has been found associated with greater day time dysfunction. Numerous studies have demonstrated greater daytime dysfunction accompanied by more nightly micro-awakenings with loneliness, thus demonstrating a role of loneliness with poor sleep quality .

Physical illness and Loneliness: Loneliness related chronic stress can cause low- grade peripheral inflammation. The low- grade peripheral inflammation in turn has been linked to inflammatory diseases .The inflammatory diseases include diabetes ,autoimmune disorders like rheumatoid arthritis, lupus and cardiovascular diseases like coronary heart disease, hypertension (HTN). In a study conducted by Hawkley et al., of young adults, loneliness was found associated with elevated levels of total peripheral resistance (TPR).TPR is the primary determinant of SBP, which suggests that loneliness- related elevations in TPR may lead to higher blood pressure. Loneliness related chronic stress can also cause low- grade peripheral inflammation. The low-

grade peripheral inflammation in turn has been linked to cardiovascular disease like atherosclerosis etc. There have been various studies, showing relationship of loneliness with obesity, physiological aging,cancer, poor hearing and poor health. In a study by SK Mishra et al., in 380 HIV (Human immunodeficiency virus) patients of Andhra Pradesh (India) found that 66.57% of patients were found to be lonely and loneliness was associated with depression (71.84%) in them. He also concluded that in physical illnesses like HIV infection, the mental health indicators like loneliness and depression needs more stress in the continuum of care of patients .

Interventions for loneliness:

Left untended, loneliness has serious consequences mental and physical well being of people. Therefore it is important to intervene at the right time to prevent loneliness. There are broadly 4 types of interventions. The four main types of interventions: (1) Developing social skills, (2) Giving social support, (3) Developing opportunities for social interaction, and (4) Recognizing maladaptive social cognition.

Lewy body dementia signs and symptoms may include:

- **Visual hallucinations.** Hallucinations may be one of the first symptoms, and they often recur. They may include seeing shapes, animals or people that aren't there. Sound (auditory), smell (olfactory) or touch (tactile) hallucinations are possible.
- **Movement disorders.** Signs of Parkinson's disease (parkinsonian signs), such as slowed movement, rigid muscles, tremor or a shuffling walk may occur. This can also result in falls.
- **Poor regulation of body functions (autonomic nervous system).** Blood pressure, pulse, sweating and the digestive process are regulated by a part of the nervous system that is often affected by Lewy body dementia. This can result in dizziness, falls and bowel issues such as constipation.
- **Cognitive problems.** You may experience thinking (cognitive) problems similar to those of Alzheimer's disease, such as confusion, poor attention, visual-spatial problems and memory loss.
- **Sleep difficulties.** You may have rapid eye movement (REM) sleep behavior disorder, which can cause you to physically act out your dreams while you're asleep.
- **Fluctuating attention.** Episodes of drowsiness, long periods of staring into space, long naps during the day or disorganized speech are possible.
- **Depression.** You may experience depression sometime during the course of your illness.

- **Apathy.** You may have loss of motivation.

The symptoms of panic disorder

Symptoms of panic disorder often begin to appear in teens and young adults under the age of 25. If you have had four or more panic attacks, or you live in fear of having another panic attack after experiencing one, you may have a panic disorder.

Panic attacks produce intense fear that begins suddenly, often with no warning. An attack typically lasts for 10 to 20 minutes, but in extreme cases, symptoms may last for more than an hour. The experience is different for everyone, and symptoms often vary.

Common symptoms associated with a panic attack include:

- racing heartbeat or palpitations
- shortness of breath
- feeling like you are choking
- dizziness (vertigo)
- lightheadedness
- nausea
- sweating or chills
- shaking or trembling
- changes in mental state, including a feeling of derealization (feeling of unreality) or depersonalization (being detached from oneself)
- numbness or tingling in your hands or feet
- chest pain or tightness
- fear that you might die

The symptoms of a panic attack often occur for no clear reason. Typically, the symptoms are not proportionate to the level of danger that exists in the environment. Because these attacks can't be predicted, they can significantly affect your functioning.

Fear of a panic attack or recalling a panic attack can result in another attack.

Anxiety Disorders

Like depression, anxiety is a very common mood disorder among the elderly. In fact, these two problems often appear in tandem. Statistics from the CDC show that nearly half of older adults with anxiety also experience depression.

Anxiety in seniors is thought to be underdiagnosed because older adults tend to emphasize physical problems and downplay psychiatric symptoms. Women in this age group are more likely to be diagnosed with an anxiety disorder than men.

Risk Factors for Anxiety Disorders in Old Age

Anxiety in the elderly is linked to a number of risk factors, including but not limited to: [ix]

- General feelings of poor health
- Sleeping problems
- COPD, certain cardiovascular diseases, diabetes, thyroid disease, and related chronic conditions
- Side effects caused by certain medications
- The abuse/misuse of alcohol, street drugs, or prescription drugs
- Physical impairments limiting daily functioning
- Stressful events like the death of a spouse, serious medical condition, or other life-altering event
- Traumatic or difficult childhood
- Perseveration on physical symptoms

There are several different types of anxiety disorders, with the most common being generalized anxiety disorder and phobias. Here is a list of anxiety disorders you may observe:

Generalized Anxiety Disorder

This form of anxiety presents a state of constant worry with little to no cause. Older adults with GAD have difficulty relaxing, sleeping, concentrating, and startle easily. Symptoms include fatigue, chest pains, headaches, muscle tension, muscle aches, difficulty swallowing, trembling, twitching, irritability, sweating, nausea, lightheadedness, having to go to the bathroom frequently, feeling out of breath, and hot flashes.

The effects of generalized anxiety include persistent worry or fear, which can get progressively worse with time.

These symptoms eventually interfere with socialization, job performance, and day-to-day activities. Seniors with anxiety tend to become more withdrawn and reclusive.

Symptoms and Signs of Generalized Anxiety Disorders in Seniors

Elderly individuals with generalized anxiety may experience the following symptoms: [x]

- Excessive, uncontrollable worry/anxiety
- Edginess, nervousness, or restlessness
- Chronic fatigue or tiring out easily
- Become irritable or agitated
- Poor quality of sleep or difficulty falling/staying asleep
- Tense muscles

In addition to generalized anxiety disorder, seniors can be diagnosed with the following related disorders including:

Phobia: An extreme, paralyzing fear of something that usually poses no threat, phobias can cause individuals to avoid certain things or situations due to irrational fears. Examples can include fear of social situations, flying, germs, driving, etc.

Panic disorder: This disorder is characterized by periods of sudden, intense fear that can be accompanied by heart palpitations or pounding, rapid heartbeat, shaking, sweating, difficulty breathing, or experiencing feelings of doom.

Symptoms of Panic Disorder

- Sudden, repeated bouts of intense fear
- Feeling powerless or out of control
- Persistent worry about the “next” attack
- Avoiding situations where past panic attacks have occurred

Social Anxiety Disorder: This social phobia causes individuals to fear being in certain social situations where they feel they might be judged, embarrassed, offensive to others, or rejected.

Social Phobia Symptoms

- Extreme anxiousness about being with others
- Difficulty talking to others in social situations
- Self-consciousness in social settings
- Fear of being judged, humiliated, or rejected
- Fear of offending others
- Worrying about attending social events long before they take place

- Avoiding social situations
- Difficulty with friendships
- Feeling queasy around other people
- Sweating, blushing or shaking around others

Post-Traumatic Stress Disorder:

PTSD is a disorder that usually manifests following a traumatic event that threatens a person's safety or survival, greatly impacting his or her quality of life.

Symptoms of PTSD

- Emotional numbness
- Flashbacks to the event
- Nightmares
- Depression
- Irritability
- Easily distracted or startled
- Anger

Obsessive-Compulsive Disorder: Those who suffer from OCD experience uncontrollable recurring thoughts (obsessions) or rituals (compulsions). Examples of rituals include washing hands, checking if appliances are on or off, counting, or other behaviors typically done to quell obsessive thoughts (e.g. washing hands repeatedly to remove germs and avoid getting sick).

Treatments for Anxiety Disorders

A variety of techniques, supports, and treatments, including medication, psychotherapy, or a combination of both, are available to address various anxiety disorders in seniors. If you suspect someone you care for has symptoms of an anxiety disorder, get in touch with their care team as soon as possible.

3. Bipolar Disorders

Bipolar disorders, or manic-depressive illnesses, are often marked by unusual mood shifts and are frequently misdiagnosed in senior citizens because the symptoms presented are typical with the aging process, especially related to dementia and Alzheimer's. Bipolar disorder occurs equally among women and men in this age group.

While younger people in the manic phase of bipolar disorder will show classic signs like elation and risky behavior, seniors are likely to become more agitated or irritable. [xi]

Late-Onset Bipolar Disorder Symptoms

- Confusion
- Agitation

- Irritability
- Hyperactivity
- Psychosis
- Cognitive issues including memory problems, trouble problem solving, loss of judgment, and loss of perception

It is worth noting that the effects of certain medications and some types of illnesses show similar symptoms. The individual should be seen and diagnosed by a medical professional to determine the root cause of any symptoms as well as the best options for treatment.

Panic disorder

Panic disorder occurs when you experience recurring unexpected panic attacks. The DSM-5 defines panic attacks as abrupt surges of intense fear or discomfort that peak within minutes. People with the disorder live in fear of having a panic attack. You may be having a panic attack when you feel sudden, overwhelming terror that has no obvious cause. You may experience physical symptoms, such as a racing heart, breathing difficulties, and sweating.

Most people experience a panic attack once or twice in their lives. The American Psychological Association reports that 1 out of every 75 people might experience a panic disorder. Panic disorder is characterized by persistent fear of having another panic attack after you have experienced at least one month (or more) of persistent concern or worry about additional panic attacks (or their consequences) recurring.

Even though the symptoms of this disorder can be quite overwhelming and frightening, they can be managed and improved with treatment. Seeking treatment is the most important part of reducing symptoms and improving your quality of life.

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DEPARTMENT OF PSYCHOLOGY

UNIT – III -POLICIES AND PROGRAMMES FOR AGED -

GERONTOLOGY PSYCHOLOGY-SPSY1401

National policies and programmes for elderly

The problems of the elderly in India were not serious in the past because the numbers were small and the elderly were provided with social protection by their family members. But owing to relatively recent socio-economic changes, ageing of the population is emerging as a problem that requires consideration before it becomes critical. However a few studies indicate that family and relatives still play a dominant role in providing economic and social security for the elderly. But still the majority of elderly need social, economic and health support.

Over the years, the government has launched various schemes and policies for elderly persons. These policies and schemes are meant to promote the health, well-being and independence of elderly people around the country. Some of these provisions have been discussed in this chapter as follows:

I Relevant Constitutional Provisions

II Legislations

III Various policies and programmes of Central Government for Elderly People

IV Some other important activities

V Specific Measures / Schemes implemented by Punjab Government

I Relevant constitutional provisions

(i) **Article 41 of the Constitution:**

Article 41 of Directive Principles of State Policy has particular relevance to Old Age Social Security. According to Article 41 of

the constitution of India, "the state shall, within the limits of its economic capacity and development, make effective provision for

securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement

and in other cases of undeserved want."

(ii) **Article 47 of the Constitution:**

Article 47 of the constitution of India provides that the state shall regard the raising of the level of nutrition and the standard

of living of its people and improvement of public health as among its primary duties.

(iii) **Some Other Constitutional Provisions:**

Entry 24 in list III of schedule VII of constitution of India deals with the welfare of labour, including conditions of work, provident funds, liability for workmen's compensation, invalidity and old age pension and maternity benefits. Further, item 9 of the state list and item 20, 23 and 24 of concurrent list relates to old age pension, social security and social insurance, and economic and social planning. The right of parents, without any means, to be supported by their children having sufficient means has been recognized by section 125(1) (d) of the Code of Criminal Procedure 1973, and section 20 (1 & 3) of the Hindu Adoption and Maintenance Act, 1 956. Among the administrative setup, the Ministry of Social Justice and Empowerment focuses on policies and programmes for the elderly in close collaboration with State Governments, Non-governmental Organisations and Civil Society. The programmes aim at their welfare and maintenance especially for indigent elderly, by supporting old age
homes, day care centers, mobile medical units etc.

II LEGISLATIONS

Maintenance and Welfare of Parents and Senior Citizens Act, 2007

The Maintenance and Welfare of Parents and Senior Citizens Act, 2007 was enacted in December 2007, to ensure need based maintenance for parents and senior citizens and their welfare. Section 19 of the Maintenance and Welfare of Parents and Senior Citizens Act,2007 envisages provision of at least one old age home for indigent senior citizens with a capacity of 150 persons in every district of the country.

The objectives of the Act are:

o Revocation of transfer of property by senior citizens in case of negligence by relatives.

o Maintenance of Parents/senior citizens by children/ relatives made obligatory and justiciable through Tribunals.

o Pension provision for abandonment of senior citizens.

o Adequate medical facilities and security for senior citizens.

o Establishment of Old Age Homes for indigent Senior Citizens.

The Act was enacted on 31st December 2007. It accords prime responsibility for the maintenance of parents on their children, grand children or even relatives who may possibly inherit the property of a senior citizen. It also calls upon the state to provide facilities for poor and destitute older persons.

The Act has to be brought into force by individual State Government. Himachal Pradesh is the first state and Punjab is the fifth state where old parents can legally stake claim to financial aid from their grown-up children for their survival and a denial would invite a prison term. As on 03.02.2010, the Act had been notified by 22 states and all UTs.

III VARIOUS POLICIES AND PROGRAMMES OF CENTRAL GOVERNMENT FOR ELDERLY PEOPLE

Several initiative steps for various policies and programmes for the elderly have been taken by the government. Some of them have been discussed as below:

National Policy for Older Persons (NPOP) 1999

The National Policy on older Persons was announced by the Central Government of India in the year, 1999 to reaffirm the commitment to ensure the well-being of the older persons. It was a step to promote the health, safety, social security and well-being of elderly in India. The policy recognizes a person aged 60 years and above as elderly. This policy enables and supports voluntary and nongovernmental organizations to supplement the care provided by the family and provide care and protection to vulnerable elderly people. It was a step in the right direction in pursuance of the UN General Assembly Resolution 47/5 to observe 1999 as International Year of Older Persons and in keeping with the assurances to elderly people contained in the Constitution. The policy envisages state support in a number of areas – financial and food security, healthcare and nutrition, shelter, education, welfare, protection of life and property etc. for the well being of elderly people in the country.

The primary objectives of this policy are to:

o ensure the well-being of the elderly so that they do not become marginalised, unprotected or ignored on any count.

o encourage families to take care of their older family members by adopting mechanisms for improving inter generational ties so as to make the elderly a part and parcel of families.

o encourage individuals to make adequate provision for their own as well as their spouse's old age.

o provide protection on various grounds like financial security, health care, shelter and welfare, including protection against abuse and exploitation.

o enable and support voluntary and non-governmental organizations to supplement the care provided by the family and recognising the need for expansion of social and community services with universal accessibility.

o provide care and protection to the vulnerable elderly people by ensuring for the elderly an equitable share in the benefits of development.

o provide adequate healthcare facility to the elderly.

o promote research and training facilities to train care givers and organizers of services for the elderly.

o create awareness regarding elderly persons to help them lead productive and independent life.

This policy has resulted in the opening of new schemes such as –

o Promotion of the concept of healthy ageing.

o Setting up of Directorates of Older Persons in the States.

o Training and orientation to medical and paramedical personnel in health care of the elderly.

o Assistance to societies for production and distribution of material on elderly care.

o Strengthening of primary health care system to enable it to meet the health care needs of older persons.

o Provision of separate queues and reservation of beds for elderly patients in hospitals.

o Extended coverage under the Antodaya Schemes especially emphasis for elderly people.

National Council for Older Persons (NCOP)

A National Council for Older Persons (NCOP) was constituted in 1999 under the chairpersonship of the Ministry of Social Justice and Empowerment to operationalize the National Policy on Older Persons. The NCOP is the highest body to advise the Government in the formulation and implementation of policy and programmes for the elderly.

The basic objectives of this council are to:

o advise the Government on policies and programmes for older persons.

o represent the collective opinion of elderly persons to the government.

o suggest steps to make old age productive and interesting.

o provide feedback to the government on the implementation of the NPOP as well as on specific programme initiatives for elderly.

o suggest measures to enhance the quality of inter-generational relationships.

o provide a nodal point at the national level for redressing the grievances of older persons which are of an individual nature provide lobby for concessions, rebates and discounts for older persons both with the Government as well as with the corporate sector.

o work as a nodal point at the national level for redressing the grievances of elderly people.

o undertake any other work or activity in the best interest of elderly people.

The council was re-constituted in 2005 and met at least once every year. At present there are 50 members in it, comprising representatives of Central and State Governments, NGO's, citizens' group, retired persons' associations, and experts in the fields of law, social welfare and medicine.

Central Sector Scheme of Integrated Programme for Older Persons (IPOP)

An integrated Programme for Older Persons (IPOP) is being implemented since 1992 with the objective of improving the quality of life of senior citizens by providing basic amenities like food, shelter, medical care and entertainment opportunities and by encouraging productive and active ageing. Under this scheme financial assistance up to 90 percent of the project cost is provided to Non-Governmental Organizations for running and maintenance of old age homes, day care centers and mobile medicine units. The scheme has been made flexible so as to meet the diverse needs of the older persons including reinforcement and strengthening of the family, awareness generation on issues pertaining to older persons, popularisation of the concept of lifelong preparation for old age etc.

Several innovative projects have also been added which are as follows:

o Maintenance of respite care homes and continuous carre homes.

o Sensitizing programmes for children particularly in schools and colleges.

o Regional resource and training centers for caregivers of elderly persons.

o Volunteer Bureau for elderly persons

o Formation of associations for elderly.

o Helplines and counselling centers for older persons.

o Awareness Generation Programmes for elderly people and caregivers.

o Running of day care centers for patients of Alzheimer's Disease/Dementia, and physiotherapy clinics for elderly people.

o Providing disability and hearing aids for the elderly people. The eligibility criteria for beneficiaries of some important projects

supported under IPOP Scheme are:

o Old age homes – for destitute elderly persons.

o Respite care homes and continuous care homes – for elderly persons who are seriously ill and require continuous nursing care and respite

o Mobile Medicare units – for older persons living in slums, rural and inaccessible areas where proper health facilities are not available. The scheme has been revised in April, 2008. Besides an increase in amount of financial assistance for existing projects,

Governments/Panchayati Raj institutions/local bodies have been made eligible for getting financial assistance.

Inter-Ministerial Committee on Older Persons

An Inter-Ministerial Committee on Older Persons comprising twenty-two Ministries/Departments, and headed by the secretary,

Ministry of Social Justice and Empowerment is another coordination mechanism in implementation of the NPOP. Action Plan on ageing issues for implementation by various Ministries/Departments concerned is considered from time to time by the committee.

National Old Age Pension (NOAP) Scheme

Under NOAP Scheme, in 1994 Central Assistance was available. The amount of old age pension varies in the different States as per their share to this scheme. It is implemented in the State and Union Territories through Panchayats and Minicipalities.

The assistance was available on fulfillment of the following criteria:-

o 65 years or more should be the age of the applicant (male or female)

o The applicants who have no regular means of subsistence from their own source of income or through financial support from family members or others. The Ministry is now implementing the Indira Gandhi National Old Age Pension Scheme (IGNOAPS). Under this scheme Central assistance in form of Pension is given to persons, above 65 years @ Rs. 200/- per month, belonging to a below poverty line family. This pension amount is meant to be supplemented by at least same contribution by the States so that each applicant gets at least Rs. 400/- per month as pension. The number of beneficiaries receiving central assistance, in the form of pension, was 171 lakh as on 31st March, 2011.

Further the Ministry has lowered the age limit from the existing 65 years to 60 years and the pension amount for elderly of 80 years and above has also been increased from Rs. 200/- to

Rs. 500/- per month with effect from 01.04.2011. This decision of the Government of India has been issued to all States/UTs vide letter no. J- 11015/1/2011-NSAP dated 30th June, 2011.

National Programme for Health Care of Elderly (NPHCE)

National Programme for Health Care of Elderly (NPHCE) is an articulation of the international and national commitments of the government as envisaged under (UNCRPD), National Policy on older Persons (NPOP) adopted by the Government of India in 1999 and Section 20 of "The Maintenance and Welfare of Parents and Senior Citizens Act, 2007" dealing with provisional for medical care of senior citizen. Ministry of Health and Family Welfare (MOHFW) has taken appropriate steps in this regard by launching the National Programme for Health Care of Elderly (NPHCE) as a centrally sponsored scheme under the new initiatives in the XI five years plan. Presently, it is being rolled out in 100 districts.

The vision of the NPHCE is:

o To provide accessible, affordable and high quality long-terms comprehensive and dedicated care services to an Ageing
population.

o Creating a new "architecture" for Ageing.

o To build a frame-work to create an enabling environment for "a society for all ages".

o To promote the concept of Active and Healthy Ageing.

o Convergence with National Rural Health Mission, AYUSH and other line departments like Ministry of Social Justice and Empowerment.

Specific Objectives of NPCHE are:

o To identify the health problems in the elderly and provide appropriate health interventions in the community with a strong
referral backup support.

o To provide an easy access to promotional, preventive, curative and rehabilitative services to the elderly through community based primary health care approach.

o To build capacity of the medical and paramedical professional as well as the care-takers within the family for providing health care to the elderly.

o To provide referral services to the elderly patients through district hospitals, regional medical institutions. Core Strategies to achieve the objective of the Programme

o Community based Primary Health Care approach including domiciliary visits by trained health care workers.

o Dedicated services at PHC/CHC level including provision of machinery, equipment, training, additional human resources

(CHC), IEC etc.

o Dedicated facilities at District Hospital with 10 bedded wards, additional human resources, machinery, and equipment,

consumable and drugs, training and IEC.

o Strengthening of 8 Regional Medical Institutes to provide dedicated tertiary level medical facilities for the elderly, introducing PG courses in Geriatric Medicine, and in-service training of health personnel at all levels.

o Information, Education and Communication (IEC) using mass media, folk media and other communication channels to reach out to the target community.

o Continuous monitoring and independent evaluation of the programme and research in Geriatrics and implementation of NPHCE.

o Promotion of public and private partnerships in Geriatric Health Care.

o Mainstreaming AYUSH – revitalizing local health traditions, and

convergence with programmes of Ministry of Social Justice and

Empowerment in the field of geriatrics.

o Reorienting medical education to support geriatric issues.

National Policy on Senior Citizens 2011

The foundation of National Policy for Senior Citizens 2011 is based on several factors – demographic explosion among the elderly, the changing economy and social milieu, advancement in medical research, science and technology and high levels of destitution among the elderly rural poor. In principle the policy values an age integrated society. It believes in the development of a formal and informal social support system, so that the capacity of the family to take care of senior citizens is strengthened and they continue to live in the family. All those of 60 yearsand above are senior citizens. This policy advocates issues related to senior citizens living in urban and rural areas, special needs of the 'oldest old' and older women. It will endeavour to strengthen integration between generations, facilitate interaction between the old and the young as well as strengthen bonds between different age groups. It believes in the development of a

formal and informal social support system, so that the capacity to the family to take care of senior citizens is strengthened and they continue to live in the family. The policy seeks to reach out in particular to the bulk of senior citizens living in rural areas who are dependent on family bonds and intergenerational understanding and support.

The focus of the new policy:

o Promote the concept of 'Ageing in Place' or ageing in own home, housing, income security and homecare services, old age pension and access to healthcare insurance schemes and other programmes and services to facilitate and sustain dignity in old

age. The thrust of the policy would be preventive rather than cure.

o Mainstream senior citizens, especially older women, and bring their concerns into the national development debate with priority to implement mechanisms already set by governments and supported by civil society and senior citizens' associations. Support promotion and establishment of senior citizens' association, especially amongst women.

o The policy will consider institutional care as the last resort. It recognizes that care of senior citizens institutional care as the last

resort. It recognises that care of senior citizens has to remain vested in the family which would partner the community, government and the private sector.

o Long term savings instruments and credit activities will be promoted to reach both rural and urban areas. It will be necessary

for the contributors to feel assured that the payments at the end of the stipulated period are attractive enough to take care of the likely erosion in purchasing power.

o Being a signatory to the Madrid Plan of Action and Barrier Free Framework it will work towards an inclusive, barrier-free and age friendly society.

o Recognise the senior citizens are a valuable resource for the country and create an environment that provides them with equal

opportunities, protects their rights and enables their full participation in society. Towards achievement of this directive, the

policy visualizes that the states will extend their support for senior citizens, living below the poverty line in urban and rural areas and ensures their social security, healthcare, shelter and welfare.

It will protect them from abuse and exploitation so that the quality of their lives improves.

o Employment in income generating activities after superannuation will be encouraged.

o States will be advised to implement the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 and set up Tribunals so that elderly parents unable to maintain themselves are not abandoned and neglected.

o Support and assist organisations that provide counseling, career guidance and training services.

o States will set up homes with assisted living facilities for abandoned senior citizens in every district of the country and there

will be adequate budgetary support.

IV SOME OTHER IMPORTANT ACTIVITIES

Some of other important activities regarding the welfare of elderly people are as follows:

International Day of Older Persons

The International Day of Older Persons is celebrated every year on 1st October, 2009. On 01.10.2009, the Hon'ble Minister of Social Justice and Empowerment flagged off "Walkathon" at Rajpath, India Gate, to promote inter-generational bonding. More than 3000 senior citizens/elderly people from across Delhi, NGOs working in the field of elderly issues, and school children from different schools participated in this.

Role of Non-Governmental and voluntary organisations:

While the government continues its efforts to introduce programmes for the welfare of the elderly, it is the non-governmental organisations which have played a key role in bringing to the forefront the problems of the older people to the society at large and through its various services it has sown the seeds for a forum whereby the voice and the concerns of the elderly can be addressed. Presently there are many non-governmental organisations working for the cause of the elderly in India. In India most of the non governmental organizations have concentrated their work among the lower income group and the disadvantaged sections of the society. This is mainly because one- third of these people are defined as "capability poor" which means that they do not have access to minimum levels of health care and education for earning a decent living. However in the first few years of the growth of the NGO's the emphasis was on the abuse of women due to the gender discrimination prevalent in our Indian society. It is only in the last few years when the demographers provided alarming statistics on the growth of the elderly population that a need was felt to work in this area as it was always assumed that the elderly were well taken care of and were safe in the custody of the well integrated joint family system in

India. Initial studies show that the elderly are taken care of by the family but the reality and recent ethnographic cases studies also prove that the so called "joint family system" in India is a myth and the elderly though they live with their sons and their families are neglected and uncared for by them. This scenario led to the emergence and mushrooming of various NGO's working towards the concerns of the elderly.

In recent years several national level and state level voluntary organisations have been set up for promoting the welfare of the elderly, for advocating a general national priority to their problems and needs and for organising services. The Government describes the services they are providing as residential care, day care, geriatric care, medical and psychiatric care, recreation, financial assistance and counselling. These services are however primarily urban based. One of the premier voluntary organisation which began work on the cause and care of the older people of our country is Help Age India. It is a secular, a political, non profit, non governmental organisation and is registered under the Societies' Registration Act, 1960, in 1978. Help Age India was formed in 1978 with the active help from Mr. Cecil Jackson Cole, founder member of help the Aged, United Kingdom. In its newsletters and brochures one can clearly see it has charted out its goals and objectives which are "To create an awareness and understanding of the changing situation and the needs of the elderly in India and to promote the cause of the elderly. To raise the funds for creation of infrastructure through the medium of voluntary social service organisations for providing a range of facilities especially designed to benefit the elderly and thus to improve the quality of their lives." Help Age India is basically a funding organisation which looks for partner agencies in the field that are able to implement the various projects and programmes of the organisation. The head office of Help Age India is located in New Delhi and it has around twenty-four regional and area offices located all over the country.

Old Age Homes and Day Care Centres:

Help Age India has sponsored the construction and maintenance of old age homes in India. These homes cater to the needs of those elderly who are unable to live by themselves and for those who have been abandoned by the family or are neglected and uncapped for by their children. These old age homes provide and cater to the various needs of the elderly so that they can spend the "evenings of their lives" with dignity and respect and not feel a burden to the society. There are over 800 old age homes all over India and nearly half of them are being sponsored and funded by Help Age India. Besides old age homes, Help Age India also supports

day care centres where the elderly come for a few hours every day or on certain days of the week and spend some time together. These centres combat the loneliness they face and create a sense of "we feeling" among them. In some of the centres being supported by Help Age India in rural areas they are also places where the income generating activities are conducted.

SCHEMES OF OTHER MINISTRIES:

(i) Ministry of Railways

The Ministry of Railways provided the following facilities to senior citizens (elderly).

 Separate ticket counters for the elderly people at various Passenger Reservation System Centres.

 Provision of Lower Berth Quota – provide in AC and Sleeper Classes.

 Provision of 30 percent discount in all Mails/Express.

 Provision of wheel chairs at stations for the disabled elderly passengers

 Railway grant 75 percent concession to Senior Citizens undergoing major heart/cancer operations from starting station to Hospital station for self and one companion.

(ii) Ministry of Health and Family Welfare:

Central Government Health Scheme provides pensioners of central government offices the facility to obtain medicines for chronic ailments up to three months at a stretch. Ministry of Health and Family Welfare provides the following facilities for
the elderly people:

 Provision of separate queues for elderly people in governmental hospitals.

 Set up of two National Institutes on Ageing at Delhi and Chennai.

 Provision of Geriatric clinic in several government hospitals.

(iii) Ministry of Finance:

Some of the facilities for senior citizens provided by the Ministry of Finance are:

 Exemption from Income Tax for senior citizens of 60 years and above up to Rs. 2.50 lakh per annum.

 Exemption from Income Tax for senior citizens of 80 years and above up to Rs. 5.00 lakh per annum.

 For an individual who pays medical insurance premium for his/her parents or parents who are elderly or senior citizen,

deduction of Rs. 20,000 under section 80D is allowed.

 An individual is eligible for a deduction of the amount spent or Rs. 60,000, whichever is less for medical treatment of a dependent elderly or senior citizen.

(iv) Department of Pensions has set up a Pension Portal to enable senior citizens or elderly to get information regarding the status of their application, the amount of pension, documents required etc. The Portal also provides for lodging of grievances. The recommendation of the Sixth Pay Commission on provision additional pension to older persons is given below:

Age Group	Percentage Pension to be added
80 +	20
85 +	30
90 +	40
95 +	50
100 +	100

(v) Insurance Regulatory Development Authority (IRDA):

Insurance Regulatory Development Authority (IRDA) vide letter dated 25.05.2009 issued some instructions on health insurance

for elderly or senior citizens to CEOs of all General Health Insurance Companies which inter-alia includes:

 Allowing entry into health insurance scheme till 65 years of age

 Provision of transparency in the premium charged.

 Reasons to be recorded for denial of any proposals on all health insurance products catering to the needs of senior citizens.

(vi) Ministry of Civil Aviation:

Under the Ministry of Civil Aviation, the National Carrier, Air India provides concession in air fare up to 50 percent for male

passengers aged 65 years and above and female passengers aged 63 years and above on production of proof of age and

nationality on the date of commencement of journey.

(vii) Ministry of Road Transport:

The Ministry of Road Transport and Highways has provided reservation of two seats for elderly or senior citizens in front row
of the buses of the State Road Transport Undertakings. Some States Governments are providing fare concession to senior
citizens in the State Road Transport Undertaking buses for e.g. in Punjab Elderly women above 60 years enjoy free travel, Free
passes are provided to old people who are freedom fighters to travel in fast and express buses in Kerala. Some State Governments also introducing the Bus models according to the convenience of the elderly.

(viii) **Miscellaneous:**

 Mumbai Police (1090), Dignity Foundation and many other organizations have given help lines for senior citizens.

 MTNL gives 25 percent concession in rent of land line telephone.

 Postal Savings Schemes – Senior Citizens Saving Scheme (9 percent interest to elderly, 10,000 to 15 Lakhs), Monthly Income
Scheme (Return of 8 percent and a bonus of 10 percent on maturity)

 Large number of association of senior citizens have come up in all areas, giving opportunities to express and share one's views, get knowledge about various facilities available, get entertainment, group support etc.

(ix) **Insurance schemes:**

Several types of insurance schemes for the benefit of elderly people were introduced time to time by several government and private insurance companies which are – Jeevan Dhara, Jeevan Akshay, Jeevan Suraksha, Bima Nivesh, Senior Citizen Unit Plan and several other medical insurance schemes like Group Medical Insurance Scheme, Jan Arogya etc. The schemes
Jeevan Dhara, Jeevan Akshay, Jeevan Suraksha and Bima Nivesh have been discontinued and relaunched in the new version as New Jeevan Dhara, New Jeevan Akshay, New Jeevan Suraksha and New Bima Nivesh respectively.

 Senior Citizens Unit Plan (SCUP) - Senior Citizens Unit Plan is a Scheme under which one has to make a one time investment depending on his/her age and have the benefit of medical treatment for self and spouse at any of the selected hospitals on completion of 58 years of age. SCUP have special arrangements with New India Assurance Co. Ltd. (NIAC) under an exclusive

medical insurance cover where by the bills from the hospitals in connection with all medical treatment by you will be settled directly by NIAC up to the prescribed limit. Age group of 18-54 years can join this Scheme. The person may be a resident or a non-resident Indian. The person will be entitled for a medical insurance cover of Rs 2.5 lakh after he/she attains the age of 58 years. This insurance cover is available for both the citizen and his/her spouse. After the age of 61 years both of them are eligible for a cover of Rs 5 lakh after adjusting any claims made earlier. The citizen can avail medical treatment in any of the hospitals under this Scheme. The Trust will call for all details about recent photograph, signature and address of the member and the spouse as soon as the member attains the age of 54 years so as to prepare an identity card cum log book, for the member and the spouse.

 Medical Insurance Scheme - The Medical Insurance Scheme known as Mediclaim is available to persons between the age of 5 years and 75 years. Earlier, the sum insured varies from Rs 15,000 to Rs 300,000 and premium varies from Rs 175 to Rs 5,770 per person per annum depending upon the different slabsof sum insured and different age groups. However, with effect from 1 November 1999, these limits of benefits and the premium rates have since been revised. The sum insured now varies from Rs 15,000 to Rs 500,000 and premium varies from Rs 201 to Rs 16,185 per person per annum depending upon different slabs of sum insured and different age groups. The policy is now available to persons between the age of 5 years and 80 years. The cover provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/ domiciliary, hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance.

 Group Medical Insurance Scheme - The Group Medi-claim policy is available to any group/ association/ institution/ corporate body of more than 100 persons provided it has a central administration point. The policy covers reimbursement of hospitalisation and/or domicillary hospitalisation expenses only for illness/diseases contracted or injury sustained by the insured person. The basic policy under this scheme is Mediclaim only. This policy is also available to persons between the age of 5 years and 80 years. The sum insured varies from Rs 15,000 to Rs 500,000 and premium varies depending upon the different slabs of sum insured and different age groups.

 Jan Arogya - This scheme is primarily meant for the larger segment of the population who cannot afford the high cost of medical treatment. The limit of cover per person is Rs 5,000 per annum. The cover provides for reimbursement of medical expenses incurred by an individual towards hospitalisation/ domiciliary hospitalisation for any illness, injury or disease contracted or sustained during the period of insurance.

(V) SPECIFIC MEASURES/SCHEMES IMPLEMENTED BY PUNJAB GOVERNMENT

Some of the schemes and programmes of Punjab Government for elderly are as follows:

Pension Scheme for the Employees of Punjab Government

Punjab government is providing pension to the Punjab government employees, retiring in accordance with Punjab Civil Services Rules Volume-II as amended from time to time and as applicable to the pensioners/family pensioners. Pension amount constitutes 50 percent of basic pay (plus NPA). It shall also to be calculated on the basis of last pay drawn or 10 months average which ever is beneficial to the employees subject to a minimum of Rs. 3500/- per month. In addition to this, additional quantum of pension is also provided to old pensioners/family pensioners.

After careful consideration of the recommendations of the Fifth Punjab Pay Commission, the Governor of Punjab revised various benefits available to the old pensioners/ family pensioners, w.e.f. 1st December, 2011. The recommendation of the Fifth Punjab Pay Commission on provision additional pension to older persons is given below:

Age of Pensioner/family pension

Additional quantum of Pension/ family

Pension

from 65 years to less than 70 years

5 percent of revised basic pension/ familypension

from 70 years to less than 75 years

10 percent of revised basic pension/ family pension from 75 years to less than 80 years

15 percent of revised basic pension/ family pension from 80 years to less than 85 years

25 percent of revised basic pension/ family pension from 85 years to less than 90 years

35 percent of revised basic pension/ family pension from 90 years to less than 95 years

45 percent of revised basic pension/ family pension from 95 years to less than 100 years

55 percent of revised basic pension/ family pension

100 years or more 100 percent of revised basic pension/ family pension

Old Age Pension Scheme of Punjab Government

This scheme was first started in the state of Punjab in the year 1964. The purpose of this Scheme is to provide social security in the shape of financial assistance to old and infirm persons. Under this scheme women who are 60 years old or above and 65 years or above in the case of men, whose monthly income should not be more than Rs. 1000/- in case of individual and Rs. 1500/- if husband wife both are alive will get the benefit of this scheme. The payment of old age pension i.e. Rs. 250/- per month is provided through banks in the urban sector and through sarpanchs in the Rural Sector.

Indira Gandhi National Old Age Pension Scheme

It was launched by Ministry of Rural Development. All persons of 60 years and above (before 2011 it was 65 years and above) and belonging to below the poverty line category according to the criteria prescribed by the government of India time to time, are eligible to be a beneficiary of this scheme. Punjab government has decided in principle to disburse pension to the old widowed and destitute women and disabled persons regularly from 1st April, 2010.

Beneficiaries under this scheme are as follows:

 Elderly males and females of 60 years of age who have no surviving sons/ widows/ disables and who belongs to below the poverty line category get Rs. 200/- per month from Central government if he or she is not getting the pension benefit of Rs. 250/- per month from Punjab government.

 Widowed females with age limit 40-64 years who belongs to below poverty line category get Rs. 200/- per month.

 The disabled person whose age is between 18-64 years, whose disability is more than 80 percent and who belongs to below poverty line category get Rs. 200/- per month.

Provision of Identity Cards for Senior Citizens

Under this scheme senior citizens (males and females of above 60 years of age) will get identity cards issued by District Social

Security Officer. With the help of these cards they can get separate queues for them for payment of water and electricity bills, in

hospitals, bus stands etc. Under this scheme, 44223 Identity Cards have been issued in the State.

Punjab Maintenance of Parents and Senior Citizens Act

Punjab chief minister, Parkash Singh Badal has given sanction for implementation of the Punjab Maintenance of Parents and Senior Citizens Act in January, 2009. According to the Act, parents and senior citizens above 60 years of age can now legally demand sustenance from their wards. And to ensure the rule is followed, the Punjab government has notified setting up one-member tribunals at the sub-divisional level throughout the state. Punjab has become fifth state in the country where old parents can legally stake claim to financial aid from their grown up children for their survival and a denial would invite a prison term.

Punjab government would also establish and maintain at least one old age home in each district (with a minimum capacity of 150 inmates) and ensure provision of special beds for senior citizens in all government hospitals. In Punjab elderly women above 60 years have free transport facility in the public transport buses. On the whole we can conclude that the beneficiaries among the older persons for various schemes and programmes initiated by the government are very insignificant when compared to the very high size of population and the growth rate among them. Further, given the level of urbanization and industrialization of India, economic factors and diminishing value system are likely to make welfare of the elderly as the most critical area for intervention. There is need to protect and strengthen the institution of the family and provide such support services as would enable the family to cope with its responsibilities of taking care of the elderly. Along with proper and effective professional welfare services that need to be evolved to provide counseling services both to the elderly and their family members, it is also important to provide financial support to low income family groups having one or more elderly persons. A state specific health policy for elderly is the

basic pre-requisite for health planning in the state. For improving health services for elderly pertain to easy, queue-less accessibility, provision of cheap medicines, mobile vans etc. are required. Further, rising costs of treatment, in both public and private sector, warrant a viable health insurance policy.

Focus of the policy

- Mainstream senior citizens, especially older women, and bring their concerns into the national development debate with priority to implement mechanisms already set by governments and supported by civil society and senior citizens associations. Support promotion and establishment of senior citizens associations, especially amongst women.

- Promote the concept of “Ageing in Place? or ageing in own home, housing, income security and homecare services, old age pension and access to healthcare insurance schemes and other programmes and services to facilitate and sustain dignity in old age. The thrust of the policy would be preventive rather than cure.
- The policy will consider institutional care as the last resort. It recognises that care of senior citizens has to remain vested in the family which would partner the community, government and the private sector.
- Being a signatory to the Madrid Plan of Action and Barrier Free Framework it will work towards an inclusive, barrier - free and age -friendly society.
- Recognise that senior citizens are a valuable resource for the country and create an environment that provides them with equal opportunities, protects their rights and enables their full participation in society. Towards achievement of this directive, the policy visualises that the states will extend their support for senior citizens living below the poverty line in urban and rural areas and ensure their social security, healthcare, shelter and welfare. It will protect them from abuse and exploitation so that the quality of their lives improves.
- Long term savings instruments and credit activities will be promoted to reach both rural and urban areas. It will be necessary for the contributors to feel assured that the payments at the end of the stipulated period are attractive enough to take care of the likely erosion in purchasing power.
- Employment in income generating activities after superannuation will be encouraged.
- Support and assist organisations that provide counselling, career guidance and training services.
- States will be advised to implement the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 and set up Tribunals so that elderly parents unable to maintain themselves are not abandoned and neglected.
- States will set up homes with assisted living facilities for abandoned senior citizens in every district of the country and there will be adequate budgetary support.

Areas of intervention

The concerned ministries at central and state level as mentioned in the “Implementation Section? would implement the policy and take necessary steps for senior citizens as under:

Income security in old age

A major intervention required in old age relates to financial in security as more than two third of the elderly live below the poverty line.

It would increase with age uniformly across the country.

Indira Gandhi National Old Age Pension Scheme

Principal Areas of Intervention and Action Strategies

- Old age pension scheme would cover all senior citizens living below the poverty line.

- Rate of monthly pension would be raised to Rs.1000 per month per person and revised at intervals to prevent its deflation due to higher cost of purchasing.
- The “oldest old? would be covered under Indira Gandhi National Old Age Pension Scheme (IGNOAPS). They would be provided additional pension in case of disability, loss of adult children and concomitant responsibility for grandchildren and women. This would be reviewed every five years.

Public Distribution System

- The public distribution system would reach out to cover all senior citizens living below the poverty line.

Income Tax

- Taxation policies would reflect sensitivity to the financial problems of senior citizens which accelerate due to very high costs of medical and nursing care, transportation and support services needed at homes.

Microfinance

- Loans at reasonable rates of Interest would be offered to senior citizens to start small businesses. Microfinance for senior citizens would be supported through suitable guidelines issued by the Reserve Bank of India

Health care

With advancing age, senior citizens have to cope with health and associated problems some of which may be chronic, of a multiple nature, require constant attention and carry the risk of disability and consequent loss of autonomy. Some health problems, especially when accompanied by impaired functional capacity require long term management of illness and nursing care.

1. Healthcare needs of senior citizens will be given high priority. The goal would be good, affordable health service, heavily subsidized for the poor and a graded system of user charges for others. It would have a judicious mix of public health services, health insurance, health services provided by not – for - profit organizations including trusts and charities, and private medical care. While the first of these will need to be promoted by the State, the third category given some assistance, concessions and relief and the fourth encouraged and subjected to some degree of regulation, preferably by an association of providers of private care.
2. The basic structure of public healthcare would be through primary healthcare. It would be strengthened and oriented to meet the health needs of senior citizens. Preventive, curative, restorative and rehabilitative services will be expanded and strengthened and geriatric care facilities provided at secondary and tertiary levels. This will imply much larger public sector outlays, proper distribution of services in rural and urban areas, and much better health administration and delivery systems. Geriatric services for all age

groups above 60 ---preventive, curative, rehabilitative health care will be provided. The policy will strive to create a tiered national level geriatric healthcare with focus on outpatient day care, palliative care, rehabilitation care and respite care.

3. Twice in a year the PHC nurse or the ASHA will conduct a special screening of the 80+ population of villages and urban areas and public/ private partnerships will be worked out for geriatric and palliative health care in rural areas recognizing the increase of non – communicable diseases (NCD) in the country.
4. Efforts would be made to strengthen the family system so that it continues to play the role of primary care giver in old age. This would be done by sensitizing younger generations and by providing tax incentives for those taking care of the older members.
5. Development of health insurance will be given priority to cater to the needs of different income segments of the population with provision for varying contributions and benefits. Packages catering to the lower income groups will be entitled to state subsidy. Concessions and relief will be given to health insurance to enlarge the coverage base and make it affordable. Universal application of health insurance – RSBY (Rashtriya Swasthya Bima Yojana) will be promoted in all districts and senior citizens will be included in the coverage. Specific policies will be worked out for healthcare insurance of senior citizens.
6. From an early age citizens will be encouraged to contribute to a government created healthcare fund that will help in meeting the increased expenses on health care after retirement. It will also pay for the health insurance premium in higher socio economic segments.
7. Special programmes will be developed to increase awareness on mental health and for early detection and care of those with Dementia and Alzheimer‟s disease.
8. Restoration of vision and eyesight of senior citizens will be an integral part of the National Programme for Control of Blindness (NPCB).
9. Use of science and technology such as web based services and devices for the wellbeing and safety of Senior citizens will be encouraged and expanded to under - serviced areas.
10. National and regional institutes of ageing will be set up to promote geriatric health care. Adequate budgetary support will be provided to these institutes and a cadre of geriatric health care specialists created including professionally trained caregivers to provide care to the elderly at affordable prices.
11. The current National Programme for Health Care of the Elderly (NPHCE) being implemented in would be expanded immediately and, in partnership with civil society organizations, scaled up to all districts of the country.
12. Public private partnership models will be developed wherever possible to implement health care of the elderly.
13. Services of mobile health clinics would be made available through PHCs or a subsidy would be granted to NGOs who offer such services.
14. Health Insurance cover would be provided to all senior citizens through public funded schemes, especially those over 80 years who do not pay income tax.
15. Recognize gender based attitudes towards health and develop programmes for regular health checkups especially for older women who tend to neglect their problems

Safety and Security

Provision would be made for stringent punishment for abuse of the elderly.

- Abuse of the elderly and crimes against senior citizens especially widows and those living alone and disabled would be tackled by community awareness and policing.
- Police would be directed to keep a friendly vigil and monitor programmes which will include a comprehensive plan for security of senior citizens whether living alone or as couples. They would also promote mechanisms for interaction of the elderly with neighborhood associations and enrolment in special programmes in urban and rural areas.
- Protective services would be established and linked to help lines , legal aid and other measures

Housing

Shelter is a basic human need. The stock of housing for different income segments will be increased. Ten percent of housing schemes for urban and rural lower income segments will be earmarked for senior citizens. This will include the Indira Awas Yojana and other schemes of the government.

- Age friendly, barrier - free access will be created in buses and bus stations, railways and railway stations, airports and bus transportation within the airports, banks, hospitals, parks, places of worship, cinema halls, shopping malls and other public places that senior citizens and the disabled frequent.
- Develop housing complexes for single older men and women, and for those with need for specialized care in cities, towns and rural areas.
- Promote age friendly facilities and standards of universal design by Bureau of Indian Standards.
- Since a multi - purpose centre is a necessity for social interaction of senior citizens, housing colonies would reserve sites for establishing such centres. Segregation of senior citizens in housing colonies would be discouraged and their integration into the community supported.
- Senior citizens will be given loans for purchase of houses as well as for major repairs, with easy repayment schedules

Productive Ageing

- The policy will promote measures to create avenues for continuity in employment and/or post retirement opportunities.
- Directorate of Employment would be created to enable seniors find re-employment.
- The age of retirement would be reviewed by the Ministry due to increasing longevity

Welfare

A welfare fund for senior citizens will be set up by the government and revenue generated through asocial security cess. The revenue generated from this would be allocated to the states in proportion to their share of senior citizens. States may also create similar funds.

- Non-institutional services by voluntary organizations will be promoted and assisted to strengthen the capacity of senior citizens and their families to deal with problems of the ageing.
- All senior citizens, especially widows, single women and the oldest old would be eligible for all schemes of government. They would be provided universal identity under the Aadhar scheme on priority.
- Larger budgetary allocations would be earmarked to pay attention to the special needs of rural and urban senior citizens living below the poverty line.

Establishment of National Council for Senior Citizens

A National Council for Senior Citizens, headed by the Minister for Social Justice and Empowerment will be constituted by the Ministry. With tenure of five years, the Council will monitor the implementation of the policy and advise the government on concerns of senior citizens. A similar body would be established in every state with the concerned minister heading the State Council for Senior Citizens.

- The Council would include representatives of relevant central ministries, the Planning Commission and ten states by rotation.
- Representatives of senior citizens associations from every state and Union Territory.
- Representatives of NGOs, academia, media and experts on ageing. The council would meet once in six months.

Responsibility for Implementation

- The Ministries of Home Affairs, Health & Family Welfare, Rural Development, Urban Development, Youth Affairs & Sports, Railways, Science & Technology, Statistics & Programme Implementation, Labour, Panchayat Raj and Departments of Elementary Education & Literacy, Secondary & Higher Education, Road Transport & Highways, Public Enterprises, Revenue, Women & Child Development, Information Technology and Personnel & Training will setup necessary mechanism for implementation of the policy. A five - year perspective Plan and annual plans setting targets and financial allocations will be prepared by each Ministry/ Department. The annual report of these Ministries/ Departments will indicate progress achieved during the year. This will enable monitoring by the designated authority

International Plan of Action on Ageing: report on implementation
Report by the Secretariat

1. The United Nations Second World Assembly on Ageing (Madrid, 8-12 April 2002) unanimously adopted the Madrid Political Declaration and International Plan of Action on Ageing, 2002. WHO's contributions to the Assembly included the submission of a policy framework,1 and the

formulation of regional action plans for implementing the International Plan, notably by the United Nations Economic Commission for Europe, the United Nations Economic and Social Commission for Asia and the Pacific, and the United Nations Economic Commission for Latin

America and the Caribbean. Reports on the content of the policy framework and the outcomes of the Second World Assembly were submitted to the Fifty-fifth World Health Assembly.

2 The present report summarizes WHO's contributions to the implementation of the International Plan of Action since 2002 and the results of disseminating the active ageing policy framework.

2. WHO defines active ageing as "the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age". The policy framework takes into account the determinants of health throughout the life course, and has helped to shape ageing policies at national and regional levels and to direct academic research on ageing; it has also influenced the practical application of policies at community level. Policy-makers at various levels have adopted the framework's conceptual approaches. Basic indicators for monitoring the implementation of active ageing policies are now being formulated and should be ready in 2005.

3. A series of international conferences on ageing, such as the International Federation on Ageing's Sixth and Seventh Global Conferences (Perth, Australia, 27-30 October 2002 and Singapore, 4-7 September 2004, respectively) and the forthcoming XVIII World Congress of Gerontology

(Rio de Janeiro, Brazil, 26-30 June 2005), have adopted the active ageing conceptual approach with its three pillars of health, participation and security in their respective agendas. WHO has taken an advisory role in international as well as in national research projects on active ageing, such as those sponsored by the European Commission.

FOCUS ON PRIMARY HEALTH CARE

4. Good health is imperative for older people to remain independent and continue to contribute to their families and communities. The Madrid International Plan of Action prioritizes access to primary health care and, accordingly, that has become WHO's focus in order to provide the regular, continuing contacts and care that older people need to prevent or delay the onset of chronic, often disabling diseases and to enable them to be vital resources to their families, societies and the economy. Consequently, WHO has launched a series of complementary projects focusing on the provision of integrated care that aims to be available, accessible, comprehensive, efficient, and responsive to both gender and age.

5. The objective of WHO's project to formulate an integrated response of health-care systems to rapid population ageing in developing countries is to create a knowledge base to support countries in reorienting policies towards integrated health and social care systems serving older populations. The first two phases (now completed) of the project, conducted in 12 developing countries (Botswana, Chile, China, Ghana, Jamaica, Republic of Korea, Lebanon, Peru, Sri Lanka, Suriname, Syrian Arab Republic and Thailand), consisted of quantitative and qualitative research on the care-seeking behaviours of older people at primary health-care level; the roles, needs and attitudes of their service providers; and the types of services provided. Governments, academic institutions, and nongovernmental organizations contributed to this interdisciplinary research project, which resulted in the sharing of information and models of good practice among the participating countries and a series of specific policy recommendations. The next phase, being implemented in collaboration with the WHO Centre for Health Development, Kobe, Japan, brings in six additional countries (Bolivia, India, Kenya, Malaysia, Pakistan, and Trinidad and Tobago) and focuses on older people who do not use primary health care. The project will lead to comprehensive policy recommendations on developing a continuum of care within the primary health-care sector aiming towards integrated old-age care. Thereafter, work will focus

on step-wise implementation of the recommendations. The project was conceived as a model to stimulate exchanges of knowledge, experience and models of good practice between developing countries with rapidly ageing populations, and with the aim of building relevant research capabilities in developing countries.

6. In 2002, WHO initiated the related age-friendly primary health care project in order to sensitize and educate primary health-care workers and build capacity in primary health-care centres to provide for the specific needs of their older users. Despite the vital role of such centres in older people's health and well-being, there are many barriers to care that may result in older people not changing behaviours detrimental to health or becoming discouraged from seeking or continuing treatment. The project provides a set of age-friendly principles for primary health-care centres1 and training and information materials for primary health-care workers on how to overcome such barriers. Implementation of the principles will be piloted in at least four developing countries with the aid of a set of training and information materials, including a protocol for evaluating the impact of the project. Once finalized, that package will be made widely available in electronic and other formats to health and social care providers.

7. Recognizing the importance of relevant training for future health workers, WHO has partnered with the International Federation of Medical Students' Associations in a continuing effort to put ageing in the mainstream of medical curricula and to strengthen the teaching of geriatric medicine in 42 countries. The WHO Centre for Health Development, Kobe, is standardizing terminology and definitions for a glossary on community-based health care for older people. The first of several case studies on model practices in delivery of primary health care to ageing populations in mega-cities will focus on Shanghai, China. A research advisory meeting organized by the Centre outlined a proposal for exploring the effects or urbanization, environmental change and technological innovations on ageing populations.

9. In 2003 the World Health Survey collected information in 71 countries on population health status and health services coverage, including data on older age groups. This information should lead to a better understanding of the determinants of health and causes of morbidity at older ages. A longitudinal study on health and ageing, which builds on the Survey, is being conducted in six countries.

EMERGING ISSUES

10. The International Plan of Action on Ageing, 2002 identified two emerging areas requiring urgent action: older persons and HIV/AIDS; and abuse of older people. Worldwide, particularly in sub-Saharan Africa, older people (mostly women) absorb enormous additional burdens placed on the family by the HIV/AIDS pandemic. In response, WHO has developed a method to asses the needs of older carers through pilot research in Zimbabwe. The project is intended to be replicated in other countries in order to provide evidence-based data for interventions.

11. In work towards the prevention of abuse of older people, WHO is conducting research in collaboration with the University of Geneva on reliable tools to facilitate detection of such abuse at the primary health-care level. Following a large study in Canada that validated one such tool, WHO will pilot the application in four other countries. The project builds on a qualitative study jointly conducted by WHO, the International Network for the Prevention of Elder Abuse, and HelpAge International. That study's resulting publication on the views of older people on elder abuse has been widely disseminated.1 WHO was one of the parties to the Toronto Declaration on the Global Prevention of Elder Abuse launched at the Ontario Elder Abuse Conference (Ontario, Canada, 18-20 November 2002).

REGIONAL WORK

12. Work at regional level is largely focused on how to provide community-based primary health care to growing numbers of older people. In September 2002, the 26th Pan American Sanitary Conference adopted resolution CSP26.R20 urging Member States to implement the International Plan of Action on Ageing, 2002 and to provide adequate support for implementation of priority areas, such as access to health care, essential drugs and vaccinations for older people. The Regional Office for the Americas has developed a training manual for primary health-care providers on old-age care. It collaborated with six Member States (Chile, Costa Rica, El Salvador, Mexico, Panama and Uruguay) to implement training programmes for primary health-care professionals and is monitoring the improvement of quality of care. It collaborates with health system reform projects in Bolivia, Ecuador and El Salvador to ensure provision of health services to older persons. It has established a network of
trainers in geriatric care. In the area of research, PAHO conducted a study on health, well-being and ageing in collaboration with ministries of health and universities in 10 countries.

13. In 2003, the Regional Committee for the Eastern Mediterranean at its Fiftieth Session adopted resolution EM/RC50/R.10 on health care for the elderly, which emphasizes the need to establish and improve the integration and coordination of health, welfare and other sectors in order to develop comprehensive services and programmes. Eight countries have included healthy ageing in collaborative programmes with the Regional Office for the eastern Mediterranean during the current biennium. An in-depth study on the current state of community-based care for older people has been conducted in Bahrain, Egypt, Islamic Republic of Iran and Lebanon.

14. The Regional Office for the Western Pacific works with five Member States in the Region (China, Mongolia, Philippines, Republic of Korea and Viet Nam) to support community-based programmes for older people. Its recent document on a health promotion approach to ageing and health for developing countries provides guidance to countries on how to improve health promotion, disease prevention and health services delivery for older people. Other publications with practical information on old-age care are being prepared.

15. In the South-East Asia Region, the focus has been primarily on old-age care at the primary health-care level. The Regional Office prepared both a manual for primary health-care workers and a regional model for comprehensive community and home-based health care, which was pilot-tested in Bhutan, Myanmar, Nepal, Sri Lanka and Thailand. A recent document on health of the elderly in South-East Asia has been widely disseminated.

16. The African Union has adopted a regional implementation plan for the Madrid International Plan of Action on Ageing, 2002. While still assessing the implementation plan, the WHO Regional Office for Africa aims to promote health care for older people in addition to its continuing
collaboration with HelpAge International in selected countries on supporting older carers of people living with HIV/AIDS and their children.

17. The Regional Office for Europe continues its work on ageing within the Healthy Cities programme, of which healthy ageing is one of the three core themes. The Regional Office recently published two documents on how to provide better palliative care for older persons.

COLLABORATION WITHIN THE UNITED NATIONS SYSTEM

18. The Madrid International Plan of Action on Ageing, 2002 and subsequent United Nations resolutions asked for a strengthening of the functions of the focal points on ageing throughout the United Nations system in order to put work on ageing at the heart of all United Nations

system activities and to improve communications and intersectoral information on the implementation of the International Plan. WHO designated a focal point on ageing for the Second World Assembly on ageing and its follow-up implementation activities.

19. UNFPA and WHO recently agreed to conduct a study on the factors that determine the health status of older women and their access to care as a joint contribution to the tenth anniversary of the adoption in 1995 of the Beijing Platform for Action. The project will emphasize best practices worldwide and policy recommendations. Other collaborative activities within the United Nations system include the production of

informational materials for the annual International Day of Older Persons.

21. Although the Millennium Development Goals do not specifically mention the roles and contributions of older persons to development, rapid population ageing has many far-reaching societal and economic implications. WHO consistently draws attention to the importance of a holistic lifecourse approach to ageing, including consideration of determinants of health and emphasis on a continuum of health and social care services that enable older people to remain healthy and productive within their families and communities. Through the United Nations Focal Point on Ageing and other United Nations agencies, WHO seeks to ensure the integration of ageing issues into policies and programmes for attaining the Millennium Development Goals and to provide continued overall commitment on population ageing issues.

Principal Areas of Intervention and Action Strategies

Strategies to implement the national policy intent are described below.

i) Financial Security

Old age pension scheme

1. It would cover all senior citizens living below the poverty line.
2. Rate of monthly pension would be raised to Rs.1000 per month per person and revised at intervals to prevent its deflation due to higher cost of purchasing.
3. The "oldest old" would be covered under Indira Gandhi National Old Age Pension Scheme (IGNOAPS). They would be provided additional pension in case of disability, loss of adult children and concomitant responsibility for grand children and women. This would be reviewed every five years.

Public distribution system (PDS)

The PDS would reach out to cover all senior citizens living below the poverty line.

Income Tax

Taxation policies would reflect sensitivity to the financial problems of senior ci tizens which accelerate due to very high costs of medical and nursing care, transportation and support services needed at homes.

Microfinance

Loans at reasonable rates of Interest would be offered to senior citizens to start small businesses. Microfinance for senior citizens would be supported through suitable guidelines issued by the Reserve Bank of India.

Settlement of Retirement Benefits

Prompt settlement of all retirement benefits like pension, gratuity PF, etc. Widows will be given special consideration in the matter of settlement of benefits accruing to them on the demise of husband.

Pension Schemes

1. To facilitate the establishment of pension schemes in nongovernmental employment, with provision for employers also to contribute. Pension Funds will function under the watchful eye of a strong regulatory authority.
2. To consider much higher annual rebate for medical treatment, whether domiciliary or hospital based, in cases where superannuated persons do not get medical coverage from their erstwhile employers.

ii) Health Care and Nutrition

The 2011 national health policy recognizes that with advancing age, senior citizens have to cope with health and associated problems some of which may be chronic, of a multiple nature, require constant attention and carry the risk of disability and consequent loss of autonomy. Some health problems, especially when accompanied by impaired functional capacity require long term management of illness and nursing care.

 Health care needs of older persons will be given high priority to ensure good affordable health services which will be very heavily subsidised for the poor and a graded system of user charges for others.

 The primary health care system will be the basic structure of public health care. It will be strengthened by larger budgetary support to provide geriatric care facilities and curative, restorative and rehabilitative services at secondary and tertiary levels.

 Twice in a year the PHC nurse or the ASHA will conduct a special screening of the 80+ population of villages Private organizations and not for profit organizations will be encouraged to provide health services, and health insurance services for the aged by offering grants, tax relief and land at subsidized rates to provide free beds, medicines and treatment to the very poor

 Public hospitals will be directed to ensure that elderly patients are not subjected to long waits and visits to different counters for medical tests and treatment. Geriatric wards will be set up.

 Medical and paramedical personnel in primary, secondary and tertiary health care facilities will be given training and orientation in health care of the elderly. Facilities for specialization in geriatric medicine will be provided in the medical colleges. Training in nursing care will include geriatric care.

 Difficulties in reaching a public health care facility will be addressed through mobile health services, special camps and ambulance services by charitable institutions and not for profit health care organizations.

 Older persons and their families will be given access to educational material on nutritional needs in old age.

 Mental health services will be expanded and strengthened. Families will be provided counseling facilities and information on the care and treatment of older persons having mental health problems.

iii) Shelter / Housing

 Housing schemes for urban and rural lower income segments will earmark 10 per cent of the houses/house sites for allotment to older persons. This will include Indira Awas Yojana and other schemes of government.

 Layouts of housing colonies will have to respond to the life styles of the elderly. It will have to be ensured that there are no physical barriers to mobility, and accessibility to shopping complexes, community centres, parks and other services is safe and easy.

 Group housing of older persons comprising flat lets with common service facilities for meals, laundry, cultural activities, common room and rest rooms will be encouraged.
 Payment of civic dues will be facilitated. Older persons will be given special consideration in promptly dealing with matters relating to transfer of property, mutation, property tax and other matters.

iv) Education

 Information and educational material specially relevant to the lives of older people will be
 developed and widely disseminated using mass media and non-formal communication channels.
 Access of older persons to libraries of universities, research institutions and cultural centres will be facilitated.
 Educational curriculum at all stages of formal education as well as non-formal education programmes will incorporate material to strengthen intergenerational bonds and mutually supporting relationships.
 Interactions of older persons with educational institutions will be facilitated

v) Welfare

 The policy will be to consider institutional care as the last resort when personal circumstances are such that stay in old age homes becomes absolutely necessary. The main thrust of welfare will be to identify the move vulnerable among the older persons such as the poor, the disabled, the infirm, the chronically sick and those without family support, and provide welfare services to them on a priority basis.
 Services by voluntary organizations will be promoted and assisted to strengthen the coping capacity of older persons and their families.
 Assistance will be provided to voluntary organizations by way of grants-in-aid for construction and maintenance of old age homes' day care, multiservice citizen's centres, reach-out services, and supply of disability related aids and appliances
 Voluntary organizations will be supported to provide helpline and telephone assurance services to help in maintaining contacts with friends, relatives and neighbours and escorting older persons to hospitals, shopping complexes and other places
 Senior citizen's forums and centres formed for a group of neighbourhoods / villages.
 A Welfare Fund for older persons will be set up. It will obtain funding support from government, corporate sector, trusts, charities, individual donors and others. Contributions to the Fund will be given tax relief. States will be expected to establish similar Funds.

vi) Protection of Life and Property

Safety and security is given much less importance in 2011 national policy with just three items. The 1999 policy was more elaborate and hence it is reviewed here.
 Old persons have become soft targets for criminal elements. They also become victims of fraudulent dealings and of physical and emotional abuse within the household by family members to force them to part with their ownership rights. Widow's rights of inheritance, occupancy and disposal are at times violated by their own children and relatives. It is important that protection is available to older persons.

o The introduction of special provisions in IPC to protect older persons from domestic violence will be considered and machinery provided to attend all such cases promptly.

o Tenancy legislation will be reviewed so that the rights of occupancy of older persons are restored speedily.

o Voluntary organizations and associations of older persons will be assisted to provide protective services and help to senior citizens through helpline services, legal aid and other measures.
o Police will be directed to keep a friendly vigil on older couples or old single persons living alone

vii) Other Areas of Action

There are various other areas which would need affirmative action of the State to ensure that policies and programmes reflect sensitivity to older persons. Machinery for achieving this objective will be put in place.

 Issue of identity cards by the administration;
 Fare concessions in all modes of travel;
 Preference in reservation of seats and earmarking of seats in local public transport; Modifications in designs of public transport vehicles for easy entry and exit;
 Priority in gas and telephone connections and in fault repairs;
 Concessions in entrance fees in leisure and entertainment facilities, art and cultural centers and places of tourist interest.
 Speedy disposal of complaints of older persons relating to fraudulent dealings, cheating and other matters
 The year 2000 will be declared as the National Year for Older Persons.
 Facilities, concessions and relief given to older persons by the Central and State governments and the agencies will be complied, updated at regular intervals and made available to associations of older persons for wide dissemination.

Non-Governmental Organizations

The State alone cannot provide all the services needed by older persons. Private sector agencies cater to a rather small paying segment of the population. The National Policy recognizes the NGO sector as a very important institutional mechanism to complement the endeavours of the State in providing services to the aged.

 Trusts, charities, religious and other endowments will be encouraged to and supported in a big way
 Networking, exchange of information and interactions among NGOs will be facilitated. Opportunities will be provided for orientation and training of
 The grant-in-aid policy will provide incentives to encourage NGOs to raise their own resources and not become dependent only on government funding for providing services on a sustainable basis.

ix) Realizing the Potential

 The National Policy recognizes that 60+ phase of life is a huge untapped resource. Facilities will be made available so that this potential is realized and individuals are enabled to make the appropriate choices.

x) Family

Family is the most cherished social institution in India and the most vital non-formal social security for the old. Most older persons stay with one or more of their children. It is the most preferred most emotionally satisfying living arrangement for them. It is important that the familial support system continues to be functional and the ability of the family to discharge its caring responsibilities is strengthened through support services.

 Programmes will be developed to promote family values, sensitise the young on the necessity and desirability of intergenerational bonding and continuity and the desirability of meeting filial obligations.
 State policies will encourage children to co-reside with their parents by providing tax relief, allowing rebates for medical expenses and giving preference in the allotment of houses,

xi) Research

The importance of a good data base on older persons is recognised. Research activity on ageing will require to be strengthened.
 Universities, medical colleges and research institutions will be assisted to set up centres for gerontological studies
 Funding support will be provided to academic bodies for research projects on ageing. Superannuated scientists will be assisted so that their professional knowledge can be utilized.
 An interdisciplinary coordinating body on research will be set up.
 Professional associations of gerontologists will be assisted to strengthen research activity, disseminate research findings and provide a platform for dialogue, discussion, debate and exchange of information.
 The necessity of a national institute of research, training and documentation is recognised. Assistance will be given for setting up resource centres in different part of the country.

xii) Training of Manpower

The policy recognizes the importance of trained manpower.
 Medical colleges will be assisted to offer specialization in geriatrics.
 Training institutions for nurses and for the paramedical personnel need to introduce specific courses on geriatric care in their educational and training curriculum.
 In service training centres will be strengthened to take up orientation courses on geriatric care.
 Facilities will be provided and assistance given for training and orientation of personnel of NGOs providing services to older persons.

xiii) Media

The National Policy recognizes that media have a very important role to play in highlighting the changing situation of older persons and in identifying emerging issues and areas of action. Creative use of media can
 The Policy aims to involve mass media as well as informal and traditional communication channels on ageing issues.
 Opportunities will be extended for greater interaction between media personnel and persons active in the field of ageing.

Implementation Mechanisms

The Policy will make a change in the lives of senior citizens only if it is implemented. The 2011 policy states that: "there will be efforts to provide an identity for senior citizens across the country and the ADHAAR Unique identity number will be offered to them so that implementation of assistance
schemes of Government of India and concessions can be offered to them. As part of the policy implementation the Government will strive for:
 Establishment of Department of Senior Citizens under the Ministry of Social Justice and Empowerment
o The Ministry of Social Justice and Empowerment will establish a “Department of Senior Citizens” which will be the nodal agency for implementing programmes and services for senior

citizens and the NPSC 2011. An inter-ministerial committee will pursue matters relating to implementation of the national policy and monitor its progress. Coordination will be by the nodal ministry. Each ministry will prepare action plans to implement aspects that concern them and submit regular reviews.

 Establishment of Directorates of Senior Citizens in states and union territoriesStates and union territories will set up separate Directorates of Senior Citizens for implementing programmes and services for senior citizens and the NPSC 2011.

National/State Commission for Senior Citizens

A National Commission for Senior Citizens at the centre and similar commissions at the state level will be constituted. The Commissions would be set up under an Act of the Parliament with powers of Civil Courts to deal with cases pertaining to violations of rights of senior citizens.

 Establishment of National Council for Senior Citizens

A National Council for Senior Citizens, headed by the Minister for Social Justice and Empowerment will be constituted by the Ministry. With tenure of five years, the Council will monitor the implementation of the policy and advise the government on concerns of senior citizens. A similar body would be established in every state with the concerned minister heading the State Council for Senior Citizens.

o The Council would include representatives of relevant central ministries, the Planning Commission and ten states by rotation.

o Representatives of senior citizens associations from every state and Union Territory.

o Representatives of NGOs, academia, media and experts on ageing.

o The council would meet once in six months.

 National Association of Older Persons

An autonomous registered National Association of Older Persons (NAOPS) was sought to be established in 1999 policy but is absent in 2011 policy. The NAOPS is expected to mobilize senior citizens, articulate their interests, promote and undertake programmes and activities for their well being and to advise the Government on all matters relating to the Older Persons. The Associationwill have National, State and District level offices and will choose its own bearers. The Governmentwill provide financial support to establish the National and State level offices while the District level offices will be established by the Association from its own resources which may be raised through Membership, subscriptions, donations and other admissible means. The Government will also provide financial assistance to the National and State level offices to cover both recurring as well as nonrecurring administrative costs for a period of 15 years

Responsibility for Implementation

The Ministries of Home Affairs, Health & Family Welfare, Rural Development, Urban Development, Youth Affairs & Sports, Railways, Science & Technology, Statistics & Programme Implementation, Labour, Panchayati Raj and Departments of Elementary Education & Literacy, Secondary & Higher Education, Road Transport & Highways, Public Enterprises, Revenue, Women & Child Development, Information Technology and Personnel & Training will setup necessary mechanism for implementation of the policy. A five-year perspective Plan and annual plans setting targets and financial allocations will be prepared by each Ministry/ Department. The annual report of these Ministries/ Departments will indicate progress achieved during the year. This will enable monitoring by the designated authority.

 Role of Block Development Offices, Panchayat Raj Institutions and Tribal Councils/Gram Sabhas

o Block Development offices would appoint nodal officers to serve as a one point contact forsenior citizens to ease access to pensions and handle documentation and physical presencerequirements, especially by the elderly women.

o Panchayat Raj Institutions would be directed to implement the NPSC 2011 and address local issues and needs of the ageing population.

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SCHOOL OF SCIENCE AND HUMANITIES

DEPARTMENT OF PSYCHOLOGY

UNIT – IV - OLD AGE CARE -GERONTOLOGY PSYCHOLOGY-SPSY1401

Crisis Intervention-medical (skilled care) versus non medical(social care)

Gerontological social workers, also known as geriatric social workers, coordinate the care of elderly patients in a wide variety of settings, including hospitals, community health clinics, long-term and residential health care facilities, hospice settings, and outpatient/daytime health care centers. In outpatient settings, gerontological social workers serve as advocates for elderly individuals, helping to ensure they receive the mental, emotional, social, and familial support they need, while also connecting them to resources in the community that can provide additional support. In inpatient and residential care settings, gerontological social workers conduct intake assessments to determine patients' mental, emotional, and social needs; collaborate with a larger team of physicians, nurses, psychologists, case managers, and other health care staff to develop and regularly update patient treatment plans; discuss treatment plan options with patients and their families; and manage patient discharges.

Elderly individuals can grapple with isolation, depression, financial instability, dementia, anxiety, and other psychological, emotional, and social challenges. They may also experience declining health and increased reliance on medical care and family support, and this shift in independence can prove difficult for both them and their families. Gerontological social workers help their clients manage these and other challenges by providing counseling and therapy, advising clients' families about how to best support aging loved ones, serving as the bridge of communication between clients and the rest of the care team, and ensuring that clients receive the services they need if or when they move between inpatient and outpatient treatment programs, in-home care, day treatment programs, etc.Geriatric social workers encounter numerous challenges on the job, including having to contend with complicated medical and mental health care systems, managing the different interests of various parties involved in a client's care, shouldering the emotional burdens of clients and family members, and general overwork and overwhelm. However, social workers who care for the elderly note the unique rewards of the profession, which include making deep and meaningful connections with clients and their families, opportunities to change problematic systems within medical and mental health care for the elderly at both the individual and community levels, and the knowledge that their daily work has a direct positive impact on individuals in need.

Where Gerontological Social Workers Work

Social workers can work with elderly populations in many different settings; in general, at any organization that serves the physical, mental, emotional, and/or social needs of senior citizens, social workers may play a crucial role in providing direct care (counseling and advising, resource navigation services, etc.), as well as care coordination services (contacting different departments, care providers, and organizations to ensure clients get the inpatient or outpatient support they require). Common work environments that employ gerontological social workers include but are not limited to medical settings, adult day health programs, programs for all-inclusive care for the elderly, hospices, nursing homes and residential care facilities.

Hospitals and Medical Centers

Hospitals and medical centers typically have inpatient and outpatient divisions devoted specifically to supporting elderly patients who suffer from either chronic or acute health conditions. For example, hospitals may have geriatric acute and emergency care units, fracture care centers, palliative care, and a geriatric oncology unit. Gerontological social workers can work in the geriatric departments of hospitals and medical centers, either as part of a specific unit, or across multiple units.

Gerontological social workers who work at hospitals and medical centers collaborate with a larger medical team of physicians, nurses, medical assistants, psychologists, and other staff to evaluate patients' needs, develop a treatment plan, coordinate geriatric patients' care according to their needs and circumstances, and maintain and submit patient records and documentation. They also provide counseling, advising, and resource navigation services to patients and their families. Some medical centers also have adult day health programs that provide daily activities, counseling, and social support services to senior citizens, with the goal of supporting patients so that they can remain at home instead of transitioning to a nursing home. Social workers in these settings can coordinate activities, programs, and other services for their clients, provide counseling services as necessary, and connect senior citizens and their families to resources within or outside of the program.

Programs of All-Inclusive Care for the Elderly

Programs of All-Inclusive Care for the Elderly (PACE) provide comprehensive medical, mental health, and behavioral health care to elderly individuals who are eligible for Medicaid and/or Medicare. These programs employ an interdisciplinary team of medical, mental health, behavioral, and social service specialists that provide patients with care in their homes, and/or at day treatment centers. Laura Burns, MSW is a Medical Social Worker at On Lok Lifeways, which is a PACE program located in San Jose, CA. In an interview with OnlineMSWPrograms.com, she described the different services that On Lok provides. "We have a day health center (DHC) where participants come to receive different types of activities, socialization, and cognitive stimulation including pet therapy and bingo," she explained, "There's also a clinic on site with three doctors and one nurse practitioner and several nurses. All of our participants are given a full physical exam before they are enrolled and they are evaluated every 6 months, or as health conditions occur. We also have a rehab team, which includes occupational therapists and physical therapists. […] We have a home care team of nurses and aids who provide people with showers, assist them with meals, provide medication reminders, and assist them with chores and laundry in their home."

Ms. Burns also explained how social workers are an important part of PACE programs' interdisciplinary team, in that they serve as patient advocates and as the bridge of communication between patients and caregivers, as well as between different health providers and teams. "Social workers are connected to all of the aforementioned teams. It is our job to connect our patients with the services that these teams provide, and to connect the teams with one another as necessary to ensure proper emotional, mental, and physical care for our participants," she said, "We also are the primary point of contact for our participants' family members. Social workers at On Lok also play an important role in the initial assessment of patients, and in the development of their care plan."

Social workers who work at PACE programs have similar work settings and responsibilities as social workers who work in geriatric departments of hospitals and medical centers; however, as PACE programs provide a more comprehensive set of services (because they combine medical, mental, and behavioral health care), and serve clients who are eligible for Medicare and/or Medicaid, social workers at PACE programs may connect with more organizations, provide a wider range of care coordination services, and travel across different settings. For example, they may also conduct home visits, help patients and their families navigate the process of applying for medical benefits, and communicate with medical, mental health and behavioral, and social services departments within their program.

Specialized Senior Assistance Programs

Gerontological social workers may work for specialized programs that support senior citizens with a certain area of their life, such as financial literacy, community engagement, housing coordination, and low-income support services. For example, social workers may work for a community service organization that serves low-income senior citizens and helps them find stable housing, health care, and/or disability assistance, or they might work for an organization that provides financial advising, subsidized nutrition programs, or home care services to the elderly. Some larger organizations, such as San Francisco's Institute on Aging External link , fund a wide range of programs that serve elderly individuals, and also conduct research on how society and local, state, and federal governments can better support elderly populations. Social workers may work for these larger organizations, within one or more programs.

Hospices

Hospice settings provide palliative and end-of-life care to individuals who are suffering from terminal illnesses or conditions. Gerontological social workers in hospice settings work with elderly patients and their families, providing them with emotional support, grief and bereavement counseling, resource navigation services, and care coordination services. Hospices typically provide patients with services such as symptom and pain management (palliative care), as well as assistance in end-of-life planning. Hospice social workers engage in all of the non-medical aspects of a patient's care, including coordinating community resources, answering patients' and family members' questions, helping family members cope with the loss of a loved one, and assisting clients in managing their family and social relationships during their time in hospice care.

Nursing Homes and Residential Care Facilities

Nursing homes provide residential support to elderly individuals who cannot live independently due to mental or physical conditions such as dementia or disability. The transition to a nursing home or a residential care facility can be challenging psychologically, emotionally, and financially for elderly individuals and their families. Gerontological social workers in these settings help clients during this transition and ensure that they receive the services that they require both during their admission and throughout their stay. They can also participate in the development and review of nursing home policies and procedures to ensure that residents receive the care and attention they need.

What Gerontological Social Workers Do

Gerontological social workers support clients and their families through a combination of psychosocial assessments, care coordination services, counseling and therapeutic work, crisis management and interventions, and discharge planning.

Psychosocial Assessments

Gerontological social workers conduct psychosocial assessments to determine their clients' mental, emotional, and social needs, and to understand how these needs connect with their physical health and medical conditions. Mental and physical health are closely linked, and by gaining a holistic picture of clients' mental, emotional, and social circumstances, social workers help clients' medical care providers and their families better understand how to develop a care plan that is as comprehensive and compassionate as possible.

Psychosocial assessments gather information on a client's:

- Mental and emotional health, including past and/or present psychological conditions (ex. depression, dementia, anxiety, bipolar disorder, etc.)
- Behavioral health challenges, such as substance abuse, anger management issues, social anxiety and/or isolation, suicidal desires, etc.
- Social, financial, familial, educational, and occupational history and current situation, including available support systems (community, family, friends, colleagues, etc.)
- Medical and mental health treatment history
- Current medications and adherence to treatment schedules/plans

Gerontological social workers complete psychosocial assessments at the time of a client's admission into a given care program (this type of psychosocial assessment is called an intake assessment), and also conduct regular assessments throughout a client's time in the program.

Ms. Burns explained to OnlineMSWPrograms.com how social workers evaluate multiple facets of clients' cognitive, emotional, and behavioral health. "The social workers' intake of a candidate is focused on the person as a whole and explores their support systems, psychosocial risks, cognition and mood," she said, "The three main things that we assess for are changes in mood, behavior and cognition. We test for changes in cognition and mood every six months." Ms. Burns also noted that interacting closely with clients and connecting with them regularly allows her to evaluate their emotional and cognitive health at any point in time, and to convey any concerning changes to the larger treatment team. "[E]ach time I'm checking in on someone, even if it seems just like a social visit, I'm also checking in on their emotional well-being," she said, "As social workers we don't just do formal screenings; we also do informal check-ins with

the participants all the time. Also we don't have to wait until a participant is due for a formal assessment to make an adjustment in their care plan; we are able to modify it at any time."

In addition to being essential for the development and improvement of a client's care plan, psychosocial assessments help social workers determine if a client is at risk of experiencing certain adverse mental, physical, and/or behavioral health outcomes (for example, if a client shows signs of severe depression, has suicidal tendencies, or is neglecting his/her medication). These evaluations of risk to clients, also known as risk assessments, help social workers and other members of a client's care team determine the appropriate courses of action to address factors that may seriously compromise a client's well-being.

Care Coordination

One of the most important responsibilities that gerontological social workers have is care coordination, which is defined as the purposeful organization of different teams and services in order to effectively address a client's overall health care needs (physical, cognitive, emotional, and social). Care coordination involves not only completing psychosocial assessments to inform the larger treatment team of a client's needs, but also participating in or facilitating meetings between different providers to discuss patient treatment and health outcomes; conveying the concerns and desires of the patient and his/her family to the teams involved in their care; and connecting clients and their caretakers with resources within the larger community that can provide additional support.

Counseling and Therapy

Gerontological social workers provide counseling and therapy to clients to help them cope with the psychological, emotional, social, and financial challenges that come with aging. They also provide therapy and advising as necessary to clients' families and loved ones. During their sessions with elderly clients, social workers can employ a variety of different psychotherapeutic techniques to help their clients manage negative emotions, set objectives for life improvement, address behavioral problems or psychological barriers to meeting certain goals, and (where applicable) make end-of-life preparations.

When working with the families of their clients, gerontological social workers may help them manage the various difficulties they can encounter around caring for an aging loved one, including strains on financial resources and familial relationships, and processing grief and other emotions around loss.

Specific therapeutic techniques that gerontological social workers may use in their work with clients and families include but are not limited to cognitive behavioral therapy and dialectical behavioral therapy, problem solving therapy, motivational interviewing, and mindfulness based stress reduction. (For more information about these and other therapeutic modalities that social workers can use when providing clinical therapy to clients, please refer to our Guide to Clinical Social Work.)

Crisis Management and Interventions

Depending on their role and work setting, gerontological social workers may encounter a variety of client crisis situations. For example, some clients may struggle with severe depression and/or suicidal desires, acute dementia that renders them unable to care for themselves, family conflicts about treatment decisions, traumatic experiences that require immediate support, or mental or emotional disorders that pose a danger to themselves or others. In other instances, elderly clients may be the victims of neglect, domestic abuse, exploitation, and other crimes. In these instances, gerontological social workers may have to intervene through a number of measures to ensure client safety and well-being; such measures may include providing emotional support and counseling to clients and their family members as needed; managing difficult conversations between client, family, and care providers as necessary; contacting relevant organizations and/or the authorities (in the case of elder abuse), and developing a short and long-term support plan for clients and their loved ones.

Ms. Burns explained some of the crisis intervention services that she provides at On Lok Lifeways, Inc. “Since we screen for changes in mood, if someone is doing fine emotionally and then all of a sudden they’re severely depressed or suicidal or homicidal, that’s obviously something to communicate immediately to the medical team and the participant’s family,” she said, “We consult with Adult Protective Services to report cases of abuse or neglect. We let their doctor know to see if they need to have a medication adjustment, and we’ll usually also recommend meetings with the chaplain or the mental health counselor who works on site as well.”

Gerontological social workers can also provide crisis support and interventions in non-medical settings. Charis Stiles, MSW, who is a Friendship Line Manager at the Institute on Aging (IoA) in San Francisco, CA, also helps elderly individuals during crisis situations by coordinating volunteer services for the IoA’s suicide prevention and grief support hotline. “The Friendship Line at the Institute on Aging provides suicide prevention and trauma grief support to older adults and adults with disabilities. It’s a 24-hour hotline that operates from 8am to 8pm in the office and after hours remotely,” she explained to OnlineMSWPrograms.com, “Callers are primarily over the age of 60 and are dealing with isolation, loneliness, depression, grief, and illness. Many have mental health conditions, some treated and some untreated, and many also have a history of trauma. We have between 50-70 volunteers who are the primary hotline counselors.”

Resource Navigation and Benefits Application Guidance

Gerontological social workers also help clients and their families understand and apply for health care benefits, as well as other financial or social assistance at the federal, state, and local community levels. Clients and their loved ones may have a hard time navigating health insurance benefits, applying for Medicare and/or Medicaid benefits, and making use of community support systems. Social workers can guide clients through these steps and connect

them with local support systems, such as senior centers, discounted or pro bono counseling, free community clinics, and subsidized food and housing if necessary.

Discharge Services

Consistent with their role as care coordinators, gerontological social workers are often responsible for developing and coordinating a discharge plan for clients when the time comes for them to transition from one care setting to another–for example, from inpatient to outpatient care, or from residential care to home care. When coordinating a client's discharge from a care setting, social workers typically contact the relevant parties involved in the transition and organize logistics such as as transportation, health insurance and medical financial aid, and paperwork and documentation. They may also consult with the client and his/her family in order to prepare them for the change.

The Challenges and Rewards of Gerontological Social Work

Gerontological social work provides the opportunity to connect deeply with individuals in need who are often deeply appreciative of the support, and who have a wealth of life experiences and perspectives to share. Serving as an advocate for elderly clients who would not otherwise have a voice in their care can also be gratifying and empowering. In addition, this field of social work involves working with clients' families and loved ones, which can form unique and rewarding connections as well.

"One of the most rewarding experiences are the long-term relationships I have with my participants and knowing that I am able to make a difference in their lives, Ms. Burns said, "I find it very rewarding to build relationships with my participants and know that part of my treatment plan is to check in with them. I feel really blessed that I get paid to do this work, to connect and learn about people who have lived very interesting lives–very different, often, from the life that I have led."

She also noted how her role as a geriatric social worker enables her to share more about herself with her patients, relative to other types of medical settings, which at times allows for deeper and more rewarding connections. "I think one thing that I've noticed in geriatric social work is because I have such long-term relationships with people, [I'm] able to share a little bit more of [myself]," she explained, "In hospitals you're working with someone for a short amount of time, and you just need to focus on them, and they don't get as much of an opportunity to also learn a little about you."

In addition to her work at the Institute on Aging, Ms. Stiles worked as a Medical Social Worker, Bereavement Coordinator, and Bereavement and Volunteer Manager at Odyssey Healthcare, a hospice setting in which she served a number of geriatric patients and their families. In both her past and current roles, she has found the positive impact she has had on patients' well-being and relationships, and her preservation of their comfort and dignity as they manage difficult health conditions, to be deeply fulfilling. "I have had so many rewarding experiences with clients–so many frail, dying individuals I've had the honor of working with and being present for, so many people I've been privileged to advocate for when they were not able to speak for themselves, so many grieving families I've been able to comfort and counsel," she said, "It's been really incredible how many clients have really touched me."

Some of the primary challenges of gerontological social work include the complexity and severity of some clients' challenges (which at times necessitate difficult conversations about end-of-life care and planning), instances of elder abuse or neglect, age-based discrimination, family conflicts that interfere with appropriate or sufficient care, and the challenges and limitations within the health care system that can prevent elderly patients from receiving the medical attention and resources they need.

Ms. Stiles described how prejudice against aging and the elderly, senior citizens' changing occupational and/or financial status, and the physical and mental declines that often come with aging can all combine to make the difficulties that elderly individuals face particularly challenging. "Older adults face many of the same concerns and issues as any adult–limited resources, mental health issues, substance abuse, history of trauma, systemic racism, homophobia, classism, etc.," she said, "What makes older adults 'unique' is that they are dealing with these concerns with the added pressure of ageism (discrimination against people based on their age) and ableism (discrimination against individuals with disabilities), as well as potential physical health changes and accumulated losses."

Managing family members' concerns (or their lack of concern) can also prove challenging. "While many families are wonderful to work with, other families are very difficult to work with," Ms. Burns noted, "Families often are at one end or the other of the spectrum, very, very involved and high maintenance and then there are other families that you call and call and cannot get them to call you back. It is important to have strong relationships and build trust with all families that you work with."

Encountering systemic injustices that particularly hurt the elderly can also be a challenge that gerontological social workers encounter on the job. "Many of the challenges I've faced with clients are primarily due to longstanding, often untreated mental illness that clients have been dealing with for decades," Ms. Stiles noted, "Often there are systematic issues like generational poverty, lack of services in the community, and a general lack of concern for older adults unless in a medicalized setting."

To manage the challenges of the work, the social workers whom we interviewed suggested that social work students manage their expectations around what they are able to do to help clients, and to appreciate their successes while learning from their mistakes. "For new social workers, I recommend keeping perspective and understanding the limitations placed on people in this profession," Ms. Stiles advised, "Many issues an older client is dealing with are issues they've been dealing with for decades; we cannot solve family discord, we cannot solve poverty, we cannot solve regrets or mental illness or a lack of services. This is incredibly difficult and takes years of practice and self-reflection."

Ms. Burns explained how she remains optimistic and turns the challenges she encounters into opportunities to connect with her clients and their families, and to better meet their needs and concerns. "It's very rewarding when you are able to build trust with a family that is hard to reach or get them to agree to provide care that they have been resistant to provide," she noted.

INTRODUCTION

"Sarah, an older lady with a walker, was waiting for me with her outdoor clothes on in her studio apartment. The stairs and the heavy front door keep her indoors as she is unable to maneuver them with her walker. My job was to help her go outdoors once a week. We met for the first time last week when we were introduced to each other after I enrolled in a voluntary work program. She was really delighted go out. It was early spring and trees were just beginning

to turn green. We walked around the block very slowly and did lotto in the kiosk and came back home. She said that the previous time she went outdoors was six months ago."

Most people wish that they could live a long, productive, and autonomous life without debilitating disability. However, in old age, progressing diseases and the consequent impairments and functional limitations increase the risk of mobility decline, potentially resulting in a situation where the person becomes practically home confined. Participation in meaningful activities and running daily errands, both of which are key elements for life satisfaction, require the ability to access the outdoors. Outdoor physical activity, particularly walking, plays a key role in the maintenance of functional independence in old age [1]. With populations aging worldwide, there is an increasing need for knowledge and evidence-based policy to promote independence in older people to ensure the sustainability of societies while also ensuring good quality of life for older people. Understanding different factors affecting outdoor mobility in older adults helps identify approaches to planning accessible and safe environments and to motivating older adults to move about outdoors and thus prevent the development of disabilities.

Promoting independence in old age and improving mobility

MOBILITY

Outdoor mobility refers to the physical ability to move. It refers to all types of trips outside home, either by foot or by other means of transportation [2]. Mobility is necessary for accessing commodities, making use of neighborhood facilities, and participation in meaningful social, cultural, and physical activities. Mobility also promotes healthy aging as it relates to the basic human need for physical movement. Unmet physical activity need, defined as inability to increase physical activity despite being willing to do so, is common among community-living older people who have mobility problems and who report negative environmental features in their neighborhood [3]. Commuting and transportation systems influence mobility; however, the focus here is on walking. Walking is an integral part of mobility and may be considered a prerequisite for unassisted use of other forms of transportation.

Assessment of Mobility

Walking as a physical ability is often assessed by asking people whether they experience difficulties walking given distances. Another option is to use standardized tests of walking. Typically, for gait speed calculation, a person is asked to walk a specific distance, which is timed. The advantage of self-reports is that they provide us with subjective evaluation of one's mobility in one's everyday environment and thus carry immediate relevance to people's lives. However, they also reflect the challenges in the environment and may not be comparable across localities or countries. In addition, most existing self-report instruments primarily assess difficulty, inability, or degree of assistance required to perform specific tasks of mobility. Thus, these measures may not be sensitive enough to identify early stages in the course of mobility decline.

The advantage of performance-based assessments, such as gait speed, is that they may be administered in a standardized environment and provide information that is universally comparable. However, it may be difficult to interpret changes in walking speed in terms of how big an improvement is clinically significant. Recently, estimates of small meaningful change in gait speed (approximately 0.05 m/s) have been suggested by contrasting walking speed against perceived walking difficulties .

Mobility Decline

The first signs of declining mobility are typically observed for more demanding mobility tasks, such as walking longer distances or running. Perceived running difficulties are already common in midlife [5]. In the early stages of functional decline prior to the onset of task difficulty, older persons may be able to compensate for underlying disease by modifying their task performance and thereby maintain their function without the perception of difficulty. This stage of functional decline, that is, changes in method, frequency, or time used in task performance or increased tiredness has been proposed as preclinical disability [6-8].

In our study among more than 600 community-dwelling people aged 75 to 81 years, participants with preclinical mobility limitation showed intermediate levels of walking speed and muscle power, compared with those with no limitation or manifest mobility limitation. Participants reporting baseline preclinical mobility limitation had a 3- to 6-fold higher ageand sex-adjusted risk of progressing to major manifest mobility limitation during the 2-year follow-up compared with participants with no limitation at baseline . These results suggest that it is also possible to identify people in the early phases of mobility decline by relatively simple self-report tools.

Those in the early phases of mobility decline will benefit most from preventive interventions because their own physical resources will still allow them to increase their physical activity and training on their own without intensive support from other people. We studied physical activity counseling as a way to promote the mobility of older people. The intervention included one face-to-face counseling session with a physiotherapist and follow-up phone contacts every four months for two years. The aim of the counseling was to increase the physical activity of the participant. This intervention increased physical activity and slowed down progression of mobility decline. We concluded that physical activity counseling was efficacious in preventing mobility decline, especially among people who were still in the early phase of mobility decline.

Physiological requirements for Walking

From the physiological point of view, walking is an integrated result of the functioning of musculoskeletal, cardio-respiratory, sensory and neural systems. Two of the most immediate prerequisites for walking are lower extremity strength and postural balance. These are needed to generate movement and to maintain a balanced upright position while moving. Consequently, progressive resistance training and balance training may help maintain or rehabilitate walking ability among older people at risk of accelerated mobility decline.

In particular among older people, immobility while being ill may result in critical mobility decline. Among older people, mobility may not spontaneously recover to its pre-illness level. In an American study, it was observed that in the year during which severe disability developed, hospitalizations were documented for 72% of those developing sudden, catastrophic disability and for 49% of those developing progressive disability, while only 15% of those who were stable with no disability and 22% of those with some disability were hospitalized .

We studied the effects of progressive resistance and functional training among older frail patients discharged from a hospital ward after an acute illness. Maximal voluntary isometric strength of knee extension and hip abduction, dynamic balance, and maximal walking speed were measured before and after the 10-week training period, and 3 and 9 months after the end of the intervention. After the intervention, significant improvements were observed in the training group compared to the control group in the maximal voluntary isometric knee extension strength (20.8% vs. 5.1%, p=0.009), balance scale (+4.4 vs. -1.3 points, p=0.001), and walking speed

(+0.12 vs. -0.05 m/s, p=0.022). Effects on knee extension and hip abduction strength, balance, and walking speed were observed 3 months later, and some effects on hip abduction strength (9.0% vs. -11.8%, p=0.004) and mobility were still apparent even 9 months after the intervention . These results suggest that the negative consequences of acute diseases and hospitalizations may be counteracted among older people by intensive physical training.

A recent meta-analysis of the effects of strength training included 121 trials with 6700 participants. In most of the trials, progressive resistance training was performed two to three times per week and at a high intensity. Progressive resistance training had a large positive effect on muscle strength (73 trials; 3059 participants; standardized mean difference, 0.84; 95% confidence interval [CI], 0.67 to 1.00) and a modest but positive effect on gait speed (24 trials; 1179 participants; mean difference, 0.08 m/s; 95% CI, 0.04 to 0.12). This review provided evidence that progressive resistance training is an effective intervention for improving physical functioning in older people, including improving strength and the performance of some simple and complex activities.

Sensory factors, Falls, And Walking

Adequate sensory functioning, that is, receiving accurate information about potential environmental risks through different sensory channels, plays an important role in safe walking. We observed that hearing and vision impairments correlated with increased fall risk and that the risk of falls was particularly high among people who had multiple sensory impairments. Falls may accelerate the worsening of walking difficulties even further. We observed in a prospective study that even non-injurious falls increased the risk of walking difficulties at least partly due to reduction of walking activity among those who sustained falls. We also found that women with hearing or vision impairments had slower maximal walking speed and poorer balance than people without these impairments . It is possible that people may adjust to a gradually declining function of a single sensory modality and learn to compensate for the deficiency by utilizing information from the other sensory modalities. However, when multiple sensory difficulties are present, it becomes more and more difficult for the person to receive accurate information about the environment, which may eventually lead to increased fall risk, avoidance of walking, and finally to increased risk of walking difficulty. It is important to rehabilitate vision and hearing, because they provide us with feedback about the environment needed for safe mobility. Rehabilitation of sensory impairments may also improve mobility and reduce fall risk.

Environmental Barriers And Walking

Older people with mobility limitations often report more barriers in their outdoor environment than people with intact mobility. Need for assistive walking devices makes people especially vulnerable to environmental barriers. However, it is uncertain whether older people perceive their environment as problematic because of their mobility limitations or whether the environmental barriers precede incident mobility limitation and consequently contribute to the progression of mobility decline. We observed in a prospective study that the presence of specific environmental barriers (long distances, lack of resting places, high hills, poor street conditions, and busy traffic) in a person's living environment increased the risk for developing new walking difficulties by up to almost three-fold. Differences in socio-demographics, health, and physical activity explained part of the increased risk, but not all of it [20]. It is possible that environmental barriers, by reducing physical activity, lead to accelerated mobility decline. We observed that environmental barriers correlate with fear of moving outdoors, which typically manifests in

avoidance of outdoor activities that are within a person's health capacity. Fear of moving outdoors was found to increase the risk of mobility decline and may be one of the underlying factors in the association between environmental barriers and mobility decline .
Decreasing mobility barriers in the environment will have an immediate effect on mobility by improving accessibility. However, removing barriers may also slow down progression of mobility decline by helping to maintain adequate activity levels.

Promoting Mobility

"Use it or lose it" is definitely true for mobility in old age. Consequently, it is important to find ways to increase or maintain the active mobility of older people. Promoting mobility should happen at the community level as well as at an individual level. Community planning strategies and community amenities are important to minimize environmental and social barriers and also to ensure equal opportunities for mobility among those with functional limitations. In addition, older people should have opportunities to participate in physical activities. Physical exercise classes should be adapted to the possible special needs of older people, the classes should be inexpensive, and exercise facilities should be accessible, so that all have an equal opportunity to participate. It is also important to promote positive attitudes toward physical exercise among older people and avoid stereotypic images and negative messages. For example, we found that many older people recalled that their doctor had advised them to avoid physical exertion . Such a message may have been intended for a limited time; however, older people may consider it to be definitive.

Even though older people may have many problems related to mobility, sometimes solving just one of them may critically improve the opportunities to solve the other problems. Health care providers, engineers, community planners and decision makers, leisure service providers, civil society, as well as family members and other loved ones of older people should work together to optimize opportunities for older people to maintain independent mobility as long as possible.

Assessing and planning health care surgery

Older people attending the emergency department (ED) or acute medical units (AMU) often have more complex needs due to multiple co-morbidities, physical limitations, increased functional dependence and complex psychosocial issues. Thus, they are more vulnerable and could easily decompensate with minor stressors, resulting in increased frailty. There are established detrimental effects of hospitalisation on older adults and about 17% of older medical patients who were independently mobile 2 weeks prior to hospital admission required assistance to walk at hospital discharge. Therefore, to improve outcomes for frail older people with multiple co-morbidities and an acute illness, admission should be to an Emergency Frailty Unit (EFU), a separate unit within an AMU but led by a geriatrician and the multidisciplinary team (MDT) to provide comprehensive person-centred care.

The clinical assessment of frail older people is challenging, as they often have multiple co-morbidities and diminished functional and physiological reserves. In addition, the physical illness or adverse effects of drugs are more pronounced resulting in atypical presentation, cognitive decline, delirium or inability to manage routine activities of daily living (ADLs). Among the potential adverse outcomes for frail older inpatients, are the risks of continued deterioration as a consequence of medical complications such as pressure sores, hospital-

acquired infections or functional decline. This can also lead to long-term increased dependency, institutionalisation and death.

Impact of ageing on hospitals

Hospitals face a rising demand from an increasing number of acute emergency admissions of people aged 65 years and above with multiple co-morbidities and psychosocial problems. The admission rates for people over 65 years are three times higher than for people aged 16–64 years. Older patients cannot always be transferred quickly from the hospital after acute illness and on average hospital length of stay (LoS) is significantly higher than for under 65 years [6]. The older people occupy around two-thirds of acute hospital beds and emergency admissions have been rising for several years [7]. The healthcare cost and the proportion of hospital bed days used by older people are likely to increase further due to ageing population [8].

1.2. **Physiological changes of ageing**

The normal physiological changes occur with ageing in all organ systems (Table 1) and this has implications for the clinical assessment of older people [9–11]. Therefore, it is essential to be aware of these changes as these have an impact on drug metabolism and pharmacodynamics. In addition to comprehensive geriatric assessment (CGA), these changes can be delayed or reversed with appropriate diet, exercise and medical intervention.

	Change in physiology	**Impact on health**
Cardiovascular	↓ Heart rate and cardiac output ↓ Arterial compliance ↑ Systolic blood pressure ↑ Myocardial irritability ↓ Tissue perfusion ↑ Circulation time	Easy fatigability and loss of stamina for physical work Peripheral oedema Isolated systolic hypertension Dysrhythmias Cold sensitivity in the hands/feet
Nervous system	↓ Normal reflexes ↓ Proprioception ↓ Baroreceptor response ↓ Sympathetic response ↑ Sensitivity to anticholinergics	Impaired cognition Falls Postural hypotension
Sensory	↓ Salivation and taste ↓ Thirst ↓ Response to	Aspiration Dehydration Falls Increased isolation and depression

	Change in physiology	**Impact on health**
	pain ↓ Visual acuity and peripheral vision ↓ Hearing	
Lungs	↓ Tidal volume ↓ Vital and total lung capacity ↓ Lung compliance ↓ Response to hypoxemia ↑ Residual volume	Low oxygen saturations
Kidneys	↓ Glomerular filtration rate ↓ Renal flow and kidney size	Higher chance of drug side effects due to reduced renal clearance (serum creatinine level remains relatively constant due to reduced muscle mass and reduced creatinine production)
Bladder	Smaller voided volume ↓Bladder capacity ↑ Involuntary detrusor contractions ↑ Residual volume	Urinary incontinence Urgency Overactive bladder symptoms
Gastrointestinal	↓ Gastric emptying ↓ Bowel movements ↓ Transit time and absorption ↓ Liver mass (by 30-40%) ↓ Sense of thirst ↓ Capacity to conserve water.	Weight loss Constipation Slower drug metabolism and reduced hepatic first-pass effect, thus increased bioavailability Dehydration
Endocrine	↓ Insulin sensitivity	Hyperglycaemia during acute illness Risk of hypothermia

	Change in physiology	Impact on health
	Thyroid impairment ↓ Metabolic rate ↓ Temperature regulation ↓ Bone mineral density	Osteopenia/fragility fractures
Body composition	Atrophy of skin epidermis ↓ Subcutaneous fat ↓ Sweat glands Atrophy of muscle cells Degenerative changes in many joints	Easy bruising Pressure ulcers Dry skin Sarcopenia Falls
Immune system	↓ Neurohumoral response ↓ T-cell response	Higher infection rate Higher probability of infection

Normal physiological changes of ageing.

2. Assessments of older people in hospital

The holistic assessment of older people is best achieved by the MDT. The MDT members include doctors, nurses, physiotherapist (PT), occupational therapist (OT), dietician, clinical pharmacist, social worker (SW), specialist nurses (e.g. tissue viability nurse and Parkinson's disease nurse specialist), hospital discharge liaison team and carers. Input from a clinical psychologist or old age psychiatrist may be needed depending on individual patients' needs. All members engage with patients and carers to complete their assessments and intervention, followed by multidisciplinary meeting (MDM) to formulate ongoing care plan and follow-up.

2.1. Medical assessment

The medical assessment begins at the time of admission to an AMU or an EFU with the appropriate investigations and thus establishing the relevant diagnosis. In addition to treating acute illness, there must be an attempt to optimise the symptoms and treatment of chronic diseases [12]. The common medical diseases among older people are listed in Table 2. A carer or a relative usually accompanies an older patient to the hospital, and a short conversation with them can rapidly reveal the diagnosis and direct ongoing management.

Mostly seen in older people	Alzheimer's disease Normal pressure hydrocephalus Temporal arteritis (giant cell arteritis) Diastolic heart failure Inclusion body myositis

	Atrophic urethritis and vaginitis Shingles (herpes zoster) Benign prostatic hyperplasia Aortic aneurysm Polymyalgia rheumatic
Common in older age group	Degenerative osteoarthritis Overactive bladder with urinary incontinence Diabetic hyperosmolar nonketotic coma Falls and fragility hip fracture Osteoporosis Parkinsonism Accidental hypothermia Pressure ulcers Prostate cancer Stroke Glaucoma and cataract Monoclonal gammopathies

Common medical diseases among older people.

2.1.1. Acute medical illness

Older people admitted to the hospital with an acute illness often a non-specific presentation, which can obscure the serious underlying pathology or medical diagnosis. For example, acute bowel infarction in older people may not present with typical abdominal pain or tenderness or lack of typical signs on meningism in bacterial meningitis. The atypical presentation in older people could be one or combination of 'feeling unwell', 'inability to cope', 'off-legs', 'fall', 'confusion', 'dizziness', 'incontinence', 'weight loss', etc. The atypical presentation with possible background sensory impairment, lack of collateral history, polypharmacy and high prevalence of cognitive deficits limits good clinical assessment.

'Feeling unwell' or 'inability to cope' could be a presentation of an acute infection, exacerbation of underlying chronic disease (e.g. chronic heart failure), drug side effect (e.g. constipation) or dehydration. However, this could be due to underlying malignancy; therefore, such a presentation warrants good clinical examination and appropriate investigations.

Worldwide, falls are the second most common cause of unintentional injury and death. A non-accidental fall is a complex system failure in the human organ system, where a person comes to rest on the ground from a standing or a sitting height, unintentionally with no associated loss of consciousness [13]. The prevalence of falls increases with age, and oldest old is at highest risk. One-third of older adults over 65 years and half of older people above 80 years could experience one fall in a year [14, 15].

Falls are most common in institutionalised older people [16] and half of the fallers will fall again within a year [17]. Older people with high risk of falls are sometimes admitted to the hospital to avoid future falls but in reality, hospitals are associated with a higher risk of falling due to several new risk factors such as unfamiliar environment, increased risk of delirium, high beds, single rooms and so on [18, 19]. Falls are associated with a threefold increased risk of future falls, fear of falling, prolonged hospital stay, functional decline, increased dependency, institutionalisation, increased expenditure, morbidity and mortality . Falls result in injury (4%) and fragility hip fracture (1%), following which up to 10% of people will die within a month, a third dying during the following year after [.

The evaluation of falls begins by distinguishing it from brief sudden loss of consciousness (syncope). However, it could be challenging to do so in certain cases but every effort should be made. Falls cannot only be simply related to underlying medical or neurological disorder as falls are usually multifactorial including a wide range of intrinsic and extrinsic factors. The most common factors leading to falls in neurological patients are the disorder of gait and balance (55%), epileptic seizures (12%), syncope (10%), stroke (7%) and dementia. Falls have particularly being linked to Parkinson's disease (62%), polyneuropathy (48%), epilepsy (41%), spinal disorders (41%), motor neuron disease (33%), multiple sclerosis (31%), psychogenic disorders (29%), stroke (22%) and patients with a pain syndrome (21%) [16]. Dementia is associated with impaired mobility and is an independent risk factor for falling [23]. People who present with a fall or report recurrent falls in the past year or demonstrate abnormalities of gait and/or balance should have multifactorial, multidisciplinary assessment for falls, risk factors, perceived functional abilities and fear of falling. In addition, bone health and history of previous fragility fractures should be explored [24].

'Delirium' is a common syndrome affecting older people admitted to AMU or EFU. It is a serious acute problem which has been best understood as an 'acute brain dysfunction' or an 'acute confusional state' characterised by a rapid onset of symptoms, fluctuating course and an altered level of consciousness, global disturbance of cognition or perceptual abnormalities. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) defines delirium as 'a disturbance of consciousness that is accompanied by a change in cognition that cannot be better accounted for by a pre-existing or evolving dementia' [25].

The diagnosis of delirium is based on clinical observations, cognitive assessment, physical and neurological examination. Despite the common problem, delirium remains a major challenge and often under-diagnosed and poorly managed. Clinically, delirium can be divided into hyperactive, hypoactive or mixed forms, based on psychomotor behaviour. The Confusion Assessment Method (CAM) supports a diagnosis of delirium if there is a history of acute onset of confusion with a fluctuating course and inattention in the presence of either disorganised thinking and/or altered level of consciousness [26]. Collateral history from the family member or carers is helpful to detect a recent change in cognition.

Delirium usually occurs as a result of complex interactions among multiple risk factors such as cognitive impairment, Parkinson's disease, stroke, poor mobility, history of previous delirium, hearing or visual impairment, malnutrition or depression. It is often precipitated in the hospital setting due to acute medical illnesses including infection, acute coronary syndrome, bowel ischaemia, surgical disorder, polypharmacy, pain, dehydration, electrolyte imbalance, new environment, sleep deprivation, constipation, hypoxia, use of restraints or indwelling catheters.

Delirium, if not recognised early and managed appropriately, can result in poor outcomes, including prolonged hospital stay, increased functional dependence, institutionalisation, a risk of developing dementia, increased inpatient and post-discharge mortality [27–29]. Therefore, an older person admitted to hospital with confusion should be promptly assessed for delirium to improve clinical outcomes. The optimal assessment should be completed to identify underlying modifiable risk factors and treating precipitating factors, followed by reorientation and restoration of cognitive functions using non-pharmacological strategies including carer support and education, good communication among MDT and appropriate follow-up. The pharmacological drugs including haloperidol or risperidone should be used to manage severe agitation or behavioural disturbance.

'Dementia' is often recognised for the first time as an incidental condition when people are admitted to an acute hospital for another reason. More than one-third of acute medical admissions (42.4%) for over 70s have been reported to have dementia and only half of which were diagnosed prior to admission [30]. However, dementia can be misdiagnosed as an acute illness and can be accompanied by reversible cognitive decline. In addition, older people with known dementia who present with an altered mental state can be mislabelled as having progressed to another stage of dementia missing undiagnosed delirium. Older people with cognitive impairment are at increased risk of falls [31] and are also more likely to die during hospitalisation, and increased severity of cognitive impairment is associated with higher odds of mortality (from 2.7 in those with moderate impairment to 4.2 in those with severe impairment) [32]. Therefore, older people in hospital settings should be carefully assessed for underlying cognition. Dementia is a chronic progressive brain disorder marked by a disturbance of more than two domains of brain functions for more than 6 months. The various cognitive deficits may include short-term memory loss, language- or word-finding difficulties, mood and personality changes, impaired reasoning, learning new skills, inability to concentrate, plan or solve problems, difficulty in taking decisions or completing a task, disorientation, visuospatial difficulties or problems with calculations. Dementia is the most appropriate diagnosis when two or more cognitive deficits have an impact on ADLs or social interaction, often associated with behavioural and psychological symptoms of dementia (BPSD) [33].

'Frailty' is defined variably and there is no single generally accepted definition. Fried et al. [34] reported a clinical definition of frailty based on the presence of three or more frailty indicators: unintentional weight loss, slow walking speed, subjective exhaustion, low grip strength and low levels of physical activity. Frailty, based on these criteria, was predictive of poor outcome including institutionalisation and death [34]. Whereas Rockwood and Mitnitski [35] had advocated an alternative approach to frailty by considering frailty in relation to the accumulation of deficits with age, including medical, physical, functional, cognitive and nutritional problems. The frailty index expresses the number of deficits identified in an individual as a proportion of the total number of deficits considered. Higher values indicated a greater number of problems and hence greater frailty. For example, if 40 potential deficits were considered, and 10 were present in a given person, their frailty index would be 10/40 = 0.25 [36]. A valid index can be derived from the routine information collected on CGA [37–39]. Therefore, the presence of frailty on clinical judgement should prompt consideration to holistic assessment by MDT.

2.1.2. Chronic co-morbidities

Older people usually have more than five medical conditions and one pathological disorder in an organ, which can weaken another system. This results in increased disability, physical dependence, functional deterioration, isolation or even death. Long-term conditions in older people require very careful assessment and monitoring particularly whilst undergoing acute medical treatment in the hospital. Every older person admitted to MAU or EFU should have assessment of underlying chronic medical conditions, including ischaemic heart disease, heart failure, chronic respiratory diseases, chronic inflammatory and autoimmune problems. Modifiable cardiovascular risk factors such as diabetes mellitus, hypercholesterolemia, hypertension, obesity, excessive smoking or alcohol consumption should be reviewed and optimally addressed.

2.2. Mental health assessment

Many people with long-term physical health conditions also have mental health problems [40]. Mental health problems are common in older people, and 8–32% of patients admitted to acute hospitals were found to be depressed . Depression is not a natural part of ageing but can be easily missed in older patients, thus resulting in adverse outcome including delayed recovery and suicide. It is often reversible with early recognition and prompt intervention. Delirium has been reported in 27% of older patients above 70 years . The prevalence of dementia in acute hospitals was reported as 48% in men and 75% in women older than 90 years .

The current service models for the provision of mental health input in general medical care wards are variable. The prevailing view in the United Kingdom is that old age psychiatrists have the main responsibility for the diagnosis and management of dementia and other mental health problems. In many hospitals, both psychiatric and medical notes are not easily accessible and are mostly kept separately .

The National Service Framework (UK) for older people was published in 2001—standard seven aims to promote good mental health in older people and to treat and support those older people with dementia [44]. The liaison mental health services have not only shown improved clinical outcomes as measured by the length of hospital stay or discharge to original residence but also suggested cost effective models. However, concerns have been raised about the reliability and validity of the various studies included in this systematic review [45]. The hospital liaison multidisciplinary mental health team is the model advised in the United Kingdom to offer a general hospital a complete service.

The Rapid Assessment Interface and Discharge (RAID) service model is an example in the United Kingdom where a psychiatry liaison service provides MDT input to acutely unwell older people with existing mental health admitted to hospital [46]. The RAID service has shown to be an effective, enhanced service model for older people who are at risk for dementia or other mental health problems and has shown good outcomes with quality improvements in the care of older people .

Collateral history from the family or carers remains the key feature for initial assessment. If dementia is suspected in a person, a full medical assessment must be completed, an example being the British Geriatrics Society's guidance on CGA of the frail older people [12]. Older people in the hospitals should be assessed for mood, anxiety and depression. The hospital anxiety and depression scale (HADS) is a simple, valid and reliable tool for use in hospital practice [47]. It is a self-assessment screening tool, which warrants further assessment based on abnormal scores. The score for the entire scale for emotional distress can range from 0 to 42, with higher scores indicating more distress. Score for each subscale (anxiety and depression) can range from 0 to 21 (normal 0–7, mild 8–10, moderate 11–14, severe 15–21). A short-form Geriatric Depression Scale (GDS) consisting of 15 questions can be used for depression [49]. Any positive score above 5 on the GDS short form should prompt a detailed assessment and evaluation. Generalised anxiety disorder (GAD) is the most common mental disorder encountered in older patients and is often accompanied by depression. It could be helpful to assess older person's emotional state and sense of well-being as they may report psychological burden of the disease, for example, fear of falling or fear of being in the hospital which is associated with loss of independence by older people. History of delusions and hallucinations or previous use of psychotropic drugs may suggest a mental health problem. Patient's permission should be sought before interviewing their relatives or carers for collateral history.

Following initial suspicion or diagnosis of a mental health problem in older people, a more collaborative work between physicians and old age psychiatrists for the prompt diagnosis and management of mental health problems will improve outcome [46].

2.3. Drugs

Drug prescribing increases with both age and incidence of co-morbidities [50, 51]. Polypharmacy is defined as use of either five or more concurrent medications or, at least, one potentially inappropriate drug. Half of older people aged between 65 and 74 years and two-thirds of those aged 75 years and over are affected by polypharmacy including conventional and complementary medicines. Polypharmacy is associated with adverse outcomes including hospital admissions, falls, delirium, cognitive impairment and mortality. Although drugs have an important role in managing co-morbidities, it is not without harm and adverse outcomes.

There is conflicting evidence that psychotropic medications are associated with higher falls in people with dementia though there is clear evidence that there is associated increased fall risk in cognitively intact people]. Other classes of drugs including Parkinson's disease drugs, anticonvulsants, steroids and fluoroquinolone can result in acute confusion [59]. Drug interactions could impair electrolytes, cause postural hypotension, hypothermia, gait disorder or gastrointestinal disturbance, resulting in prolonged hospital admission.

Therefore, all older inpatients should have drug review and withdrawal of any possible offending agent if practical would be logical. This can be based on screening tool of older persons' prescriptions (STOPP), and a tool to alert doctors to commence appropriate treatment (START) criteria should be used [60]. Patients should also be assessed for their ability to manage their drugs, understanding of drug, dexterity and vision. At the same time, appropriate new medications if deemed necessary and evidence-based should be commenced. Older people with cognitive impairment should be prescribed with greater care, adhering to the principle of, 'starting low and going slow'.

2.4. Physical performance

Gait and balance are regulated by both central and peripheral nervous system; thus, various neurological disorders can result in postural instability and poor mobility. Balance system can be affected by the impact of neurological disease on postural responses, postural tone, sensory feedback, visuospatial disorder, executive dysfunction or delayed latencies. Gait disorders have been classified into lower (e.g. peripheral), middle (e.g. spinal, basal ganglia) and higher level gait disorders (e.g. frontal or psychogenic) [62]. The more pragmatic approach could be used to describe gait disorders including hypokinetic gait disorders, dystonic, hemi- or paraparetic gait, ataxia, vestibular, neuromuscular and psychogenic gait [62]. All components of gait including initiation of walking, step length, coordination, walking speed, symmetry, stride width, rhythm and posture should be assessed. Various tools/scales can be used for further assessment of gait and balance (Table 3). Most physicians work closely with PT and rely on their assessment of patient's needs in relation to mobility, balance and posture. Multidimensional assessment and multiagency management of mobility in older people lead to better outcomes.

	Technique	**Normal values**
Turn 180°	A measure of dynamic postural stability, asking a patient to take	Five or less steps

	Technique	Normal values
[63]	few steps and then turn around by 180° to face opposite direction. Count the number of steps taken to complete a 180° turn	
3-m TUG test [64]	A measurement of mobility. A person is asked to stand up from seated position, walk for 3 m, turn and walk back to a chair and sit down. Measure the time taken in seconds	12 or fewer seconds, can vary with age by 2–4 s
Near tandem stand [65]	A measure of balance and ankle strength. A person is asked to stand in a near tandem position with their bare feet separated laterally by 2.5 cm with the heel of the front foot 2.5 cm anterior to the great toe of the back with their eyes closed. A person can hold arms out or move the body to help keep the balance but do not move the feet	Able to stand >30 s with eyes closed
Alternate step test [66]	A measure of strength, balance, coordination and stair climbing. It provides a measure of mediolateral stability. A person should be asked to place alternate whole left and right bare foot onto a 19-cm high stepper for a total of eight times	10 or fewer seconds, can vary with age by 2–4 s
Sit-to-stand test [67]	A measurement of functional mobility, balance and lower limb strength. A person should be able to stand up and sit down five times with crossed arms from a 45-cm straight-backed chair	11.4 s (60–69 years); 12.6 s (70–79 years); 14.8 s (80–89 years)

Gait and balance assessment tools.

Physical activity interventions for people with an intact cognition are well documented and shown to be effective in improving balance and reducing falls. People with dementia are two to three times more likely to fall [16] and risk is further increased in people with Lewy body dementia (LBD) and Parkinson's disease dementia (PDD) [23, 68]. There is limited evidence showing significant gait and balance improvement following the targeted exercise programme in the community-dwelling older people with dementia [69]. More recently, it has been shown that supervise exercise training in people with dementia living in community could improve muscle strength and physical activity [70]. There is dearth of similar studies in the hospital setting and further research is required. A simple flexible home-based muscle strengthening and balance-training exercise programme along with medication could improve the physical performance in the older people.

2.5. Functional status

It is not uncommon for older people to be admitted to the hospital with functional deterioration or increased dependence, thus unable to cope. Older people admitted to the hospital with an acute medical problem, 'geriatric giants' [71, 72], incontinence, immobility, postural instability (falls) and intellectual impairment (dementia) or who are frail with one or more

disability should get an appropriate functional assessment. A typical geriatric assessment for such people should begin with a review of their functional status. This is usually captured in two commonly used functional status measurement—basic ADL and instrumental ADL (IADL). The ADL that is initially affected includes complex or IADLs such as shopping, handling finances, driving, cooking or using the telephone followed by basic ADL including bathing, dressing, toileting, transferring, continence or feeding. Whether patients can function independently or need some help is usually determined by OT, as part of the comprehensive geriatric assessment. OTs work closely with the physiotherapists to assess patient's own environmental and home status with the identification of appropriate equipment and its delivery before discharge. In addition to optimising functional independence, OT intervention also enhances home comfort, safe use of available facilities, safe access to transport or potential use of telehealth technology and local resources.

The assessment of functional limitations is best completed by an interview with the person and caregiver with open-ended questions about their ability to perform activities. They can further be assessed by direct observation either in their usual place of residence or whilst performing a routine activity, for example, toilet use. The functional status can also be assessed using a standardised assessment instrument with questions about specific ADLs and IADLs. There are more than 15 validated scales to complete functional assessments including Katz index of independence in activities of daily living [73], the modified Blessed dementia scale [74], the instrumental activities of daily living scale [75], the Functional Assessment Questionnaire [76], Functional Assessment Staging Test [77], Barthel Activities of Daily Living Index Scale [78], Alzheimer's Disease Co-operative Study-Activities of Daily Living Inventory [79], Disability Assessment for Dementia [80] and Bristol activities of daily living [81].

The functional scales can detect early functional impairment and often help discriminate mild dementia in comparison to those with no cognitive impairment. The scales that assess complex social functional activities are better in detecting dementia compared to those scales that involve basic ADLs [82]. A good timely recognition of functional difficulties may arrest further decline, postponing the need for care-home placement. The functional assessment scales can only provide a guidance and these scales are commonly used to assess the treatment efficacy in scientific research studies.

2.6. Continence assessment

Urinary incontinence (UI) is defined by the International Continence Society as 'the complaint of any involuntary leakage of urine'. Older people may assume that UI is a normal consequence of ageing and often may not be reported. UI is a common problem and older people may feel embarrassed to discuss the problem and avoid evaluation. Incontinence is associated with social isolation, institutionalisation and medical complication including skin irritation, pressure sores, recurrent infections and falls. The prevalence of urinary incontinence depends on the age and gender; for older women, the estimated prevalence of urinary incontinence ranges from 17 to 55% (median = 35%, mean = 34%). In comparison, incontinence prevalence for older men ranges from 11 to 34% (median = 17%, mean = 22%) [83].

There is a strong association of faecal incontinence (FI) with age; FI increases from 2.6% in 20–29-year-old up to 15.3% in 70 years or above [84]. In hospital settings, UI can be an atypical presentation and is a risk factor for adverse outcomes. The aetiology of incontinence in older people is often multifactorial. People with cognitive impairment usually encounter UI and later

FI. Older people often find it difficult and challenging to express the need of regular toilet use, and as dementia progresses, it could be difficult to identify toilet or use it appropriately. Incontinence and inability to use toilet independently can be frustrating and distressing, which may lead to psychological burden, isolation, immobility or institutionalisation.

Therefore, a good continence assessment should be an essential component for any older people admitted to hospital to ensure good-quality person-centred care, promoting independent living. Assessment of precipitating factors and identification of treatable, potentially reversible conditions are essential steps. Continence problems can be secondary to drug side effects, constipation, impaired mobility, arthritic pain, inappropriate clothing or dexterity.

A good clinical history could categorise UI as stress UI (involuntary urine leakage on exertion), urgency UI (a sudden compelling desire to urinate) or mixed UI (involuntary urine leakage associated with both urgency and exertion). Overactive bladder (OAB) is defined as urgency that occurs with or without incontinence and usually with frequency and nocturia. Bladder diary (72-h urine frequency volume chart) and pre- and post-void bladder scan support clinical diagnosis. Vaginal inspection is helpful to exclude vaginal atrophy, prolapse or infections. Older people with FI should have an anorectal examination to exclude faecal loading, lower gastrointestinal cancer, rectal prolapse, anal sphincter problems or haemorrhoids. Neurological causes of cauda equina syndrome, frontal lobe tumours, neurodegenerative disorders or stroke could also result in UI or FI.

The continence problems can be minimised by promoting regular toilet use, appropriate toilet adaptations and providing walking aids to improve accessibility to toilet. Nocturnal incontinence remains a challenging situation but can be managed using various containment methods or limiting fluid intake in the evening. Drug treatment after specialist continence assessment is usually the next step if non-drug measures failed to provide symptomatic benefits. The aim should be to treat the underlying cause but people who continue to have episodes of UI or FI after initial management should be considered for specialised management.

2.7. Nutritional assessment

Older people admitted with an acute illness are at increased risk of weight loss and this remains a challenge for the teams in the hospital setting. Acute illness can result in loss of appetite, and management of an acute illness may take priority, therefore making older people more vulnerable in the hospitals, particularly those with cognitive impairment or those who cannot communicate their needs. The National UK Dementia Audit Report in 2013 showed that nutritional assessments were undertaken in less than 10% of patients in some hospitals [85].

A detailed nutritional assessment should be undertaken on admission to hospital and should include any recent weight loss, dietary intake and habits. The risk factors including dry mouth, poor oral hygiene, problems with dexterity, reduced vision, acute or chronic confusion, constipation or pain should be explored and actively managed to avoid poor nutrition. Regular nutritional assessments using Malnutrition Universal Screening Tool (MUST) can be helpful and this has been validated to be used by any health professional in the hospital. It is a five-step screening tool, which can identify those who are at risk of weight loss or are malnourished [86].

A collective and simple approach with involvement of family and carers can prevent malnutrition during hospitalisation. Patients should be offered small frequent meals and regular

snacks or preferred food is often helpful. Protected meal times and regular prompting or assistance for those with cognitive impairment can lead to improved food intake [87].

Communicable Diseases

Most Common Infections in the Elderly

Common infections like influenza and UTIs can happen to anyone, but for adults over the age of 65, these illnesses may be much harder to diagnose — leading to chronic poor health, ongoing discomfort and a higher risk of hospitalization.

In fact, one-third of all deaths in seniors over 65 results from infectious diseases, according to the American Academy of Family Physicians (AAFP). Though seniors are more susceptible to infection overall, seniors with dementia or those who are in long-term care may be at even greater risk.

For caregivers, it's critical to learn about the most common infections in the elderly and their often-elusive signs and symptoms: "Nonspecific symptoms, such as decline in functioning, incontinence, loss of appetite and mental status changes may be the presenting signs of infection," according to an article in Infectious Disease Clinics of North America.

If we stay alert to any changes in senior health and take steps to ward off any infections that might be preventable, we can help promote greater wellness and quality of life for our loved ones in their golden years.

Here are the five most common infections in the elderly:

1. Bacterial pneumonia.

More than 60% of seniors over 65 get admitted to hospitals due to pneumonia (AAFP). Seniors are at greater risk for pneumonia for a variety of reasons, including changes in lung capacity, increased exposure to disease in community settings and increased susceptibility due to other conditions like cardiopulmonary disease or diabetes.

Classic symptoms like chills, cough and fever are less frequent in the elderly, says the *Infectious Disease Clinics of North America*; instead, keep an eye out for nonrespiratory symptoms like confusion or delirium. Doctors usually prescribe antibiotic treatment for bacterial pneumonia. Some types of pneumonia can be effectively prevented using a pneumococcal vaccine, and this is highly recommended for nursing home residents.

2. Elderly influenza.

Influenza and pneumonia combined add up to the sixth leading cause of death in America — 90% of which occur in senior adults (AAFP). Weakened immunity in the elderly, along with other chronic conditions, increases the risk of developing severe complications from influenza, such as pneumonia. Because influenza is easily transmitted by coughing and sneezing, the risk of infection increases in a closed environment like a nursing home.

Chills, cough and fever are the common symptoms, though again, influenza may present different signs in older adults. Annual flu vaccinations are usually recommended for seniors in order to prevent infection, but for those already infected, a physician may prescribe antiviral medications to reduce symptoms.

3. Elderly skin infections.

Changes to aging skin and its ability to heal and resist disease mean that skin infections get much more common as we get older. These include:

- Bacterial or fungal foot infections (which can be more common in those with diabetes)
- Cellulitis
- Drug-resistant infections like Methicillin-resistant Staphylococcus aureus (MRSA)
- Viral infections like herpes zoster (shingles) and pressure ulcers

Stay alert to any unusual itching, lesions or pain, and seek treatment if your loved one is in discomfort. Most skin infections are treatable and shingles is preventable with a simple vaccine. Ward off other skin infections by practicing good hygiene such as proper hand washing, particularly if your loved one lives in a senior care community.

4. Gastrointestinal infections.

Age-related changes to digestion and gastrointestinal flora put seniors at increased risk of developing gastrointestinal infections. Two of the most common are Helicobacter pylori, which may cause fever, nausea and upper abdominal pain as well as leading to long-term illness such as gastritis; and Clostridium difficile, an increasingly common diarrhea-causing infection, which usually occurs due to antibiotic treatments that suppress healthy gastrointestinal flora.

Both illnesses are more common in long-term care facilities. While H. pylori is treated using a combination of drug therapies, C. difficile treatment involves halting the use of the antibiotic causing the problem.

5. Urinary tract infections.

Urinary tract infections, or UTIs, are the most common bacterial infection in older adults, reports the AAFP. The use of catheters or the presence of diabetes can increase the risk of UTIs in elderly people. Sudden changes in behavior, such as confusion or worsening of dementia, or the onset of urinary incontinence, are common warning signs — discomfort and pain don't necessarily happen with UTIs in seniors.

If you suspect a UTI, a physician can perform a urinalysis or other testing to confirm the diagnosis and then prescribe antibiotics if needed. Caregivers should make sure their loved ones drink plenty of water, as this can help prevent UTIs.

Keeping senior loved ones healthy is an ongoing process, but caregivers who stay alert and informed are already one step ahead. Share how you help prevent infections in the elderly in the comments below.

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DEPARTMENT OF PSYCHOLOGY

UNIT – V - RESEARCH AND DEVELOPMENT IN GERONTOLOGY - GERONTOLOGY PSYCHOLOGY-SPSY1401

RESEARCH AND DEVELOPMENT IN GERONTOLOGY

India derives its name from the Indus River that flows from the Himalayan Mountains. A country of myriad subcultures that constitute a unity in diversity, its ancient past reaches back to 2000 B.C. As the world's largest democracy, India based its parliamentary system of government on that of the United Kingdom, from which gained its independence in 1947. As a federal union, it includes 29 states and 7 Union Territories (UTs).

India's constitution officially recognizes 23 of the many languages spoken by its citizens. Hindi and English are the primary languages used in academia and in conducting business. Eighty percent are Hindus, 13% are Muslims, and 3% are Christians. Sikhs, Jains, and Buddhists comprise the rest. Although India's industrial sector and technical prowess have grown rapidly, agriculture continues to be the mainstay of the Indian economy (Registrar General of India [hereafter, Registrar], 2011).

Average per capita income is 54,000 Indian rupees or about US$1,000 annually; nearly one third of its population lives below the poverty line, on less than $1.50 a day. The Gross Domestic Product in 2011 was $1.85 trillion. The overall literacy rate is 74%: 82% for men and 66% for women (Registrar, 2011). This brief background sets the stage for examining issues concerning India's growing elderly population.

Demographics of Aging

Two national data sets, the Registrar's Census of India and reports from the National Sample Survey Organization (NSSO), provide most of the information about India's senior citizens. Statistics about the elderly population are drawn from the most recent NSSO survey of 2005 and published in 2006; the next review will be conducted in 2015. The 2011 national census projects that the current total Indian population of 1.22 billion—second only to China—will exceed 1.4 billion by 2030. The elderly population of 90 million may reach 130 million by 2030 (Registrar, 1996 , 2011). India's fertility rate of 2.5 live births may drop further, increasing the current dependency ratio: 125 aged per 1,000 of the general population ages 14–59. Average life expectancy at birth is 69.8 years: 68 years for men and 72 years for women. Life expectancy at age 60 is 18 years for women and 16 for men. About 3.5% of the total population is more than 80 years of age, with women in the majority (Registrar, 2011).

India's rural population constitutes two thirds of its total population; three fourths of Indian elders live in rural areas (NSSO, 2006). Rural/urban differences are important for examining elders' income, support, and health issues.

Table 1 shows that most Indian elders reside with their adult children, a traditional practice. A majority of rural (66%) and urban (63%) dwellers are dependent on their children, who are

expected to provide financial and social support and personal care (NSSO, 2006). In 2007, the Maintenance and Welfare Act of Parents and Senior Citizens was enacted to enforce family elder care and prevent elder abuse.

Table 1.

Selected Social and Economic Indicators and Health Status of the Aged (60+) Population in India (2001–2005)

Indicators			**Percent**	
			Rural	**Urban**
Living arrangements				
Living alone			5.3	4.3
Living with spouse only			12.5	10.4
Living with spouse and family			44.2	44.0
Living with adult children			32.0	32.0
Living with others			4.2	4.9
Economic dependency on children				
Not dependent			32.8	35.9
Partly dependent (supplemented by personal sources)			13.9	11.4
Fully dependent (no self-income)			51.9	51.6
Education status				
No formal education			74	40
	Male	**Female**	**Male**	**Female**

Indicators			Percent	
			Rural	Urban
Health status				
Reporting ailments	29	28	25	26
Immobile/confined to home/bed	6.7	8.8	6.8	10.0

Source: NSSO (2006).

Open in new tab

In terms of education and health status, 74% of rural and 40% of urban elders lacked formal schooling in their younger years, with implications for accessing and addressing their health care needs. Reported ailments are somewhat higher in rural areas where health services are often in short supply. However, urban older women are more likely to be immobile, with implications for greater familial care responsibility. The absence of universal social security and health programs contribute to the dependency of India's elderly population (NSSO, 2006).

Morbidity data are not available in the NSSO 2006 report. However, in the 1996 report, arthritis was reported by 34% of the elderly population; vision problems by 26%; high blood pressure by 10%; diabetes by 9%; heart disease by 3%; and other conditions by 2% (NSSO, 1996). A recent comparison of elder health status in 91 nations ranked Indian seniors near the bottom, at 85 (Global Age Watch Index, 2013).

Developments in Research, Education, and Training

Research

Since the earliest studies in the late 1950s and early 1960s that concentrated on the behavioral and social sciences (see Amesur, 1959 ; Ramamurti, 1956 ; Ramamurti & Parameswaran, 1963, 1964), the pace and breadth of research on aging in India increased during the 1980s and continues today. Approximately 3,000 articles on various aspects of aging in India have appeared in a variety of Indian and international journals (see Karkal, 1999 , 2000 ; Ramamurti & Jamuna, 2010a , 2010b ; Ruprail, 2002). Research output now falls into several major categories: medical, biological, behavioral, and the social investigations (Ramamurti & Jamuna, 2010b), as shown in Figure 1 .

Medical/Geriatric Research

Initially, medical research on morbidity in the elderly population was hospital-based, beginning with the work of Pathak (1978) at Bombay Hospitals. Followed by the sustained work of Venkoba Rao (Rao, 1979 , 1987 , 1991 ; Rao & Madhavan, 1983) of Rajaji Hospital in Madurai, research focused on physical and psychological morbidity, especially mental health, depression, and suicide in the aged. During this pioneering period, Rao also directed the first Task Force on Aging of the Indian Council of Medical Research (ICMR; Rao, 1987). In 1988, a separate in-patient ward for elders was created by Natarajan at the Government General Hospital in Madras. An outpatient clinic for the aged was established in 1996 by Vinod Kumar at the All India Institute of Medical Sciences, New Delhi, to conduct a series of morbidity studies (Kumar, 1996 , 2003).

A 1997 landmark issue of the Indian Journal of Medical Research focused on the prevalence of chronic conditions and their management, including diabetes, hypertension, and arthritis, as well as disabilities. These issues have continued to be addressed by Sharma (1999) , Rosenblatt and Natarajan (2002) , Dey (2003) , and Rao (2004) . Since 2009–2010, increased ICMR funding for individual research projects in geriatrics and geropsychology has expanded these areas of inquiry. Nutrition also has become another significant area of research. Recommended Daily Allowances of nutrients for Indian elders have been compiled by the National Institute of Nutrition at Hyderabad. Research programs conducted by Bagchi (2000) , Natarajan (1995) , Puri and Khanna (1999) , Shah (2004) , and Sujatha (2004) have identified the nutritional status of different groups of the elderly population and the effect of specific supplements on their health status.

Biological Gerontology

Biological research in aging was initiated in the late 1960s by Kanungo and associates at Banaras Hindu University (BHU) in Varanasi. This work centered on enzymes as modulators of the aging process and on the role of chromosomal histones and genetic interventions in modulating gene expressions and their impact on aging (Kanungo, 2004a , 2004b). Dr. Kanungo also founded the nationwide Association of Gerontology (India) in 1981.

This research emphasis has been continued by Thakur and associates, at BHU, by developing an amnesic mouse model and examining the effects of Aswagandha plant leaf extract and the role of estrogen coregulator molecules on brain function, including memory (Thakur, 2003 , 2004). Other researchers across India, notably Subbarao (1997) , conduct studies in several areas, such as telomere repair in brain cells.

Social and Behavioral Gerontology

Gerontological research in this area has expanded since its beginning to include welfare, economics, and demography. An extended description of these developments, especially in the behavioral sciences, was conducted by Ramamurti and Jamuna (2010b) . A major development was the founding, in 1983, of the first research center on aging in India. The Centre for Research on Ageing (CEFRA) was established in the Department of Psychology of Sri Venkateswara University (S.V. University) and has been supported by the University Grants Commission's Departmental Special Assistance Program (UGC/SAP) since 1990 (CEFRA, 2014).

More than 20 major research projects conducted by Ramamurti, Jamuna, and associates have covered a variety of topics including: markers of successful aging; disability assessment and coping; characteristics of centenarians; and development of a conceptual model of aging (Ramamurti & Jamuna, 2010a , 2010b). The current focus is on a prospective cross-sequential study of health and aging. Besides its teaching, training, and research, outreach activities include distributing useful handouts for seniors and their families, for example, fall prevention, improving memory, and nutritional tips for healthy aging.

A major surge of social and behavioral research has occurred since 1990, including major contributions on gender aging, mental health, and empowerment of women (Prakash, 2003 , 2004); on health and aging of urban elders (Sivaraju, 2002a , 2002b); advocacy and rights of the elderly population (Nayar, 2003); and sociological perspectives on and awareness of elder abuse (Shankardas, 2003).

Other major areas of inquiry have included rural aging, loneliness (Prafulla, 2009); anthropometry of the elderly population, female aging, and health (Bagga, 1994 , 2013); pensions, old age homes, and coping with disasters (Anupama & Sonali, 2012); and the demographics of aging and social security (Rajan & Matthew, 2008).

Much of this research has been published in major Indian journals dedicated to aging. They include the Indian Journal of Gerontology (Indian Gerontological Society); Research and Development Journal (HelpAge India); Aging and Society: The Journal of Gerontology (Calcutta Metropolitan Institute of Gerontology); and the Indian Journal of Geriatrics (Indian Association of Geriatrics). Research findings also appear in periodical reviews and annotated bibliographies (see Karkal, 1999 , 2000 ; Ramamurti & Jamuna, 2010a , 2010b ; Ruprail, 2002).

Education and Training

Higher Education Roles

In contrast to the development of research, the trajectory of gerontological education has been less robust. The first graduate course in gerontology was introduced in 1976 by the Department of Psychology, S.V. University, as an applied branch of psychology at the master's

and doctoral levels. It was followed by a master's specialization and a multiyear diploma course in 1990, supported by the UGC/SAP.

The Centre for Molecular Biology of Aging at BHU has offered doctoral programs in molecular biology of aging since 1980. A postgraduate course in geriatrics was initiated by the Madras Medical College in 1996.

Despite these initial developments, gerontology as a special course of study in higher education has grown slowly. In 2000, the Government of India (GOI) recommended that universities and other educational institutions introduce courses in aging as part of implementing the National Policy on Older Persons (NPOP). Several institutions now offer courses as part of master's and doctoral-level programs in psychology, social work, anthropology, and home science.

Other Organizations Engaged in Research and Professional Training

The National Institute of Social Defence, as part of the GOI's aging initiatives, collaborates with nongovernmental organizations (NGOs) and educational institutions to train individuals in geriatric and other elder care services and to raise public awareness about aging. The gradual expansion of biomedical research has led to development of training modules in geriatric clinical care for a variety of health professionals. At the National Institute of Health and Family Welfare of the Ministry of Health, Khan has initiated programs on training health care professionals in aging and promoting doctoral research (Khan, 2011).

In 2011, the National Programme for Health Care of the Elderly (NPHCE) was established to develop a multilevel, intergovernmental structure that delivers care dedicated to specific needs of seniors. It also builds the capacity of medical and paramedical providers through training programs.

Other Resources for Aging

National Data Sets

The NSSO reports and the national census data are important resources for both Indian and international researchers. Beginning in 1985–1987, the NSSO undertook a nationwide sample survey on rural and urban elders to assess their socioeconomic status. Similar surveys were conducted in 1995 and 2005, with results published in subsequent years (NSSO, 1996 , 2006).

Census data of the general population are collected every 10 years, followed by reports from the Registrar. However, these surveys lack detailed information about persons aged 80+. Efforts are under way to generate separate data on this age group from the 2011 census.

A new resource, the Longitudinal Aging Study in India (LASI), was created in 2009 by the International Institute of Population Science of Mumbai, the Harvard School of Public Health; the School of Medical Sciences, University of California, Los Angeles; and the RAND Corporation. Its objective is to provide reliable information on the health, health care, and social and economic aspects of the Indian population, aged 45 and older. Its first phase (2013–2015) will cover two waves of data and be made accessible to all, including other researchers and policy makers (http://www.iipsindia.org/research_lasi.htm).

Nongovernmental Organizations

With GOI and other funding, NGOs have played major roles in implementing national policy by conducting studies and offering various services to seniors. The largest—HelpAge India—established in 1978 (www.helpageindia.org). With branches nationwide, it collects data and offers different kinds of programs (e.g., old age homes, day care centers, health clinics) and education. Information about research and its programs is published in its Research and Development Journal .

The Alzheimer's and Related Disorders Society of India (ARDSI, 2013), founded in 1991, now include many local chapters. ARDSI has focused on various aspects of dementia awareness and care (www.alzheimerindia.org) and provides data on the prevalence of dementia in India. A recent study reported that one in every 20 Indian elders aged 60+ and one in five aged 80+ suffers from this disease (Roy, 2010).

Other NGOs providing education and care are located in several major cities. They include the Centre for Gerontological Studies in Trivandrum that organizes seminars and conferences on aging and rights of the elderly population (www.cgsindia.org). The Calcutta Metropolitan Institute of Gerontology, established in 1988, provides research, training, and care services (www.cmig.org.in). The Heritage Hospitals and Foundation, established in 1994 at Hyderabad, was India's first private sector geriatric care service (www.heritagehealthcareindia.com). In 2004, the International Longevity Center at Pune was created to conduct research and training and advocate for the aged (www.ilcindia.org).

Several NGOs are advocacy organizations. The All India Senior Citizens Confederation (www.aisccon.org) represents seniors nationwide. It publishes a newsletter and a magazine, The Twilight Years . The SSS-Global is a leading web-based discussion group of senior citizens (sss-global@yahoogroups.com). Some foundations in Mumbai provide services and advocate for the elderly population. They include the Dignity Foundation (1995); the Harmony Foundation (2004); and the Silver Inning Foundation (2008). Each publishes a magazine for seniors. Additionally, a large number of local NGOs serve elders by organizing programs on their rights, health care, and legal aid. None of these organizations, however, has achieved the

same levels of influence on public policy as the AARP in the United States, the Senior Citizen's Forum in Canada, or the United Kingdom's Age Concern (Nayar, 2003).

Government Policy

The GOI, after extended deliberations and consultations with aging experts, established India's first national aging policy—the NPOP—in 1999. The Ministry of Social Justice and Empowerment (hereafter, MOSJE), charged with implementing this policy, had no budget for this new responsibility. Instead, it was expected to coordinate implementation through budgets of other ministries identified as relevant to NPOP goals. Major goals include: provide financial security through savings plans, pensions for the needy and workers in the nonindustrial sector, special tax deductions, and discounts in travel and hospital services; promote affordable shelter and subsidize basic necessities (e.g., food); advance and improve primary health care and health insurance for elders; accentuate research and training in geriatrics and gerontology; strengthen the family as the primary eldercare provider; and value seniors as human resource partners in national economic development. The MOSJE disseminates information about senior programs.

NPOP goals and objectives often raise implementation issues. For example, to hold adult children legally responsible for their aging parents, Parliament enacted the Maintenance and Welfare of Parents and Senior Citizens Act in 2007. Although the law required state and UT help, their involvement has been uneven. Their ability to implement national policies is often dependent on their priorities and budget capacity (Rajan & Matthew, 2008). Six years later, only 15 states and 6 UTs had initiated enforcement (http://socialjustice.nic.in/oldageact.php).

This issue and other NPOP problems led to proposals for amending the national policy. An advisory committee was convened in 2010 that subsequently issued its recommendations in 2011. Various stakeholders have continued providing input. The 2014 elections brought in a new government that immediately appointed a new MOSJE minister, who is expected to provide leadership for the new policy on aging.

Emerging Issues on Aging in India

Today, India is challenged by several major transitions (demographic, health, sociotechnological) since it achieved its independence. As a developing nation, these changes have been quite rapid, compared with experiences of more developed nations undergoing similar changes in their past (Hendricks & Yoon, 2006). These circumstances have put considerable stresses and strains on India's economy.

A basic issue for current and future Indian elders centers on government versus family responsibility for their support. Given a trend toward nuclear families (Khan, 2004), to what extent can the traditional multigenerational family be expected to provide necessary care and

support for seniors, two thirds of whom live below the poverty line? Viable public–private options are needed for management and maintenance of huge numbers of elders, particularly the oldest old.

A second issue centers on adequate health care for escalating numbers of elders, many with chronic diseases that can exacerbate dependency and lead to considerable expenditures. Current national health programs, as well as proposed expansions in health and mental health policies, cover all citizens, including seniors, but they rarely address geriatric care needs.

However, important changes are under way. Recently, states have received NPHCE funding to develop regional geriatric centers and local clinics. Implementation will probably take some time before it is widespread (K. R. Gangadharan, personal communication, April 18, 2014). Additionally, two National Institutes on Aging, to be funded by the GOI, have been designated, one in the north (Delhi), the other in the south (Chennai). NGOs also play important roles, as exemplified by a recent telemedicine/hospital-based dementia care management system in Bangalore (www.nightingaleseldercare.com).

Finally, the LASI study is expected to generate significant data on health issues of middle-aged and older adults as a basis for future health care provision. Policy makers and NGOs at all levels also must familiarize themselves with effective policies and programs within India and elsewhere.

A third issue concerns income security of the elderly population. National means-tested monthly old age pensions are paid to poor, widowed, or single elders aged 60+, lacking family support. States administer this program and can opt to provide monthly supplements, ranging from 50 to 1,000 rupees, depending on the extent of their welfare budgets and other concerns.

Currently, there are two other kinds of pensions: a lifetime monthly retirement benefit, predominantly for government workers, and lump-sum “provident funds” for some private sector retirees. Critical long-range solutions involve expanding the availability of lifetime savings and pension plans for those who work in nonindustrial and casual occupations, and developing a universal social security program, particularly for the oldest old.

Developing national programs for India’s elders will increase the demand for more research and education about aging, including effective social policies for the growing numbers of seniors (Birren, 2006). Strategies for enhancing gerontological education programs include increased research funding; faculty development and continuing education of existing faculty; widespread professional education, training and certification; expanded graduate and undergraduate degree education; and practical education for elders and their families, especially those who live in rural areas (Liebig & Kunkel, 2014).

In recent years, population aging has been recognized as an emerging social challenge in many parts of the world. Some clear evidence of population aging is observed; for example, the share of the aged 60-plus population in the world increased from eight percent in 1950 to 12 percent in 2014, and it is predicted to be 21 percent by 2050 [**1**]. The global life expectancy also increased from 47 years in 1950 to 70 years in 2014, and a further increase to 75 years is expected by 2050 [**2**,**3**,**4**]. Only a few decades ago, the major concern regarding world demography was its rapid growth and increasing pressure on the ecosystem and food security [**5**,**6**]. While population growth will continue in some fast-growing countries in Sub-Saharan Africa and South Asia [**7**], the population aging phenomenon will have profound impacts on various dimensions of society, and this aging trend will be intensified in the coming decades [**8**,**9**].

Although there is an accumulation of studies about population aging covering diverse topics, existing literature concentrates on population aging mainly in developed countries. Population aging is largely seen as a threat to: (i) sustainable economic growth due to the possible shrinkage of the labor force [**10**,**11**]; and (ii) social security systems to support the elderly, such as pension plans, healthcare schemes and long-term care insurance [**12**,**13**,**14**,**15**]. In contrast to these alarmist views, some call attention to the emerging "silver market" to illustrate a positive economic outlook ([**16**], pp. 22–23; [**17**,**18**]). Moreover, possible mitigation of economic decline is suggested by way of increasing female labor participation and policy reforms regarding the legal retirement age [**19**].

Despite the wide coverage of the earlier literature, these issues may represent only part of the entire picture of population aging because they are limited to macro-scale changes derived from population estimations. Furthermore, compared to the volume of knowledge on the cases of developed countries, little is known about the actual changes that people, both elderly and young population groups, are and will be experiencing in developing countries.

With the increase of life expectancies and the actual size of the older population defining an era of aging societies, in which increasing proportions of older populations will continue in the coming decades, what kinds of challenges should we expect? Given the expected impacts of population aging in the coming decades, aims to: (i) describe population aging trends in the world and the regional demography; (ii) provide a structural review of population aging challenges at three levels, namely the national, the communal and the individual levels; and (iii) elaborate future research topics on population aging that particularly emphasize the situation of developing countries. For the third objective, this study briefly introduces the current state of rural Japan, which is possibly the most aged region in the world. The case of rural Japan is presented to illustrate the emerging population aging challenges in rural areas where the aging phenomenon is happening rapidly.

2. The Era of Aging Societies

2.1. Population Aging in the World and the Regional Demography

As was briefly mentioned in the previous section, the world demography is shifting to an era of population aging. **Figure 1** presents the demographic changes of the world and three sub-regions**1** with four age groups, and the share of older populations (aged 60-plus) from 1950–2100. As the figure of the "World" clearly shows, aging will emerge as a strong trend in the world demography. At the same time, **Figure 1** also illustrates different patterns of population aging in three sub-groups.

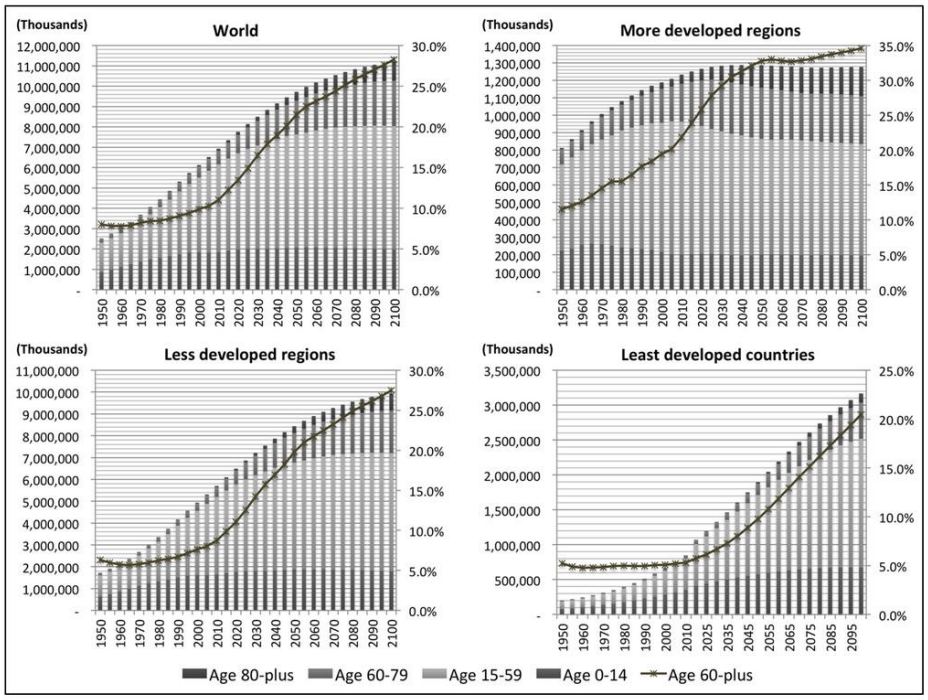

Figure 1. Population trends of the world and three sub-groups with four age groups and the shares of the aged 60-plus population. Note: Created from population estimations for 1950–2010 and population projections with a medium fertility rate for 2015–2100 by the United Nations.

In the world demography, the older population group remained below 10 percent from 1950–2010 ("World" in **Figure 1**). The predictions suggest a steady increase of this age group from 2015 onward. The share of the older population is predicted to reach 21.5 percent by 2050 and 28.3 percent by 2100. Although some scholars suggest that the world population may stabilize at around 10 billion people after 2050 [**20**], aging will remain as a clear trend in the world demography in the coming decades.

In the case of more developed regions, population aging was already present in the late 1970s as the share of the older population exceeded 15 percent by 1975, and it further increased to 21.9 percent by 2010 ("More developed regions" in **Figure 1**). One key demographic feature of developed regions is that the total population will be stabilized at around 1.28 billion from 2030 onward. At the same time, the size of the older-old (age 80-plus) group is expected to increase steadily. This demographic pattern will create a further increase in the share of the older population to 32.8 percent by 2050 and to 34.6 percent by 2100.

In the less developed regions, population aging will quickly evolve from 2020–2060 as the share of the older population is predicted to double from 11.9 percent to 21.8 percent ("Less developed regions" in **Figure 1**). Although the acceleration of population aging will be slower, the aging trend will continue to be on the rise, with an increase to 27.5 percent by 2100.

In contrast to the other two sub-regions, the least developed countries will experience rather gradual population aging. As **Figure 1** shows, the share of the older population is predicted to increase gradually from 5.3 percent in 2010 to 9.8 percent by 2050 ("Least developed countries" in **Figure 1**). From 2050 onward, aging will be accelerated in these countries, with the proportion of the older population expected to reach 20.5 percent by 2100.

Along with its share, the actual size of the older population is also important. **Figure 2** presents the projection of the aged 60-plus population in six regions of the world. Among them, Asia will be home to 1.3 billion of the elderly by 2050 and 1.6 billion by 2100. Africa will be the region with the second largest population of older people by 2100, with 844.4 million people. Latin America will also experience a drastic increase of the older population from 70 million in 2015 to 200 million by 2050, and a further increase to 269.9 million by 2100. In contrast, in Europe, Northern America and Oceania, the pace of older population increase will not be as significant as the other regions (**Figure 2**).

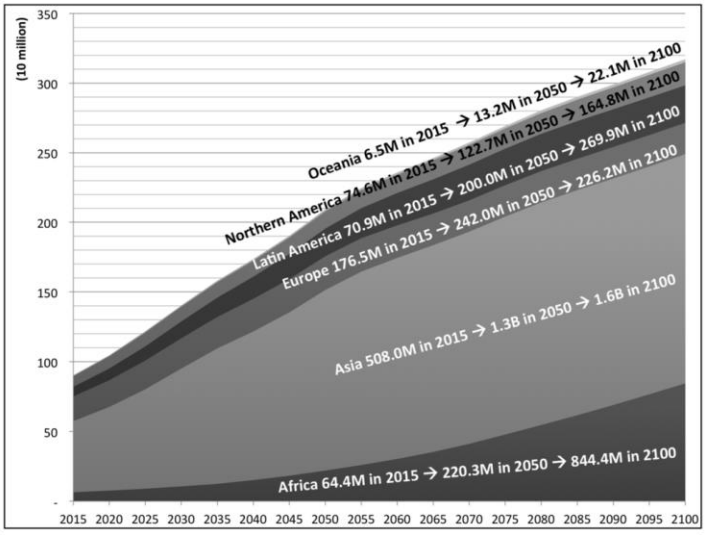

Figure 2. Trends of the aged 60-plus population in six regions of the world. Note: Created from population estimations for 1950–2010 and population projections with medium fertility rate for 2015–2100 by the United Nations.

2.2. Demographic Causes of Population Aging

Population aging is mainly caused by two demographic changes: (i) decline in fertility rates; and (ii) increase in life expectancy ([**7**,**21**,**22**]; [**23**], pp. 13–20; [**24**,**25**]). These two demographic changes are long-lasting and largely irreversible as countries achieve social and economic development [**26**].

As **Figure 3** shows, the decline in the fertility rate has been a long-term trend in both the world and regional demography. The total fertility rate in 1950 at the global level was 4.9 births per woman. The figure dropped to 2.6 births by 2010, and a further decline to 2.0 births is expected by 2050. At the regional level, the decline in fertility rate has been particularly noticeable in Europe and Asia. In Europe, the figure dropped from 2.7 births per woman in 1950 to 1.5 in 2010, and an additional slight decline to 1.5 births by 2050 is predicted. As for Asia, the figure was 5.8 births per woman in 1950, but it dropped to 2.3 by 2010 and is projected to be 1.9 by 2050. Although Africa still has as high as 4.8 births per woman today, the region is on a long-term declining trend. The projection suggests that the fertility rate of Africa will decline to 3.1 births per woman by 2050. As **Figure 3** illustrates clearly, low fertility rates are common across all regions, and this trend will be accelerated in the coming decades [**27**].

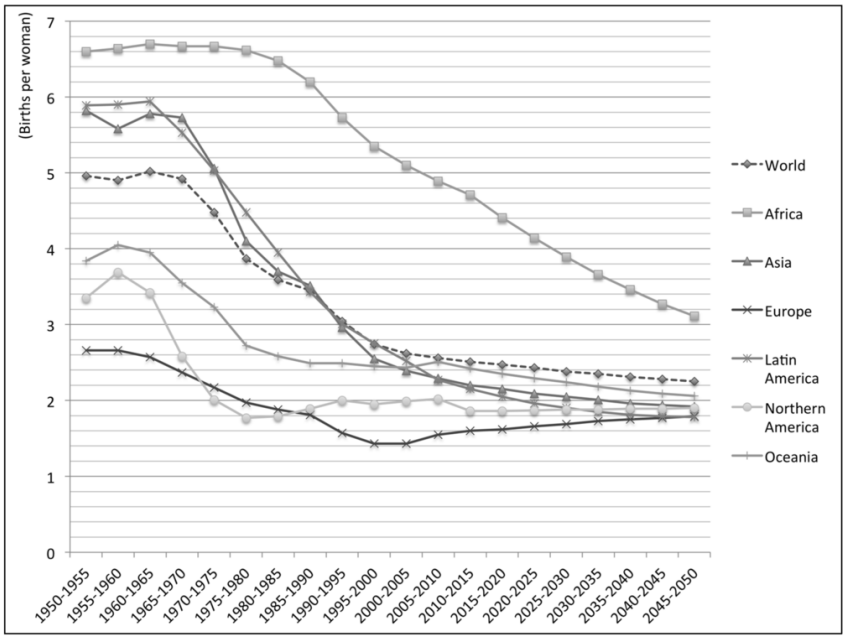

Figure 3. Trends in the total fertility rate in the world and six regions. Note: Created from total fertility estimations for 1950–2010 and projections with a medium fertility variant for 2015–2050 by the United Nations.

The second demographic cause of population aging, the increase of life expectancy, increased significantly both in the world and regional demography. **Figure 4** depicts a long-term trend of life expectancies for the world and six regions. The world average was 46.8 years in 1950, and it increased to 68.8 years by 2010 (22-year increase). Asia and Africa were two regions with lower life expectancies than the world average in 1950 at 42.1 years and 37.3 years, respectively. By 2010, Asia surpassed the world average at 71.6 years, although Africa still remained much lower than the world average at 56.5 years. Latin America had about a five-year longer life expectancy than the world average in 1950 at 51.2 years, and it increased to 74.5 years by 2010. Northern America was the region with the longest life expectancy at 68.6 years in 1950. This region already surpassed 70 years by 1970 and further increased to 79.2 years by

2010. Europe and Oceania regions also had about 15–18-year longer life expectancies than the world average in 1950. These regions also experienced an increase, to 77.5 years by 2010. Towards 2050, the life expectancies in Asia, Northern America, Latin America, Europe and Oceania are projected to increase further. Asia is expected to reach 78.0 years, and the remaining four regions are expected to reach somewhere between 81.0 and 84.0 years. Although Africa will continue to have lower life expectancy than the world average, the region's figure is expected to increase sharply to 66 years by 2030 and nearly 70 years by 2050. Overall, as **Figure 4** also presents, the world average life expectancy increase will be a 30-year increase from 1950–2050.

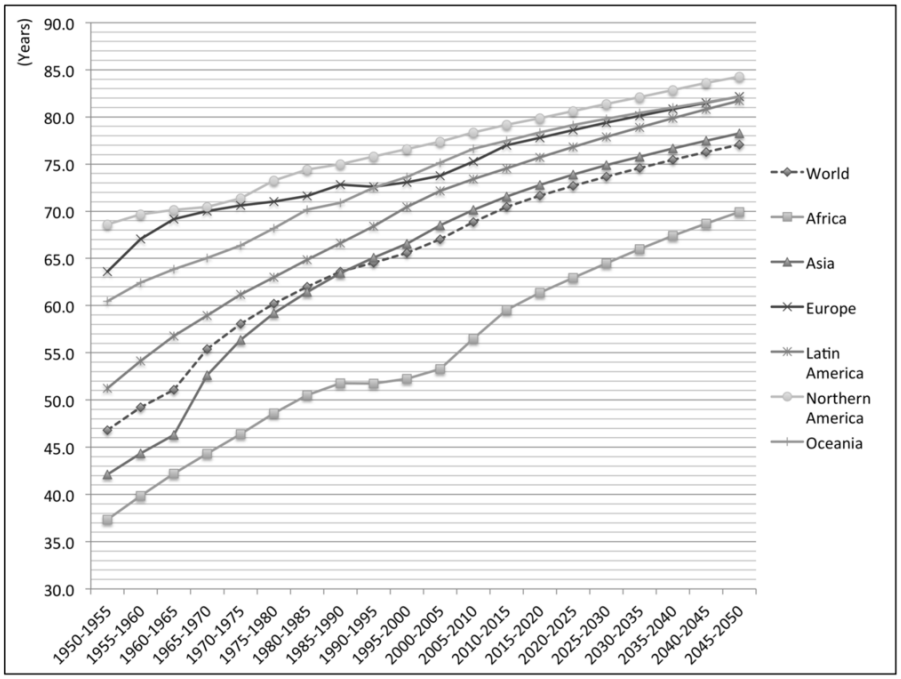

Figure 4. Trends in life expectancy at birth in the world and six regions. Note: Created from life expectation estimations at birth from 1950–2010 and projections with medium fertility variant for 2015–2050 by the United Nations.

In addition to the increase in life expectancy at birth, the increase of life expectancy at older ages is also a major contributor to population aging. Shrestha (2000) [**28**] states that population aging is defined by demographers as "an increasing median age of a population or an alteration in the age structure of a population, so that elderly persons are increasingly represented within a country's overall age structure". However, population aging is also about people living longer lives than they did in the past, as life expectancies, particularly at older ages, have improved [**29**]. **Table 1** shows the trends of life expectancy at age 60 in the world and six regions for males and females. In the world population, a 60-year-old male could expect a remaining 13.1 years in 1950, while this increased to 17.8 years by 2000 and is predicted to reach 21.7 years by 2050. As for a 60-year-old female, it was 15.3 years in 1950, 20.8 years in 2000, and it is expected to be 24.3 years by 2050. In each region, in general, there is an increasing trend in life expectancy of

about 6–10 years from 1950–2050. Females, throughout this time, have about a two- to three-year longer life expectancies than males.

Table 1. Life expectancy at age 60 in the world and six regions.

3. Pervasiveness and Acceleration of Population Aging

As previous sections illustrate, one key characteristic of the population aging phenomenon is its pervasiveness both in developed and developing countries. In terms of geographical expansion, those areas with more than 20 percent of their **population being age 60-plus are concentrated in Europe, North America, Oceania and Japan in 2014**. However, by 2050, countries with the same proportion of elderly people will expand to both North and South America, the entirety of the Eurasian continent and a wide area of the Asia and Pacific region, even in some countries in Northern Africa and the Middle East [**30**,**31**,**32**].

In developing countries, the expansion of population aging is happening at a much faster pace than developed countries. Another common indicator to measure the degree of population aging is to examine the time (number of years) elapsed for the increase in the share of the aged 65-plus population or the elderly dependency ratio (EDR) from 7–14 percent [**22**,**33**,**34**,**35**]. Furthermore, some scholars have put forward 21 percent (or 20 percent or higher) as another figure to illustrate a super- or hyper-aging society [**10**,**36**,**37**,**38**]. Reflecting these possible benchmark figures, **Figure 5** presents the number of years taken or predicted to take for three aging transitions at the societal level. Each phase of transition is in multiples of 7–28 percent. As for the first transition, from 7–14 percent, European and North American countries took a half to one century to achieve this transition. For example, France, Norway and Sweden took more than 80 years; Australia, Canada and the United States needed more than 60 years; and even the shortest cases—Germany, Spain and the United Kingdom—took more than 40 years. In contrast, the first transition took place or is predicted to happen within 30 years in Asian and South American countries. It will be particularly short, less than 20 years, in Brazil, Colombia, South Korea and Vietnam.

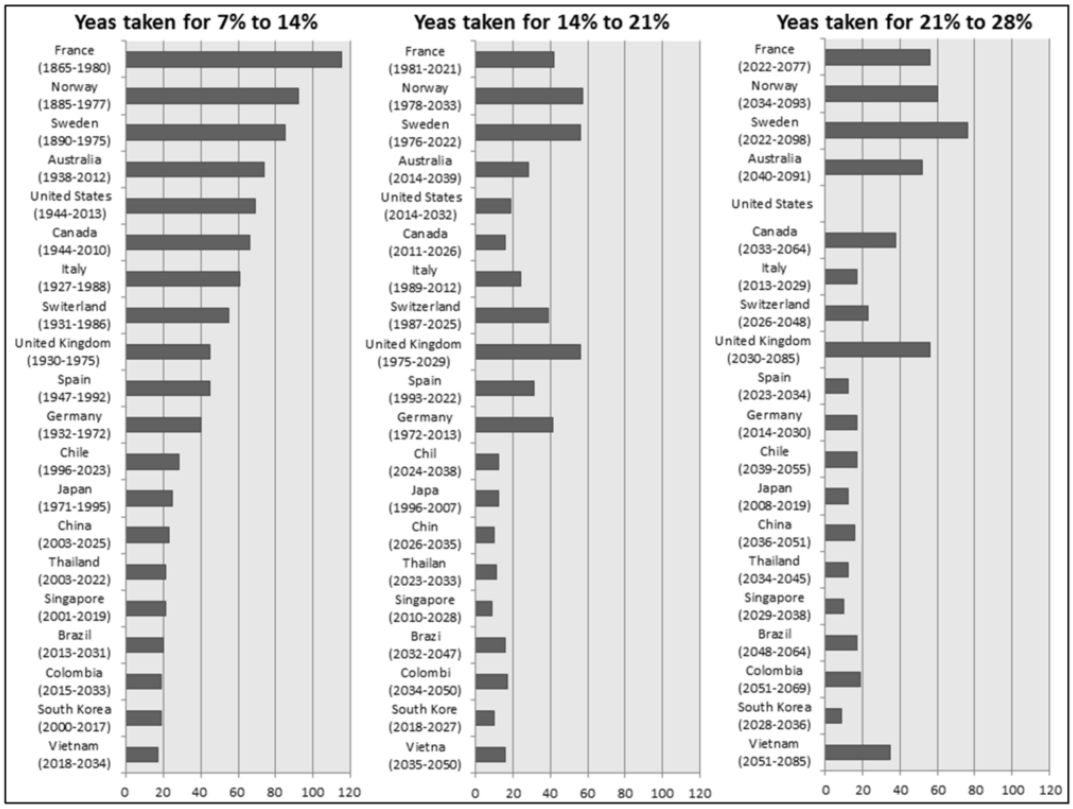

Figure 5. Number of years taken or predicted to take for three aging transitions in selected countries. Note: Created from the Organisation for Economic Co-Operation and Development (OECD) and UN demographic database. Years in parentheses are the periods during which each aging transition occurred or is predicted to occur.

The second and third aging transitions are predicted to happen within a much shorter amount of time in developed countries. The second transition, from 14–21 percent, is expected to happen in less than 60 years for Europe, less than 20 years for Canada and the United States and in around 10–15 years for Asia and South American countries. All countries listed in **Figure 5** will complete the second aging transition by 2050. Although the third aging transition may take a longer time for some European countries, it is also expected to occur as rapidly as the second transition in the majority of countries (**Figure 5**). Currently, only Japan, Germany and Italy have reached the second aging transition, and among these three countries, Japan is the most rapidly aging country, as it will reach the third transition by 2019. In general, the number of years taken or predicted to take for these three aging transitions are expected to be lower as these countries move to later transitions in the future.

As **Figure 5** illustrates, population aging will be greatly accelerated in the coming decades and have profound impacts both in developed and developing countries. This phenomenal acceleration of population aging would particularly be a peril for developing countries, as they have to face the emerging demands for medical treatment, long-term care and financial support for aging societies before they fully benefit from their economic development ([**39**], pp. 30–47;

[**40**,**41**]; [**42**], pp. 86–95). Responses to population aging and related social challenges must be developed according to the speed of population aging in developing countries.

4. Population Aging at Three Different Levels

As numerous profound impacts of population aging are anticipated, it is important to structurally analyze the expected challenges at different levels. This point is also supported by Bloom et al. (2011) [**43**], as they propose adaptation strategies to population aging at three different levels: (i) societal; (ii) organizational; and (iii) individual levels. Employing a set of analytical levels will greatly help, particularly developing countries, to foresee possible challenges. In this paper, the authors propose using (i) national; (ii) communal; and (iii) individual levels to delineate the emerging population aging challenges.

4.1. Population Aging Challenges at the National Level

At the national level, in developed countries, population aging is often framed as an imminent issue for social welfare systems, which are based on the balance between the older population who receives services and the younger population who supports the system's operation ([**12**,**44**]; [**45**], pp. 9–28; [**46**,**47**]). In 2010, there were four persons of working population age (age 15–64) to support one older person (aged 65-plus) in developed countries; however, this ratio is predicted to decline to three working age persons to one older person by 2025 [**7**]. This change in the balance between the older population and the younger population is caused by the rapid increase of the older-old population (aged 80-plus) in the coming decades [**2**]. Since public insurance for medical and geriatric services is covered almost universally in developed countries [**48**] and the older-old persons have a higher risk of suffering from chronic diseases and developing disabilities [**49**,**50**], there will be considerable pressure on welfare budgetary schemes. For example, Japan, the most aged country in the world where the aged 65-plus population accounts for 25.1 percent of the population, the share of social security expenditure of the country's total national income increased from 5.8 percent in 1970 to 29.6 percent in 2010. In actual terms, 70.5 trillion yen (equivalent to 579.5 billion US dollars) was spent on elderly care, which is equivalent to 68.1 percent of total social security expenditure. This figure was the largest ever, yet continual increases are expected [**51**].

In the context of developing countries, where social welfare schemes are not yet well established, the main challenge is to adequately respond to the escalating medical and other needs of the elderly. Among these countries, the impact of aging will be felt most drastically in China, as the country has the largest aging population, which is 160 million aged 60-plus people [**52**]. Considering the country's shortage of nursing centers, the difficulty in constructing care facilities fast enough to catch up with the growing aging population and the relatively expensive medical costs for low and middle-income people in China, it will be important to train geriatric care workers, to prepare a policy to cover uninsured and underinsured elderly and to build a strategy to cope with the expected increase of elderly with disabilities [**53**,**54**]. Although there is a considerable difference in terms of the speed and scale of aging transitions in each country, the

development of socioeconomic systems to provide economic security for the growing older population will be a shared concern among developing countries [**22**].

4.2. Population Aging at the Communal Level

The definition of the communal level needs to be flexible, since this level includes all units of society between the national and the individual levels. In a practical sense, the communal level includes all administrative units below the national government, such as provincial and municipal areas, and those smaller units of social groups, such as neighborhood communities or voluntary groups of residents. In addition, the focus of the communal level is not limited to the well-being of the elderly. The core challenge at this level is about securing adequate living conditions for all generations and maintaining the livelihood of societies while facing population aging challenges.

As for developed countries, topics discussed at the communal level in earlier literature have varied across urban and rural areas. The issues of shrinking cities and abandonment of facilities, such as complex housing, are discussed in relation to the living environment of elderly residents in urban areas [**55**,**56**]. Recent urban, community-based initiatives, such as Groundwork in the United Kingdom [**57**,**58**] or Machizukuri (participatory planning process) in Japan [**59**], are exemplary communal initiatives that aim to create social ties by enhancing citizens' participation in city and neighborhood planning [**60**]. These bottom-up and autonomous approaches in community design enable the community members to address the demands of older residents. These local initiatives encourage residents' collective actions to build an inclusive society for all generations in urban communities.

In rural areas, the proportion of the older population tends to be higher than in urban areas, often as a result of youth migration to cities [**23**]. Such out-migration of rural young population is increasingly common in developed countries, and older residents are often left behind in rural towns [**61**,**62**,**63**,**64**]. In the case of Japan, the United Kingdom and Ireland, rural residents are experiencing critical declines in access to basic services, such as grocery stores, post office services and gas stations, due to gradual withdrawal of service providers from remote areas [**65**,**66**,**67**,**68**,**69**,**70**]. Closures of basic services primarily affect local living conditions, particularly of elderly households, and decrease chances for interaction among community members, which often becomes a driver of social isolation for older residents.

In the case of developing countries, the types of challenges at the communal level are more diverse and particular to social contexts. Although the literature is limited, Rittirong et al. (2014) [**71**] reported the importance of support by community organizations, such as Buddhist temples or local healthcare centers, in Thailand. They also pointed out that religion has an important role for the elderly in Thailand, as they participate in ceremonies at temples on holy days every month and interact with other participants. Cases of community care are also reported in Taiwan where neighborhood-based communities in cities may be critical in providing geriatric care for the urban elderly [**72**]. As social welfare schemes for the elderly are either not available or may not be fully established, structural responses at the communal level will be a key approach for community-based care for elderly residents. In addition, the notion of sustainable development

will be particularly useful in analyzing diverse and unpredictable population aging challenges in developing countries. The application of the sustainable development concept allows a holistic view to investigate hidden challenges, as it explores the economic, environmental and social dimensions of the target system [**73**].

4.3. Population Aging at the Individual Level

Aging is a life course process of individuals. During this process, every person experiences gradual changes in physical and psychological conditions. The main challenge of population aging at this level is how to ensure the fulfillment of living conditions for older individuals.

Regardless of the differences between developed and developing countries, older people tend to be at higher risk on various occasions in their day-to-day lives. Earlier studies suggest that older people have higher health risks and a greater possibility of being victims of severe climate events, such as heat waves [**74**,**75**,**76**] and hurricanes [**77**,**78**]; especially those with chronic diseases are more vulnerable to these events. In addition, older people are also exposed to greater risks by being trapped in a state of social exclusion or relative poverty [**79**,**80**,**81**].

In terms of the psychological conditions of older people, loneliness and social isolation are two important concepts that enable better understanding of the state of older people in a society. To begin with, loneliness is a subjective notion and describes the state of individuals experiencing the loss or absence of an intimate or needed relationship [**80**,**82**], yet it does not necessarily imply the state of an individual being alone per se. Drennan et al. (2008) [**83**] concludes that people with a higher degree of loneliness tend to be: (i) males at the low income level; (ii) those who infrequently communicate with their children or other family members; and (iii) often those who provide home care for their spouse or relatives. In contrast, social isolation is an objective notion that describes the actual degree of connectedness to other individuals or social groups. The condition of being socially isolated is explained as “the objective state of having minimal contact with other people” [**84**]. Poor physical health, low morale and experiencing difficulties in communication and mobility are considered as the causes of social isolation [**85**]. As individuals go through different stages of life, they experience various patterns of losing social relationships that they have built. For example, retirement is a representative occasion of losing connections that can increase one’s vulnerability not only in financial terms, but also in social relationships. Deaths of partners, friends and family members are also symbolic moments that may become a trigger for a greater degree of social isolation.

Along with general life events, gender appears as the second trigger for social isolation. Older women often receive a double jeopardy that positions them first as “elderly” and second as “woman”. In fact, older women tend to be subjected to discrimination in employment, access to daily needs, ownership of property and even participation in leisure activities [**86**,**87**]. Such inequalities in older woman tend to appear in a rural setting more so due to the required travel distance to services; recent price increases in energy and food are placing additional pressure on household budgets, and such situations are generally more difficult to manage for older female residents [**66**,**88**]. In addition, in developing countries, older women tend to have lower

educational levels and economic independence; hence, they tend to be economically dependent on either their husbands or relatives [**89**,**90**].

One major challenge regarding loneliness and social isolation of older people exists in the social perception towards older people. General perceptions of the elderly often have negative connotations, and they set a strong assumption that "older people are inevitably dependent and a burden on society" [**91**]. Such stereotypes classify the older population as welfare beneficiaries and underestimate their contributions to society. In reality, older residents, especially those in their pre-retirement, are often found as major contributors in caregiving and volunteering and also as active entrepreneurs in local communities [**92**,**93**,**94**]. In a society with higher proportions of the elderly, it will be critical to build an inclusive atmosphere not only for older residents, but also for all generations, recognizing older residents as active members of society and actively working to prevent loneliness and social isolation.

5. Topics for Future Research

5.1. Population Aging and Sustainable Development

As discussed in the previous sections, population aging is increasingly becoming a global phenomenon, and various challenges are predicted across the national, communal and individual levels. Particularly in developing countries, where both physical infrastructure and social systems are rapidly evolving, what will be the unique challenges related to aging? More specifically, along with the challenge in establishing social security systems and ensuring further economic growth at the national level, what should be the focus of studies on population aging at the communal and individual levels in the social and cultural contexts of developing countries? To answer these questions, discussing population aging in line with the concept of sustainable development, which incorporates intergenerational equity, environmental concerns and social equality dimensions while pursuing economic development [**95**,**96**,**97**], would be very helpful, as it provides a holistic view to address different dimensions of the aging phenomenon.

To start with, the current development scheme of developing countries does not necessarily address the demands of the elderly. This is clearly pointed out by Shetty (2012) [**98**] who argues that there has been **"a massive disconnect between the Millennium Development Goals (MDGs) and aging"**. Highlighting the looming threat of aging in the coming decades**, some international organizations are calling for global attention to include population aging on the sustainable development** agenda [**99**,**100**]; however, aging is not included in post-MDG discussions. This may be because of the still very young population of developing countries. Shetty (2012) [**98**] pointed out that many developing countries have made their efforts in dealing with diseases in youth and middle-aged people intensively, which has led them to achieve longer life expectancies. However, such prioritization of the younger population has caused a situation that many developing countries are unprepared to meet the needs of the emerging elderly population [**98**]. Developing countries need to incorporate aging in their development agendas, and strategic responses at all levels are required. Moreover, it is critically important to implement

such responses today, as any measures addressing demographic issues require a long time to observe their effects fully [**101**].

Secondly, these responses to population aging should not be limited to policy level discussions on such topics, such as the sustainability of social security systems; aging in every dimension of society must be addressed. This is particularly the case for developing countries where the impacts of environmental issues are more acute and the general living conditions of elderly residents are more affected by rapid social changes [102]. Although there is a great degree of heterogeneity among developing countries, a few studies reported unsafe living conditions for the elderly. Although the higher chance of older residents to be crime victims is not confined to developing countries, Veras (2009) [103] documented that elderly Brazilians have to live with the fear of violence, which reflects the high crime rate of the country. Somrongthong et al. (2014) [104] report possible dangers related to housing environments in rural Thailand, such as "lighting and unsafe wires". Accordingly, social infrastructure, such as public facilities, transportation and public housing, needs to be designed to be accessible for all generations, including older residents.

Thirdly, population aging needs to be examined in relation to other development challenges, because aging populations will be a predominant condition in most countries in the coming decades. For example, urbanization is another universal phenomenon; by 2030, more than 60 percent of the global population will be living in cities, and about 25 percent of them will be aged 60-plus [105]. The combination of population aging and urbanization is considered as a major demographic challenge of this century [106]. Despite the abundant studies on population aging and urbanization, respectively, not much research has examined these two challenges together. A review paper by Phillipson (2004) [107] listed: (i) elucidating the urban context; (ii) examining the impact of globalization on definitions and perceptions of place; and (iii) urban ethnography to comprehend the experience of aging within cities, as agendas for urban aging research. Regarding the urban context, Smith (2009) [108] identified three factors that prevent older residents from aging well, which are: (i) neighborhood problems, such as overcrowding, noise and air pollution; (ii) living environment problems; and (iii) perceived city environment, such as fear of crime and access to high-quality services. Particularly, living environment problems include practical fears in the daily lives of older people, such as "negotiating hilly and/or uneven terrain, and worries about being able to sit down whilst out shopping" [109], and access to public toilets in the city centers [106]. These earlier studies are limited to the case of developed countries.

As for developing countries, one such challenge related to urbanization pertains to the types of urban residences. A large-scale migration from rural areas to cities has been taking place due to rapid urbanization, and significant numbers of these migrants first settle in residential areas with low-income level households or informal settlements in an urban area. Some of them eventually move to other parts of the city, whereas the others continue to live in the same areas and become permanent residents. As those permanent residents become aged, their experiences in an urban settlement would differ greatly from those of older residents in developed countries.

Furthermore, urbanization often holds diverse environmental challenges in such areas, as water quality, air pollution and waste management. As urbanization with all its complexities is expected to expand rapidly in developing countries, further studies are required to examine how environmental challenges affect older people and the local responses needed.

5.2. **Community-Function Decline in Rural Areas**:

Emerging Topic from the Experience of Japan

The other expected challenge related to population aging in developing countries is rural declines induced by the recent rapid urbanization trend. This is because urbanization is largely driven by the migration of young populations, which affects the "age distribution in both sending and receiving areas" [110].

In developed countries, rural areas are hollowing out due to the continual out-migration of young populations, and rural areas are experiencing diverse declines not only in their demographics, but also in local economies, living environments and social vitality [**61**,**111**]. Among those countries that are experiencing such rural declines, Japan's experience is particularly drastic.

In Japan, a large-scale migration of young population to major cities occurred between the late 1950s and the early 1970s during a period of rapid economic growth [**112**]. **Figure 6** illustrates the changing flow of in-migration of three major city areas in Japan. The peak time for this large-scale migration was the period of 1955–1960, when about 588,000 people moved to these three metropolitan areas. Although the size is much smaller, the migration trend to the Tokyo area is still present today, with around 65,000 people migrating there in 2010 (**Figure 6**).

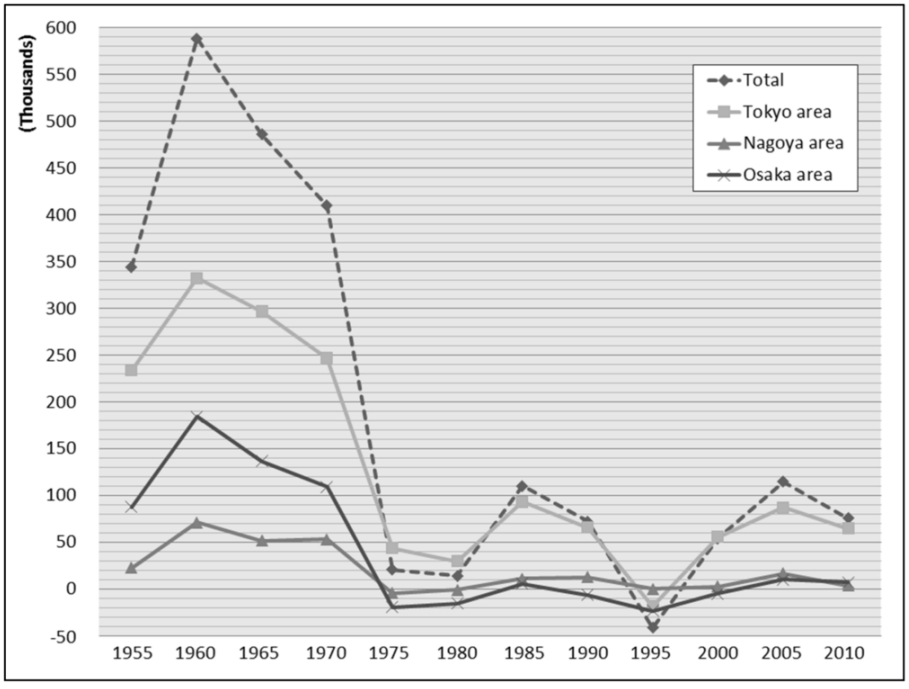

Figure 6. In-migration of three major city areas in Japan from 1955–2010. Note: Created from the report on Internal Migration in Japan by the Ministry of Internal Affairs and

Communications. Counted numbers show only Japanese nationality. Area definitions are as follows: the Tokyo area includes Chiba, Kanagawa, Tokyo and Saitama prefectures; the Nagoya area includes Aichi, Gifu and Mie prefectures; the Osaka area includes Hyogo, Kyoto, Nara and Osaka prefectures.

Between two National Censuses of 2005 and 2010, 38 out of the country's 47 prefectures experienced negative population growth [**113**]. Especially, five prefectures with the greatest degree of depopulation (Aomori, Akita, Iwate, Yamagata, Kochi) experienced a four–five percent population decline annually during this five-year period. As of 2013, the share of older people (aged 65-plus) in these five prefectures was between 27 and 32 percent, while the national average was at 25.1 percent. Among them, Akita had the highest share of older people at 31.6 percent. Rural Japan is one of the areas in the world where the most rapid population aging has happened; therefore, its experience can provide significant insights for rural areas of developing countries where similar patterns of rural decline are predicted due to the rapid urbanization experience.

One clear impact of population aging can be found in the declining community vitality in rural areas. Though it is a relatively new concept and does not have a universal definition, community vitality is seen as "the ability of a community to sustain itself into the future as well as provide opportunities for its residents to pursue their own life goals and the ability of residents to experience positive life outcomes" [**114**]. This concept is close to the notion of 'community-function' developed by Japanese scholars in rural studies. In rural Japan, residents form neighborhood-based social relationships for the activities that are essential for maintaining their livelihood and local environment. These collective actions are recognized as a set of functions, called "community-function" (originally "shurakukino" in Japanese), that each rural community has ([**115**], pp. 73–76; [**116**,**117**,**118**,**119**,**120**]). Although there is no established set of indicators for its measurement, earlier studies suggest that the collective actions of residents are critical for sustaining community-function. For example, collective actions of residents in farming and forestry, maintenance of living environments and local events, such as seasonal festivals and traditional performing arts, are considered as key activities to determine the quality of community-function.

Community-function is a useful notion for understanding the self-managing capacity of a rural community, and its decline implies the weakening of community vitality. As a result of continued outflow of young people and the aging of residents, rural communities are experiencing drastic declines in community-function, and further declines are seen as possible threats to the sustainability of rural communities [121].

Rural studies in Japan examined the actual changes that residents experience during the declining process of community-function. They claim residents face a wide range of challenges in their living conditions in such aspects as transportation and access to basic services [**69**,**122**], management of vacant houses and community facilities [**56**,**123**,**124**] and abandonment of farmlands and communal forests due to aging of farmers and lack of successors [**125**,**126**].

The succession of traditional knowledge is another concern during the rural decline process, as it has been the main body of knowledge about the interaction between nature and society based on the regular observation of the local environment, which looks at patterns of natural cycles including crises [**127**,**128**]. Traditional knowledge is also linked to local beliefs and understanding of place that are critical to the identity formation of local people. The case of rural Japan illustrates a severe situation regarding traditional knowledge transfer over generations as older residents practically cannot transfer their knowledge to younger generations since there are fewer young people in their communities. Additionally, even if some young people remain in rural communities, many of them are not engaged with farming, which is a key intermediary between nature and society. This situation makes learning specific types of traditional knowledge, which they can only acquire through direct observations and experiences with nature, much more difficult.

The main challenge for rural decline is to find a sustainable approach to reinvigorating the declining community-function and to create new functions to respond to emerging challenges. Fulfillment of declining functions may be achieved by merging a number of rural communities to keep the critical mass for maintaining the minimum size and quality of community-function. This initial phase of response aims at securing the living conditions of rural residents. Yet, at the same time, it would be critical for rural communities to be open to the external infusion of knowledge. New knowledge from outside may revitalize the traditional knowledge to preserve declining community-function or add novel functions addressing new local challenges. In fact, the demands of residents are likely to change, as there is a higher share of older residents in a community. Further case studies are required to identify the role of traditional and new knowledge during the process of population aging in rural communities.

Considering the larger scale of urbanization and population aging, a faster pace of rural decline is expected in developing countries. For example, Gautam (2008) [129] reported the living conditions of elderly residents in Nepal, noting that they are largely left alone in rural villages and feel helplessness, loneliness and frustration even though they receive financial support from their out-migrated children who are making their own livings in cities. Flahety et al. (2007) [54] also claim that the recent trend of rural-to-urban migration may interfere with the traditional networks of children to provide care for the elderly, as they are physically distant from their home. Although the same degree of population aging as Japan may not be observed, studies on rural decline, especially in terms of community-function and traditional knowledge, will be critical for developing countries.