

INTRODUCTION

Elderly is an important part of all human societies reflecting the biological changes that occur, but also reflecting cultural and societal conventions. ⁽¹⁾ Older people make important contributions to society as family members, volunteers and as active participants in the workforce. The wisdom they have gained through life experience makes them a vital social resource. ⁽²⁾

Old age comprises the later part of life; the period of life after youth and middle age. ⁽³⁾ The boundary between middle age and old age cannot be defined exactly because it does not have the same meaning in all societies. People can be considered old because of certain changes in their activities or social roles. Examples: people may be considered old when they become grandparents, or when they begin to do less or different work or retirement. Most countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person ⁽⁴⁻⁵⁾. This period of life can be divided into three subgroups; "young elderly" (65-74), "elderly" (75-84), and "oldest elderly" (85+). ⁽⁶⁾ But like many westernized concepts, this does not adapt well to the situation in Africa. The more traditional African definitions of an elderly person correlate with the chronological ages of 50 to 65 years, depending on the setting, the region and the country. Add on, the UN agreed 60+ years to refer to the older population. ⁽⁵⁾

Good health is the key for older people to remain independent and to play a part in family and community life. ⁽⁷⁾ Advances in science and technology, as well as improvements in health services, have played an important role in the increasing number of elderly in the world, a phenomenon described as the 'aging population' ⁽⁸⁾. This aging population can be seen as a success story for public health policies and for socio-economic development, ⁽⁹⁾ but this unprecedented demographic shift has several implications for public health. ⁽⁷⁾ And potentially adverse effects on socio-economic development and the well-being of the older population so these consequences of aging population have received increasing scrutiny in recent years ⁽¹⁰⁾.

Aging Population globally:

Aging Population is widespread across the world. For the entirety of recorded human history, the world has never seen as aged population as currently exists globally. The United Nations predicts the rate of population aging in the 21st century will exceed that of the previous century ⁽¹¹⁾. The number of old people is growing around the world chiefly because of the post-World War II baby boom and increases in the provision and standards of health care ⁽¹²⁾. Population aging is a phenomenon that occurs when the median age of a country or region rises due to rising life expectancy and/or declining birth rates. Population aging is a shift in the distribution of a country's population towards older ages. This is usually reflecting decline in the proportion of the population composed of children, and a rise in the proportion of the population that is elderly. ^(6, 13)

People aged 60 years can now expect to survive an additional 18.5 to 21.6 years. ⁽¹⁴⁾ According to the Centers of Disease Control and Prevention, life expectancy at birth has risen to a new high of nearly 78 years. Today, a newborn infant can expect to live for 78.3 years. Two thousand years ago the average Roman could expect to

live 22 years. Those born in 1900 could only expect to live 47.3 years. By 1930, life expectancy had risen to 59.7 years, rising again in 1960 to 69.7 years. Continuing its dramatic rise, life expectancy increased 1.4 years from 76.5 in 1997 to 77.9 in 2007 and to 82 in 2011. ^(6, 4)

Although the gender gap between men and women has narrowed, women continue to have a greater life expectancy and lower mortality rates at older ages relative to men. ⁽¹⁵⁾ In most parts of the world women live, on average, longer than men; even so, the disparities vary between 12 years in Russia to no difference or higher life expectancy for men in countries such as Zimbabwe and Uganda. ⁽¹⁶⁾

The number of elderly persons worldwide began to surge in the second half of the 20th century. Up to that time (and still true in underdeveloped countries), five or less percent of the population was over 65. Few lived longer than their 70s and people who attained advanced age (i.e. their 80s) were rare enough to be a novelty and were revered as wise sages. The worldwide over 65 population in 1960 was one-third of the under 5 population. By 2013, the over 65 population had grown to equal the under-five population. For the first time in history, people aged 65 and over not only outnumber children under the age of five years but it is projected to double the under-five by 2050. ⁽¹⁷⁾ Throughout the world today, there are more people aged 65 and older than the entire populations of Russia, Japan, France, Germany and Australia combined. By 2030, 55 countries are expected to see their 65 and older populations at least 20 percent of their total. ⁽⁶⁾

In 1950, just 8 percent of the world population was aged 60 years or over. By 2011 that proportion had risen to 11.2 percent and it is expected to reach 22 percent in 2050. Globally, the number of persons aged 60 years or over will increase by a factor of 2.6, passing from 784 million in 2011 to more than 2 billion in 2050. During the second half of the 21st century, they will increase to reach 2.8 billion in 2100. ⁽¹⁸⁾

In aging populations, the numbers of persons with older ages grow faster the higher the age range considered. Thus, whereas the number of persons aged 60 or over is expected to almost triple, that of persons aged 80 or over is projected to increase almost eight-fold. In 2011, there were 109 million persons aged 80 or over in the world, corresponding to 1.6 percent of the world population. By 2050, this segment of the population is projected to reach 402 million or 4.3 per cent of the world population and by 2100 it would ascend to 792 million or 7.8 per cent of the population. ⁽¹⁸⁾

Distribution of the elderly population in developed and developing countries:

All world regions are facing an increase in the absolute and relative size of their older populations, but tremendous variation will occur in aging patterns across countries and regions. ⁽¹⁹⁾ Contrary to common sense perceptions, the majority of older people live in low- and middle income countries, and some of the fastest rates of aging are occurring in these areas ^(20,21). For example, while it took France 115 years to increase its population over the age of 65 years from 7% to 14%, Sri Lanka and Thailand would have achieved this between 24 and 22 years respectively. ⁽²²⁾ This parallels the fact that all world population growth is taking place in the developing countries and is likely to continue to do so ⁽²³⁾.

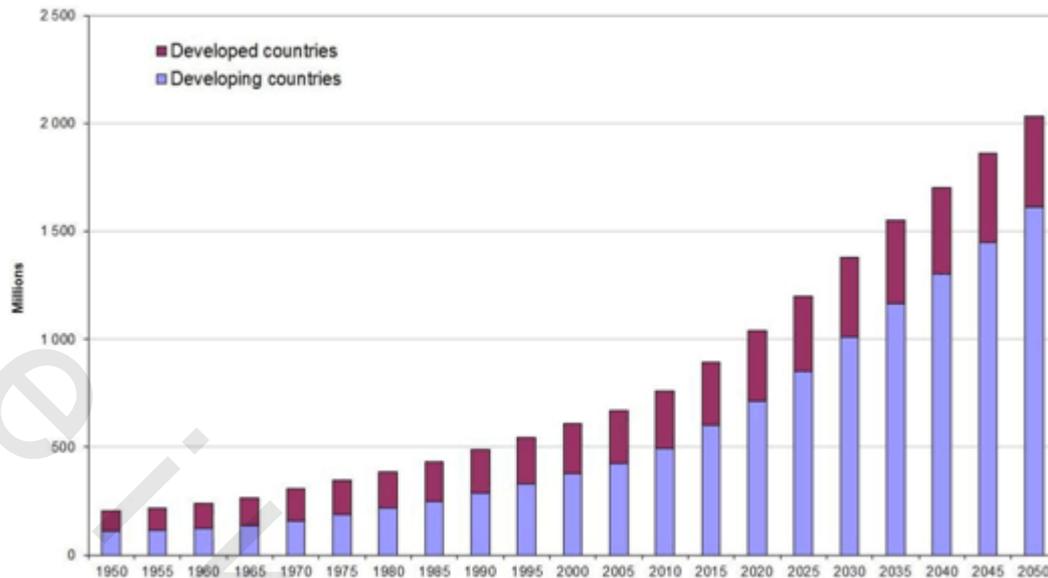
The more developed regions have been leading the process of population aging and their experience provides a point of comparison for the expected aging of the population of the less developed regions. In the more developed regions, the population aged 60 or over is increasing at the fastest pace ever (growing at 2.4 percent annually before 2050 and 0.7 per cent annually from 2050 to 2100) and is expected to increase by more than 50 percent over the next four decades, rising from 274 million in 2011 to 418 million in 2050 and to 433 million in 2100. Compared with the more developed world, the population of the less developed regions is aging rapidly. Over the next three decades, the population aged 60 or over in the developing world is projected to increase at rates far surpassing 3 percent per year and its numbers are expected to rise from 510 million in 2011 to 1.6 billion in 2050 and to 2.4 billion in 2100.⁽¹⁸⁻²⁴⁾ thus, by 2050 about 80 percent of the world's elderly will be living in developing countries.⁽²⁻²⁴⁾

United Nations projections indicate that both developed and developing regions will face notable increases in the proportions that will be above age 60 in the next years and that, within this older segment, the proportions above age 80 will increase rapidly.⁽²⁵⁾ Persons aged 80 and over are projected to increase from 56 million in 2011 to 280 million in 2050 and to 635 million in 2100, implying an average annual rate of increase of 4.2 percent during 2011-2050 and of 1.6 percent per year during 2050-2100. Over half of this older segment (above age 80 years) already lives in the less developed regions but they are expected to become increasingly concentrated in developing countries. Thus, in 2050, 70 percent of all persons aged 80 and over are expected to live in developing countries and by 2100, 80 percent of them are expected to live in developing countries so. The oldest-old tend to be concentrated in the most populous countries. In 2011, 19.4 million lived in China, 12 million in the United States and 8.7 million in India. In 2050, those countries will still have the largest numbers of persons aged 80 years and over: 98.3 million in China, 44.2 million in India and 31.7 million in the United States. By 2100, India is projected to have 130 million persons of aged 80 and over, China 107 million and the United States 52 million.⁽¹⁸⁾

Japan is experiencing the most rapid rate of population aging in the world. In 1970, 7 percent of its population was 65 or older, but this increased to 22 percent in 2008. This group could make up 40 percent of Japan's population by 2050. Even more striking is the prediction that 7.2 percent will be age 80 and older in 2020, compared with 4.1 percent in the United States. By 2050, Japan is expected to have one million people age 100 and older.^(26, 27)

In the United States the older population (persons 65 years or older) numbered 40 million in 2010. They represented 13% of the U.S. total population, about one in every seven Americans. Since 1900, the percentage of Americans 65 years and over has more than tripled (from 4.1% in 1900 to 13% in 2010), and the number has increased over thirteen times (from 3.1 million to 40 million). The older population itself is increasingly older. The oldest-old population (those aged 85 and over) grew from just over 100,000 in 1900 to 5.5 million in 2010. The "Baby Boomers" (those born between 1946 and 1964) started turning 65 in 2011, and the number of older people will increase dramatically during the 2010-2030 period. The older population in 2030 is projected to be twice as large as their counterparts in 2000, growing from 35 million to 72 million and representing nearly 20 percent of the total U.S. population.⁽²⁸⁾

Number of people aged 60 or over in developed and developing countries, 1950-2050 ⁽¹¹⁾



In Africa, as of 2010, 36 million elderly people aged 65 years and over accounted for 3.6% of Africa's population, up from 3.3% ten years earlier. In 1980, 3.1% of the population was elderly aged 65 and above and there has been a steady increase during the last forty years. Population aging in Africa is expected to accelerate between 2010 and 2030, as more people reach age 65. Projections show that the elderly could account for 4.5% of the population by 2030 and nearly 10% of the population by 2050. ⁽²⁹⁾

In many countries in Africa, the proportion of older persons will be close to that of industrialized countries by 2030 and 2050. Between 1990 and 2010, nearly one-third of the countries (16 out of a total of 53) recorded that at least 4% of their populations was aged 65 or above. In 1990, Gabon had the largest elderly population (5.6%), followed by Cape Verde (4.8%) and Tunisia (4.6%). By 2010, Tunisia had surpassed all other countries as the country with the highest proportion of elderly population (7.3%), followed closely by Mauritius at 6.9%. The elderly population of these two countries nearly doubled over the 20-year period. Other countries such as Morocco, Algeria, Egypt, Libya, Botswana, and South Africa witnessed a similar phenomenon. ⁽²⁹⁾

Characteristic of elderly in Egypt:

In Egypt; life expectancy at birth in Egypt gained 10 years from the period 1980-1985 to the period 2005-2010, increasing from 59.9 years to 69.9 years. It is expected to reach 77.3 years in 2045-2050. The total fertility rate in Egypt declined from 5.20 children per woman in 1980-1985 to 2.98 children per woman in 2005-2010. It is estimated that total fertility will decline further to reach 2.10 children per woman in 2040-2045 and 2.03 children per woman in 2045-2050. Increase in life expectancy and decrease in fertility rate shift the Egyptian community toward aging. ⁽³⁰⁾

The percentage of the elderly population 65 years and over in Egypt was 3.4% of total population including 3.5% males and 3.3% females according to census 1996. In Census 2006 the rate was 3.7% of total population including 3.8% males and 3.7% females and in Mid-2010 3.3 million people constituting 4.2% of total population in the same year including 49.1% males and 50.9% females. According to population projections until 2050, proportion of elder people is expected to increase to total population to reach 5.2% by 2017 and 12.3 % in 2050. ⁽³¹⁾

According to marital status in 2009: Percentage of divorces among elderly group 65 years and over is 3.3% of total divorce cases, most of them are males where the percent are 85.6% while for females are 14.4%. Percentage of married cases among elderly People is 0.9% of total married cases; most of them are males where the percent are 91% while for females are 9%. ⁽³¹⁾

There is high illiteracy rate among elderly people in Egypt; in census 2006 illiteracy rate reached 73.2% and according to sex it is high among females as it was reported 86.2% among females, while among males 61%. In census 1996 illiteracy between elderly people reached 76.7% (among females it was 90.6% while in males was 64.3%). ⁽³¹⁾

According to work status in 2009 since the retirement is at age of 60 years; number of elderly people in labor force was 411700 elderly which represents 13% of total elderly in 2009, of whom 75% were male and 25% female. Most elderly people working in agriculture and fishing activity constituting 72% of total elderly workers and about 11.7% of them are working in wholesale and retail trade. ⁽³¹⁾

According to data from Ministry Of Social Solidarity in 2008 reported that the number of pensions benefit from Social Solidarity were 732 000 Person of whom 52.1% of pensions for complete disabilities ,24.4% widow's pension, senility pensions 21.7% and other pension were 1.8%. ⁽³¹⁾

According to births and deaths statistics in 2009; death rate for people in age group 65 and above 6.9% of total persons in the same category and 0.3% of total population. ⁽³¹⁾

Characteristic of elderly (65 years and over) in Egypt	males	Females
1-The percentage of the elderly population		
In census 1996	3.5%	3.3%
In Census 2006	3.8%	3.7%
2- According to marital status in 2009		
Percentage of divorces	85.6%	14.4%
Percentage of married cases	91%	9%
3- According to illiteracy rate		
in census 1996	64.3%	90.6%
in census 2006	61%	86.2%
4- According to work status in 2009 (elderly people in labor force)	75%	25%

Theories of aging:

The aging process is a biological reality which has its own dynamic, largely beyond human control⁽³²⁾ The organic process of aging is called senescence.⁽³³⁾ Senescence or biological aging is the gradual deterioration of function characteristic of most complex life forms, certainly found in all biological kingdoms, that on the level of the organism increases mortality after maturation. The word "senescence" can refer either to cellular senescence or to senescence of the whole organism.⁽³⁴⁾ Cellular senescence is a phenomenon where isolated cells demonstrate a limited ability to divide in culture, while organismal senescence is the aging of organisms. After a period of near perfect renewal (in humans, between 20 and 35 years of age), organismal senescence is characterised by the declining ability to respond to stress, increasing homeostatic imbalance and the increased risk of disease.⁽¹⁾

Theories of aging are numerous and no one theory has been accepted. There is a wide spectrum of the types of theories for the causes of aging with programmed theories on one extreme and error theories on the other. Regardless of the theory, a commonality is that as human's age, functions of the body decline.⁽³⁵⁾

1-Wear and tear theory:

Wear and tear theory of aging suggest that as an individual age, body parts such as cells and organs wear out from continued use. Wearing of the body can be attributable to internal or external causes that eventually lead to an accumulation of insults which surpasses the capacity for repair. Due to these internal and external insults, cells lose their ability to regenerate, which ultimately leads to mechanical and chemical exhaustion. Some insults include chemicals in the air, food, or smoke. Other insults may be things such as viruses, trauma, free radicals, cross-linking, and high body temperature.⁽³⁵⁾

2-Genetic theory:

Genetic theory of aging proposes that aging is programmed within each individual's genes. According to this theory, genes dictate cellular longevity. Programmed cell death, or apoptosis, is determined by a "biological clock" via genetic information in the nucleus of the cell. Genes responsible for apoptosis provide an explanation for cell death, but are less applicable to death of an entire organism. An increase in cellular apoptosis may correlate to aging, but is not a cause of death. Environmental factors and genetic mutations can influence gene expression and accelerate aging.⁽³⁶⁾

3-General imbalance theory:

General imbalance theory of aging suggests that body systems, such as the endocrine, nervous, and immune systems, gradually decline and ultimately fail to function. The rate of failure varies system by system.⁽³⁵⁾

4-Accumulation theory:

Accumulation theory of aging suggests that aging is biological decline that results from an accumulation of elements. Elements can be foreign and introduced to the body from the environment. Other elements can be the natural result of cell

metabolism.⁽³⁵⁾ An example of an accumulation theory is the Free Radical Theory of Aging. According to this theory, byproducts of regular cell metabolism called free radicals interact with cellular components such as the cell membrane and DNA and cause irreversible damage.⁽³⁷⁾ A more recent and comprehensive accumulation theory by Dr. Aubrey de Grey posits that aging is the consequence of the accumulation of 'damage' at the molecular, cellular and intracellular levels.⁽³⁸⁾

a-The free radical theory:

The idea that free radicals are toxic agents⁽³⁹⁾ In 1956, Denham Harman proposed the free-radical theory of aging and even demonstrated that free radical reactions contribute to the degradation of biological systems.⁽⁴⁰⁾ The free radical theory of aging says that aging results from the damage generated by reactive oxygen species (ROS). ROS are small, highly reactive, oxygen-containing molecules that can damage a complex of cellular components such as fat, proteins, or from DNA, they are naturally generated in small amounts during the body's metabolic reactions. These conditions become more common as we age, including diseases related to aging, such as dementia, cancer and heart disease.^(41, 42)

b-The DNA damage theory:

DNA damage has been one of the many causes in diseases related to aging. The stability of the genome is defined by the cells machinery of repair, damage tolerance, and check point pathways that counteracts DNA damage. One hypothesis proposed in 1958 is that damage accumulation to the DNA causes aging^(43, 44) This theory has changed over the years as new research has discovered new types of DNA damage and mutations, and several theories of aging argue that DNA damage with or without mutations causes aging.⁽⁴⁵⁾

5-The telomerase theory:

A new theory of aging that holds many promising possibilities for the field of anti-aging medicine is the telomerase theory of aging. This theory was born from the surge of technological breakthroughs in genetics and genetic engineering. Telomeres are sequences of nucleic acids extending from the ends of chromosomes. Telomeres act to maintain the integrity of our chromosomes. Every time our cells divide telomeres are shortened, leading to cellular damage and cellular death associated with aging. Scientists discovered that the key element in rebuilding our disappearing telomeres is the “immortalizing” enzyme telomerase, an enzyme found only in germ cells and cancer cells. Telomerase appears to repair and replace telomeres manipulating the “clocking” mechanism that controls the life span of dividing cells. Future development of telomerase inhibitor may be able to stop cancer cells from dividing and may be convert them back into normal cells^(46, 47)

Normal aging process:

Aging is the accumulation of changes in a person over time.⁽⁴⁸⁾ Aging in humans refers to a multidimensional process of physical, psychological, and social change. Some dimensions of aging grow and expand over time, while others decline. Reaction time, for example, may slow with age, while knowledge of world events and wisdom may expand. Research shows that even late in life, potential exists for physical, mental, and social growth and development.⁽⁴⁹⁾

Aging, in its broadest sense is the continuous and irreversible decline in the efficiency of various physiological processes once the reproductive phase of life is over⁽⁵⁰⁾. The distinguishing marks associated with old age comprise both physical and mental characteristics.⁽⁵¹⁾ These marks do not occur at the same chronological age for everyone. They, also, occur at different rates and order for different people.⁽⁵²⁾ Because each person is unique, marks of old age vary between people, even those of the same chronological age. It should be noted that individuals experience these changes differently - for some, the level of decline may be rapid and dramatic; for others, the changes are much less significant. The effect of these changes differs widely. While approximately 85% of older adults experience chronic conditions, only about 20% experience significant impairment in their ability to function⁽⁵³⁾

A basic mark of old age that affects both body and mind is “slowness of behavior”. This “slowing down principle” finds a correlation between advancing age and slowness of reaction and task performance, both physical and mental.^(54, 55)

A) Physical changes associated with aging:-

As we age, we undergo a number of physiological changes which affect not only how we look, but how we function and respond to daily living. Age is associated with a 1-2% decline in functional ability per year and sedentary behavior accelerates the loss of performance. General slowing down of all organ systems lead to a gradual decline in cellular activity.^(53, 56)

Changes in the cardio-vascular system:

There is normal atrophy of the heart muscle, especially in the left ventricle, calcification of the heart valves, loss of elasticity in artery walls (arteriosclerosis) and intra-artery deposits (atherosclerosis). There is decreased cardiac output, baroreceptor sensitivity and SA node automaticity. The reduced blood flow results in reduced stamina reduced renal and hepatic function and less cellular nourishment. There is impaired blood pressure response to standing, volume depletion and heart blocks.⁽⁵⁷⁾

Changes in the respiratory system:

The airways and lung tissue's become less elastic with reduced cilia activity. There is decreased oxygen uptake and exchange. The muscles of the rib cage atrophy, reducing the ability to breathe deeply, cough and expel carbon dioxide. There is ventilation/perfusion mismatch and decreased PO₂. This leads to decreased stamina with shortness of breath and fatigue.⁽⁵⁸⁾

Changes in musculo-skeletal system:

There is generalized atrophy of all muscles accompanied by a replacement of some muscle tissue by fat deposits. This results in some loss of muscle tone and strength. Some specific implications of this are reduced ability to breathe deeply and reduced gastro-intestinal activity which can lead to constipation or bladder incontinence, particularly in women.⁽⁵⁹⁻⁶⁰⁾

Calcium is lost and bones become less dense. This can result in osteoporosis and a reduction of weight bearing capacity, leading to the possibility of spontaneous

fracture. Thinning of the vertebrae also results in a reduction in height. In addition, the vertebrae can calcify, resulting in postural changes. ⁽⁵⁹⁻⁶⁰⁾

Joints also undergo changes. In fact, arthritis, the degenerative inflammation of the joints, is the most common chronic condition in the elderly. It is a crippling and painful disease that makes older adults unable to perform even the most basic activity of daily living scale (ADLs). ⁽⁵⁹⁻⁶⁰⁾

Changes in Nervous System:

After age 25, everyone loses nerve cells. Gradually over time, this results in a reduced efficiency of nerve transmission which affects response time and coordination. These changes may also affect sleeping patterns by decreasing the length of total sleep time and REM (rapid eye movement) sleep ⁽⁶¹⁾

Changes in skin:

The skin loses underlying fat layers and oil glands, causing wrinkles and reduced elasticity. There is increased susceptibility to cold, bruising and bedsores. In addition, the skin develops “age spots” due to deposits of melanin pigment. The hair gradually loses its pigmentation and turns gray. The nails become thicker due to reduced blood flow to the connective tissues. The skin becomes somewhat less sensitive to sensations including heat, cold and injury ⁽⁶²⁾

Changes in the gastrointestinal system:

There is reduction in the production of hydrochloric acid, digestive enzymes and saliva. These changes may result in gastrointestinal distress, impaired swallowing and delayed emptying of the stomach. The breakdown and absorption of foods may also be impaired, sometimes resulting in deficiencies of vitamin B, C, and K or in extreme cases, malnutrition ⁽⁶³⁾

Changes in the metabolic system:

The metabolic system is responsible for changing food into energy. After age 25 years, everyone experiences approximately a 1% decrease per year in their metabolic rate. This overall slowing results in food being less well absorbed and utilized. There is a decrease in the overall metabolism of drugs ⁽⁶⁴⁾

Changes in sexuality:

Sexual desire and performance may continue well into an individual's eighth and ninth decade although frequency may diminish. Physiological changes in women include atrophy of the ovarian, vaginal and uterine tissues with decreased production of vaginal fluids. In men, sperm production is decreased and prostate enlarges. Both older men and women generally require more stimulation to become aroused and more time to reach orgasm ⁽⁶⁵⁾

Changes in special senses:

Our special senses play a central role in our ability to gather information and to participate in social interactions. These changes are:

Changes in vision:

In the fourth decade, the pupil begins to decrease in size and there is decreased response to light. Because of these changes, older people require three times the amount of illumination to see as compared to a younger person. Focusing takes longer with an increase in nearsightedness, making small print harder to read. There is loss of accommodation which makes reading and close work difficult. This condition, which is known as presbyopia, can be corrected by wearing glasses with convex lenses. There is thickening and yellowing of the lens of the eye. This results in light diffraction, increased sensitivity to glare, decreased depth perception and more difficulty distinguishing pastel colors, especially blues and greens ^(66, 67).

Changes in hearing:

There is a decrease in sensitivity to high frequency tones and decreased discrimination of similar pitches because of changes in the bones and cochlear hair cells of the inner ear. Approximately 30% of all elderly persons have some hearing impairment. It is an invisible disability which is often covered up or denied by a person who may then be mislabeled as senile, dumb or uncooperative ⁽⁶⁶⁻⁶⁸⁾.

Changes in taste and smell:

Taste and smell are interrelated and important for eating as well as checking for hazards in the environment such as spoiled food, smoke and fumes. Older adults experience some decline in the ability to taste resulting from a reduction in the total number of taste buds, especially after the age of 80 years. Some individuals also experience a decline in their sense of smell, but this is usually because of abnormal conditions such as blockage or disease of the olfactory receptors in the upper sinus ⁽⁶⁹⁾.

Impact of physical changes on elderly:

As we age, our body's organs and other systems make changes. These physical changes occurring in an individual as a part of aging process which are normal physiologic changes. It is important to note that one grows old gradually; one does not suddenly become old when they turn age 65 or 70 years.

Physical changes leads to decline in the normal functioning of the body and increase vulnerability and susceptibility to various diseases and to physical health problems. Some of the most serious and common diseases among the elderly are atherosclerosis and its organ symptoms and risk factors, cancer diseases, degenerative diseases of the loco motor system such as; (osteo-arthritis or osteoporosis, Alzheimer's disease, age-related degeneration of retina, cataracts and injuries), multicauses (multidetermined) frailty with specific geriatric syndromes and functional deficits (mobility disorders, stability disorders and falls, incontinence, nutrition disorders and disorders of cognitive function, etc.) ⁽⁷⁰⁾.

The prevalence of comorbidities and number of comorbid conditions increase with age. ⁽⁷¹⁾ In 1999, 24% of Medicare beneficiaries, aged 65 years or older, had four or more chronic conditions. The proportion was 31.4% among those persons 85 years or older. ⁽⁷²⁾ Even healthy older adults and those with a single clinically manifest disease are likely to have subclinical pathology in multiple organ systems ⁽⁷¹⁾.

This Comorbidity may contribute to disability - for example: ^(73, 74)

- Coronary heart disease may lead to heart failure, angina or myocardial infarction.
- Stroke can lead to weakness, co-ordination problems, loco-motor difficulties and problems of communication and continence.
- Diabetes - complications that can contribute to disability in a variety of ways, e.g. the contribution of diabetic neuropathy to poor mobility may be underestimated.
- Urinary problems can be disabling, particularly if causing incontinence.
- Visual loss is associated with an increased risk of falling.
- Hearing and visual impairment increase the risk of social isolation and resulting depression.
- Arthritis is the number one chronic health problem for elderly and leads to limiting mobility in elder.
- Falls are associated with injury, pain and loss of function. Osteoporosis in the elderly population means that falls are more likely to result in fractures.

Physical health problems can significantly impact older people psychological and social well-being as many of the older adult may find it difficult to leave their residences and also narrowing their social contact and interact with family and friends and lose their ability to live independently as a result of limited mobility and poor health. People with medical conditions such as heart disease, diabetes, asthma and arthritis have higher rates of depression than those who are medically well ^(75, 76).

Chronic diseases are long-term illnesses that are rarely cured. Chronic diseases such as heart disease, stroke, cancer, and diabetes are among the most common and costly health conditions. Chronic health conditions negatively affect quality of life, contributing to declines in functioning and the inability to remain in the community. ⁽⁷⁷⁾

Although of the improvement in health care and in prevention and treatment of chronic diseases, of the roughly 150,000 people who die each day across the globe, about two thirds—100,000 per day—die of age-related causes. ⁽⁷⁸⁾ In 2009, the leading cause of death among people age 65 and over was heart disease (1,156 deaths per 100,000 people), followed by cancer (982 per 100,000), chronic lower respiratory diseases (291 per 100,000), stroke (264 per 100,000), Alzheimer's disease (184 per 100,000), diabetes (121 per 100,000), and influenza and pneumonia (104 per 100,000). ⁽²⁸⁾

B) Psychological changes associated with aging:

1) Cognitive changes:-

In spite of these anatomical and physiological changes in brain, studies have found evidence of decline in various memory abilities and actual intellectual functioning associated with the aging process.

A) Effect on intelligence:

Intelligence generally is associated with a range of abilities that allow us to make sense of our experiences; the ability to understand new information, the ability to think abstractly, the ability to make rational decisions, numerical ability, verbal fluency,.... etc. Some abilities (e.g., the ability to think abstractly) are biologically determined and are known as “fluid intelligence.” Other intellectual abilities (e.g., verbal fluency) reflect the knowledge and skills a person has gained through life experience and known as “crystallized intelligence.” Intelligence tests have demonstrated a pattern of age-related changes in intellectual functioning. These tests show somewhat poor performance by older people on tests of fluid intelligence, but little or no difference on tests of crystallized intelligence. The fact that older persons perform more poorly on tests of fluid intelligence is due in part to reduced efficiency of nerve transmission in the brain, resulting in slower information processing and greater loss of information during transmission.^(79, 80)

B) Effect on learning and memory:

Normal aging is associated with a decline in various memory abilities in many cognitive tasks; the phenomenon is known as age-related memory impairment (AMI) or age-associated memory impairment (AAMI). The ability to encode new memories of events or facts and working memory shows decline in both cross-sectional and longitudinal studies⁽⁸¹⁾ Studies comparing the effects of aging on episodic memory, semantic memory, short-term memory and priming find that episodic memory is especially impaired in normal aging; some types of short-term memory are also impaired.⁽⁸²⁾ The deficits may be related to impairments seen in the ability to refresh recently processed information.⁽⁸³⁾ Source information is one type of episodic memory that suffers with old age; this kind of knowledge includes where and when the person learned the information. Knowing the source and context of information can be extremely important in daily decision-making, so this is one way in which memory decline can affect the lives of the elderly. Therefore, reliance on political stereotypes is one way to use their knowledge about the sources when making judgments, and the use of metacognitive knowledge gains importance⁽⁸⁴⁾ This deficit may be related to declines in the ability to bind information together in memory during encoding and retrieve those associations at a later time⁽⁸⁵⁻⁸⁶⁾

2) Personality changes associated with aging:

Personality changes associated with aging have been debated almost since the beginnings of modern psychology. Freud, for example, believed that personality development was relatively complete by the time a person reached adolescence and that little change was possible after the age of 40 years. Jung, on the other hand, argued that personality develops throughout one's life in response to changing life experiences.⁽⁵³⁾

According to Erik Erikson's "Eight Stages of Life" theory, the human personality is developed in a series of eight stages that take place from the time of birth and continue on throughout an individual's complete life. He characterized old age as a period of "Integrity vs. Despair", during which a person focuses on reflecting back on his life. Those who are unsuccessful during this phase will feel that their life has been wasted and will experience many regrets. The individual will be left with feelings of bitterness and despair. Those who feel proud of their

accomplishments will feel a sense of integrity. Successfully completing this phase means looking back with few regrets and a general feeling of satisfaction. These individuals will attain wisdom, even when confronting death. ^(87- 89)

Newman & Newman proposed a ninth stage of life, Elderhood. Elderhood refers to those individuals who live past the life expectancy of their birth cohorts. There are two different types of people described in this stage of life. The "young old" are those healthy individuals who can function on their own without assistance and can complete their daily tasks independently. The "old old" are those who depend on specific services due to declining health or diseases. This period of life is characterized as a period of "immortality vs. extinction." Immortality is the belief that your life will go on past death; some examples are an afterlife or living on through one's family. Extinction refers to feeling as if life has no purpose, an individual could have lived past all family and friends and feel a great loss. ⁽⁹⁰⁾

However basic personality characters may remain relatively stable throughout adulthood, rather predictable shifts may occur in other aspects of a person's personality. One of the best documented personality changes in adulthood is an increased preoccupation with one's inner life, including greater attention to personal feelings and experiences and reduced extraversion a Second domain in which age-related changes have been reported is gender role identity. With advancing age, men and women appear to become more similar in terms of their values and personality styles. Studies in a number of different cultures have found that men tend to become more nurturing, expressive and affiliation-seeking as they grow older, whereas women tend to become more instrumental and achievement-oriented ⁽⁹¹⁾

3) Emotional changes associated with aging:

Emotional needs do not necessarily change as we age. In fact, our needs become more apparent as we become less able to be totally independent and must rely on others for support. Two of the most important emotional needs of older adults include having a sense of control and being involved in decisions. At times, these are very difficult to be carried out, especially if older adults are frail or have physical or mental problems. Yet these needs remain important no matter what age they are. Elders who perceive no sense of control in their lives tend to be more discouraged and less satisfied. They may become depressed and less functional as a result of not being in control. ⁽⁹²⁾

Self-esteem is a term used in psychology to reflect person's overall emotional evaluation of his or her own worth. It is a judgment of oneself as well as an attitude toward the self. Self-esteem encompasses beliefs (for example, "I am competent," "I am worthy") and emotions such as triumph, despair, pride and shame ⁽⁹²⁾ Self-esteem is an important aspect of the adaptive processes at all stages of life, but especially in older adults. It is linked to the quality of adaptation, well-being, life satisfaction and health. Self-esteem is not related to chronological age, but to the people's quality of social integration and adaptive capacities to cope with life events, including physical and cognitive decline. ⁽⁹³⁾ Self-esteem rises steadily as people age but starts declining around the time of retirement. Self-esteem was lowest among young adults but increased throughout adulthood, peaking at age 60, before it started to decline. Education, income, health and employment status all had some effect on the self-esteem trajectories, especially as people aged. people who have higher incomes and

better health in later life tend to maintain their self-esteem as they age as wealth and health are related to feeling more independent and better able to contribute to one's family and society, which in turn bolsters self-esteem. ⁽⁹⁴⁾

4) Other psychological changes associated with aging:

- **Adaptability:** most people in their old age. In spite the stressfulness of old age, they are described as “agreeable” and “accepting.” However, old age dependence induces feelings of incompetence and worthlessness in a minority. ⁽⁹⁵⁾
- **Cautiousness:** Caution marks old age. This antipathy toward “risk-taking” stems from the fact that old people have less to gain and more to lose by taking risks than younger people. ⁽⁹⁶⁾
- **Depressed mood:** Old age is a risk factor for depression caused by prejudice (i.e., “deprejudice”). When people are prejudiced against the elderly and then they become old themselves, their anti-elderly prejudice turns inward, causing depression. “People with more negative age stereotypes will likely have higher rates of depression as they get older.” Old age depression results in the over-65 population having the highest suicide rate. ^(97, 98)
- **Fear:** Fear of crime in old age, especially among the frail, sometimes weighs more heavily than concerns about finances or health and restricts what they do. The fear persists in spite of the fact that old people are victims of crime less often than younger people. ⁽⁹⁵⁾
- **Insomnia:** It is prevalent among older adults; 30-60% of all older persons have one or more sleep complaints such as difficulty falling and staying asleep, early morning awakenings, excessive daytime sleepiness and daytime fatigue. ⁽⁹⁹⁾
- **Set in one's ways:** describes a mindset of old aged persons. A study of over 400 distinguished men and women in old age found a “preference for the routine.” ^(96, 100)

Mental disorders in elderly:

Some mental disorders can develop early in life (occurring as young as childhood and adolescence), such as schizophrenia and bipolar disorder. Other mental disorders, such as depression and anxiety, can develop at any time in life and tend to be fairly common in elderly. ⁽¹⁰¹⁾Psychiatric morbidity among elderly people is frequent, severe and diverse. Disorders such as depression, anxiety, cognitive and psychotic disorders have a high prevalence in this segment of the population. ⁽¹⁰²⁾

Mental disorders afflict about 15% of people aged 60years and over according to estimates by the World Health Organization. ⁽⁷⁵⁾ Many of the mental health conditions experienced by older adults are preventable and/or treatable. Symptoms of psychiatric illness in elderly frequently overlap with those of general medical conditions, and increasing age is generally accompanied by increased medical comorbidity, which creates diagnostic challenges in the evaluation of elderly. In addition, age-related changes in the body and brain, as well as cohort effects, can lead to atypical manifestations of psychiatric illness, resulting in inaccurate or overlooked psychiatric diagnosis. Symptoms of psychiatric illness in older adults do not always correspond with criteria described in the standard diagnostic manuals, which leads to variable presentations of psychiatric disorders in elderly. ⁽¹⁰³⁾

Impact of psychological changes on elderly:

Failure to properly address the mental health needs of elderly has negative consequences and can put older adults at risk for needless suffering. This can cause unnecessary nursing home placement, result in more expensive physical health interventions, and lead to impairments in social, mental, and physical functioning.⁽¹⁰⁴⁾

Mental health has a big impact on physical health. For example, elderly with depression go to the doctor and emergency room more often, take more medicine, have higher outpatient costs, and longer hospital stays.⁽¹⁰⁴⁾ Coexisting depression in people with diabetes is associated with decreased adherence to treatment, poor metabolic control, higher complication rates, decreased quality of life, increased health care use and cost, increased disability and lost productivity, and increased risk of death⁽¹⁰⁵⁾.

In a survey taken in 15 countries reported that mental disorders of elderly interfered with their daily activities more than physical problems.⁽⁹⁶⁾ Of all disability (disability adjusted life years-DALYs) among over 60 years, 6.6% is attributed to neurological and mental disorders.⁽⁷⁵⁾

C) Social changes associated with aging:

Retirement:

Work is a source of satisfaction, identity, social status, appreciation, self-esteem and social relationships.⁽⁷⁰⁾ As elderly stop working, they lose not only the economic but also the social and psychological benefits of activity and purpose. Men seem to be particularly sensitive to loss of work and retirement.⁽¹⁰⁶⁾

Some older people may welcome retirement as an opportunity to engage in activities that had been set aside while working and/or raising a family. For others, retirement may signal a significant reduction in income, a narrowing of their social network and support system, a negative change in self-image and identity, and the recognition of their mortality. Retirement also impacts a person's partner and may require both people to adjust to changing roles and expectations (e.g., while a partner remains in the workforce, a retiree may experience increased loneliness).⁽¹⁰⁷⁾

The best predictors of successful retirement are retiring at the time preferred, managing financially, and being satisfied with life as a whole. Sharpley and Layton (1998) found that having prepared for retirement emotionally and socially predicts successful adjustment, while involuntary retirement is a strong risk factor for lower levels of adjustment.⁽¹⁰⁸⁾

Reduced income:

Elderly are among the poorest in the community. About one in 10 older people were living below or just above the poverty level in 2003.⁽¹⁰⁹⁾ Older people generally have lower incomes than their younger counterparts. They generally have only half the income of working-age households. Women who are unattached (e.g., as a consequence of divorce or bereavement) being particularly vulnerable to poverty. However, improvements in women's educational and employment opportunities may result in improved financial circumstances for older women in the future.⁽¹⁰⁷⁾

Significant changes in spending patterns and expenses occur in late life such as the cost of Medical and health insurance are increase , and living expenses, such as clothing purchases and work expenses are reduced. The most common sources of retirement income are pensions, profit-sharing plans, social security, savings, investments, and income from employment.⁽¹¹⁰⁾

Marital status:

Married couples with good relationships are most likely to experience continued, enjoy spending time together and confide in each other, maintain positive interactions within marriage as they age.⁽¹¹⁰⁾

Widowhood is an abrupt and severe transition. Many more women than men are widowed (among older people widows outnumber widowers four to one).⁽¹¹¹⁾

Physical and emotional health is often affected by the loss of a spouse. Widowed persons report more health problems than those who are married. They also show symptoms that are characteristic of depression, such as sadness, tearfulness, insomnia, and appetite and weight loss.⁽¹¹⁰⁾ Other consequences can include loneliness, lower social participation, lower life satisfaction, and higher consumption of psychotropic medication including anti-depressants and sedatives.⁽¹¹²⁾ Widows and widowers are at risk for poor nutrition since their daily routines, especially those associated with food preparation and consumption, may be disrupted.⁽¹¹³⁾

Divorce at any time in life can be painful. For the elderly, divorce is the ending of many years of marriage, and the adjustment process can be particularly difficult. Divorced older persons tend to have difficulty accepting themselves, and are pessimistic about the future. Some studies show that later life divorce affects social support networks. Divorce reduces an older person's social contacts and may result in social isolation.⁽¹¹⁰⁾

Older adults who are single, separated or divorced, or widowed were more likely to be detached from three or more domains than those in a couple. On the positive side for some, widowhood and Divorced provides an opportunity to begin a new life, and feelings of self-efficacy may increase.⁽¹¹⁴⁾

Caregiving

The view that older people are a burden on younger generations, and the fear that the weight of this burden will increase as the population ages, are largely unjustified. While older people are the most likely to require care as a result of illness or disability, they are also the group most likely to be providing care to one another, and may also continue to be caregivers as parents or grandparents. There can often be interdependence between older persons, each with varying levels of disability or chronic illness. The greatest source of help for a majority of older adults with a disability is their spouse. The majority of caregivers carry out their caregiving tasks without experiencing detrimental outcomes. As a caregiver; a high caregiving workload and caring for someone with dementia (rather than a physical condition) is likely to be stressful. Risk factors for experiencing caregiving as a burden and for caregiver depression include; female gender, being the care-recipient's spouse, poor health, and a poor preexisting relationship with the care-recipient. The longer the caregiving lasts the more likely caregivers are to experience stress or depression, or to

feel burdened. Having alternative roles (such as employment or family roles) may act as a resource or as a source of extra stress, depending on any conflict between the roles. Access to coping strategies and satisfactory social support may enhance the effects of stressors, or act as a buffer between stressors and outcomes. Positive consequences may include increased self-efficacy and satisfaction in fulfilling a valued role. ⁽¹¹¹⁾

Living arrangements

Elderly Living arrangements can take many forms as living alone, living with spouse only, living with children, living with relatives or with others. The proportion of individuals living alone increases with age as the proportion living with their children decreases. Overall, living alone or as a couple is the dominant living arrangement among older people in all countries. ⁽¹¹⁵⁾

Older women are more likely than older men to be living alone. This universal pattern is due to two main factors: husbands are usually older than their wives; and women have higher life expectancy than men. So women are more often widowed. In addition, in most countries, men are more likely to remarry after the death of a spouse or after divorce. Among unmarried older persons, more men than women live alone in most countries. ⁽¹¹⁵⁾

Neighborhood and Housing environment:

Living in an unsafe neighborhood can make an elderly person anxious and reluctant to get out into the community or to exercise. In addition, neighborhoods those are not elder- friendly because of poor lighting, steepness, lack of footpaths, steps and poor transport will make it difficult for older people to participate in the community .The social isolation and lack of sense of control that can stem from a neighborhood that is not elder-friendly will result in poor health outcomes. So in most developing countries, it is important that suitable housing is available near family members and friends. Providing housing options close to families or supportive friends can help alleviate the social isolation to which some older people can be prone ⁽¹¹⁶⁾

Housing quality is also related to health in later life. Inappropriate housing increases the risk of falls, reduces mobility and can make it more difficult for a person to get out into the community. The location of housing is also important. Housing near industrial areas with dangerous pollutants, in poorly drained areas, or subject to high noise levels will have an ongoing and cumulative effect on health. The capacity to obtain suitable housing or to modify a house to the needs of an older person is linked to financial resources. ⁽¹¹⁶⁾

In most developing countries, it is important that suitable housing is available near family members and friends. Providing housing options close to families or supportive friends can help alleviate the social isolation to which some older people can be prone. ⁽¹¹⁶⁾

Impact of social changes on elderly:-

Factors such as loss of spouse, children, friends, a drop in socioeconomic status with retirement, loss of the ability to live independently and need for long-term care

or being a caregiver all of these factors can cause social isolation and loneliness which affect the emotional well-being and can result into psychological distress and poor physical health in older people. ⁽¹⁰¹⁾

Social isolation and loneliness are often used interchangeably. "Social isolation" was described as imposed isolation from normal social networks. Elderly being separated from their environment to the point of having few meaningful relationships. However, social isolation can result from personal choice and can often be referred to as solitude rather than loneliness. Moreover, social isolation caused by loss of mobility or deteriorating health and about 12 % of elderly feel socially isolated. While 'Loneliness' was reported as being a subjective, negative feeling associated with loss e.g. loss of a partner or children relocating and is defined as "an unwelcome feeling of loss of companionship, or feeling that one is alone and not liking it", loneliness in later life affects about 10 % of older adults. ⁽¹¹⁷⁻¹²⁰⁾

Social relationships and contacts with Family, community and conditions that encourage social interactions and relationships are of paramount importance for the quality of life of older people. ⁽⁷⁰⁾ Social engagement is considered as an important element contributing towards successful aging. There is evidence suggest that detachment from societal activity has negative consequences on life outcomes. Social detachment has been shown to be associated with higher rates of morbidity and mortality, depression and cognitive decline. ^(121, 122)

Family and Elderly care:

Family mostly comprises three generations, and more increasingly four generations, regardless of whether these generations live together or not. Intense support and exchange between generations continue to play important role across the life course. Relationships between generations are beneficial to the development of both individual and society. The task of family policy is, on the one hand, to create conditions for healthy development of children and, on the other hand, create conditions for intergenerational cohesion and solidarity in the family and society. Familial support and caregiving among generations typically run in both directions. Older people often provide care for a variety of others (spouses, older parents, children, grandchildren, and nonfamily members), while families, and especially adult children, are the primary source of support and care for their older relatives. ⁽⁷⁰⁻¹²³⁾

As life expectancy increases in most nations, so several generations are alive at the same time. In more developed countries, this is manifested as a "beanpole family," a vertical extension of family structure characterized by more but smaller generations. However, while the number of surviving generations in a family may have increased, today these generations are more likely to live separately. In many countries, the shape of the family unit reflects change in social norms, economic security; rising rates of migration, divorce, and remarriage. ⁽¹²³⁾

Older people are cared for mainly by family, especially spouses (partners) and children. ⁽⁷⁰⁾ Family consider the most important source of financial or social support for elderly and most of the elderly persons either co-reside with their adult children or receive financial or instrumental support from them. ⁽¹²⁴⁾ Reductions in family size are thought to be associated with reductions in family elder care. Jia's (1988) case study in a rural village in Hunan Province, for example, finds people in smaller households

(4.08 people on average) manipulating time and resources to care for elderly members⁽¹²⁵⁾

Now the younger generation is searching for new identities encompassing economic independence and redefined social roles within, as well as outside, the family. Urbanization and migration, which mean that many younger people are migrating to cities and older people, are remaining in rural areas. Where older people remain in rural areas they may have to manage without adequate kin support. When older people move to cities with their children they lose the support provided by their local networks. Also leads to smaller families and more women in the paid workforce means that there will be fewer family members to provide for the health care of older people.^(117, 126)

Urbanization, modernization and globalization have led to change in the economic structure, the erosion of societal values as the traditional sense of duty and obligation of the younger generation towards their older generation, weakening of social values, and social institutions such as the joint family. These Changes in family structures and roles mean that the family will be unable to provide the degree of support for older people that it once did⁽¹²⁶⁾. It also happens that a family does not accept the care for ill elderly people who may have suffered from physical and also mental changes⁽¹²⁷⁾.

So institutional care is often the only way of ensuring care for older people and family often faces with the choice of being overburden or “institutionalize” their relatives (i.e. to put them into institutional care facility).⁽⁷⁰⁾

Institutionalization of elderly:

Traditionally, elderly care has been the responsibility of family members and was provided within the extended family home. Increasingly in modern societies, elderly care is now being provided by government or charitable institutions. The reasons for this change include decreasing family size, the greater life expectancy of elderly people, the geographical dispersion of families, and the tendency for women to be educated and work outside the home.⁽¹²⁸⁾

Elderly people prefer to continue to live in their own homes, but when an older person cannot manage living in their own home, as they are confronting numerous losses such as; loss of physical strength and abilities, loss of mental abilities (confusion, dementia), loss of independence, loss of relationships (when death of the partner, friend or relative) or a combination of these,⁽¹²⁸⁾ alternative living arrangements need to be considered. In high-income countries, care-home placement is the main option for ongoing support. For a substantial minority of older people this is where they live; for example, in the UK, approximately 5% of people aged 65 and over, and 20% of people aged 85 and over, live in communal care establishments.⁽¹²⁹⁾

In most countries, the level of institutionalization is higher for women than for men. The chances of living in an institution are also greater for unmarried older persons than for those who have a spouse. Studies in developed countries have shown that the spouse tends to be the main caregiver for older persons who are unable to manage on their own, and those who lack a spouse are evidently at greater risk of entering an institution when they need care. Women’s greater likelihood of being widowed is thus the main reason for their greater likelihood of institutionalization.

Unmarried older men are actually more likely to live in an institution than are unmarried women of the same age.⁽¹¹⁵⁾

When an older person leaves home to an elderly home the permanent reductions in freedom of movement and different life style patterns are difficult to accept. Adaptation generally requires extensive social activity on the part of the new resident, involving complex negotiations with existing residents and staff. The person should be able to make the new environment as familiar as possible. The opportunity to bring personal possessions with them may provide new residents with historical continuity, comfort, and a sense of belonging. Choice to be instituted in elderly care is a critical factor. However; the older person may take little or no part in the decision to move, with this decision being made on their behalf by family members or professionals, especially general practitioners. Evidence suggests that older people who move by choice experience significantly increased levels of adjustment and satisfaction.⁽¹¹¹⁾

The role of care homes is changing; although long-term care remains an important function, many care homes have taken on additional roles in rehabilitation after acute illness, and in palliative care.⁽¹²⁹⁾

Older people in care homes are a highly vulnerable group, often lacking an effective voice owing to dementia and other communication difficulties. There is therefore a risk that their health and social care needs are neglected.⁽¹²⁹⁾

Disability in elderly:

Estimation of elderly people should be founded on the level of their functionality and not according to chronological age. Functional level is the accurate indicator of the difficulties experienced by elderly people and the required interventions. Functional capabilities range from complete independence to complete dependence, accompanied by different/various physical, cognitive, psychological and emotional deprivation.⁽¹³⁰⁾

The World Health Organization has defined disability as: "Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations. Thus disability is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives."⁽¹³¹⁾

Disability among the elderly is defined as the inability to live independently and take care of one's own personal needs.⁽¹³²⁾ and it generally focus on activities of daily living.⁽¹³³⁾ Older people with disability also often have poor perceptions about their health levels⁽¹³⁴⁾ and they become increasingly more dependent on indoor life⁽¹³⁵⁾. According to previous studies, disability is more frequently seen in higher ages⁽¹³⁶⁾, females⁽¹³⁷⁾, people with visual or hearing disorders⁽¹³⁸⁾, people who have lower education levels, retired persons and people who live in rented houses⁽¹³⁶⁾

Common cause of disability in elderly:

According to Canadian research, five types of chronic illness contribute largely to disability in people aged over 65 years: Foot problems, Arthritis, Cognitive impairment, Heart problems, Vision⁽¹³⁹⁾ Other common or important problems are: Hearing impairment, Chronic obstructive pulmonary disease (COPD), Falls and hip fracture.^(140,141)

Assessment of disability in elderly:

One of the major criteria used for measuring health levels of older people is the status of disability.⁽¹⁴²⁾ Occurrence of disability affects the life quality of older people⁽¹⁴³⁾ and it is also an important sign for mortality, as it is accepted as an indicator of death⁽¹⁴⁴⁾. The goal of disability assessment is to determine how well older patients can care for themselves, manage their living environment, and move about in the world.⁽¹⁴⁵⁾

Disability is measured by the inability to perform what are known as activities of daily living (ADLs) and instrumental activities of daily living (IADLs). These ADLs include bathing, dressing, eating, transferring from bed to chair, continence, and toileting. IADLs include driving or managing other transportation, shopping, cooking, using the telephone, managing finances, taking medications, doing housecleaning, and laundry.⁽¹³²⁻¹⁴⁵⁾

Approximately one quarter of people over 65 have difficulties with activities of daily living (ADLs) or with instrumental activities of daily living (IADLs). Half of people over 85 have difficulties with ADLs, indicating the need for long-term care either at home or in a residential care facility. Those who have problems with IADLs are more likely to have cognitive impairment than those who can still perform IADLs independently.⁽¹⁴⁵⁾

Successful aging:

The concept of successful aging can be traced back to the 1950s and was popularized in the 1980s. Successful aging consists of three components :⁽¹⁴⁶⁻¹⁴⁸⁾

1. Low probability of disease or disability;
2. High cognitive and physical function capacity;
3. Active engagement with life.

Successful aging may be viewed an interdisciplinary concept, spanning both psychology and sociology, where it is seen as the transaction between society and individuals across the life span with specific focus on the later years of life.⁽¹⁴⁹⁾ The terms "healthy aging" and "optimal aging" have been proposed as alternatives to successful aging, partly because the term "successful aging" has been criticised for making healthy aging sound too competitive.⁽¹⁴⁶⁾ Six suggested dimensions of successful aging include:⁽¹⁵⁰⁾

1. No physical disability over the age of 75 as rated by a physician.
2. Good subjective health assessment (i.e. good self-ratings of one's health).
3. Length of undisable life.
4. Good mental health.

5. Objective social support.
6. Self-rated life satisfaction in eight domains, namely marriage, income-related work, children, friendship and social contacts, hobbies, community service activities, religion and recreation sports.

Delaying the Effects of Aging:

The process of aging may be inevitable; however one may potentially delay the effects and severity of this progression. Good health includes both physical and mental wellbeing. And the two go hand in hand. A healthy mind contributes to a healthy body. Verse versa there is many healthy lifestyle choices we can make to keep our bodies and mind healthy and avoid illness and disability.⁽¹⁵¹⁾

Physical activity:

Regular physical activity (PA) can bring significant health benefits to people of all ages and the need for PA does not end in later life with evidence increasingly indicating that PA can extend years of active independent living, reduce disability and improve the quality of life for older people. Indeed a large scale longitudinal 8 year study found that every additional 15 minutes of daily PA up to 100 minutes per day resulted in a further 4% decrease in mortality from any cause . Increasing PA will help minimize the burden on health and social care through enabling healthy aging^{(152, 153).}

Regular physical activity whether it's walking, running, swimming, dancing helps to decrease heart rate , decrease blood pressure, decrease blood cholesterol, strengthen the heart and increase the flow of oxygen to the brain, improve reaction time, improve mobility, prevent bone density loss, muscle weakness and osteoporosis and maintain balance, maintain and improve memory, maintain and improve mental ability, prevent dementia including Alzheimer's disease, make us happy and prevent and alleviate depression and improve energy levels.⁽¹⁵⁴⁾

Controlling blood pressure:

Blood pressure below 120/80 mmHg is considered healthy and helps reduce the risk of stroke, which leads to dementia including Alzheimer's disease. High blood pressure damages blood vessels, which increases one's risk of stroke, kidney failure, heart disease, and heart attack. Nearly two-thirds of adults over age 65 have high blood pressure, 140/90 mmHg or higher. To reduce or keep blood pressure at a healthy level, the elderly persons should keep their weight down, stop smoking, exercise regularly, eat a healthy diet, and limit salt, alcohol and caffeine.⁽¹⁰¹⁾

Controlling cholesterol levels:

High blood cholesterol is a risk factor for heart disease as well as dementia. The higher blood cholesterol level, the greater chance of disease and illness. An excess of cholesterol in blood can build up on the walls of arteries. This causes them to harden and narrow, which slows down and can block blood flow. A blood cholesterol level of less than 200 mg/dL is considered healthy. Heredity, age, and gender can affect cholesterol levels. Cholesterol rises with age and women's levels tend to raise beginning after menopause.⁽¹⁰¹⁾

Maintaining a healthy weight:

People who are obese or overweight are at increased risk for heart disease, high blood pressure, diabetes, arthritis-related disabilities, and some cancers. The health risks of being overweight include high blood pressure, high cholesterol, heart disease, and stroke. Being underweight also carries risks including poor memory and decreased immunity. To maintain healthy weight eat healthy diet, including vitamins, omega-3 fatty acids, and protective antioxidants as diet rich in fruits and vegetables, whole grains, and nonfat dairy products. ^(101, 155)

Giving up smoking

Smoking significantly increases one's chance of having a stroke and developing lung and other cancers, emphysema, chronic bronchitis, chronic obstructive pulmonary disease (COPD), heart attacks, and peripheral vascular disease. According to the American Lung Association, when an older person quits smoking, circulation improves immediately and lungs begin to heal. After one year, the additional risk of heart disease caused by smoking is cut almost in half, and the risk of stroke, lung disease, and cancer decreases. ⁽¹⁰¹⁾

Keeping mentally fit:

Just as we exercise our bodies to keep them in working order, so we must exercise our brains to stay mentally alert and adept. It's the use-it-or-lose-it theory. By engaging in mentally stimulating activities, we can maintain our brain functions as we age. This activity may help to ward off dementia like Alzheimer's disease. New areas of brain should be stimulated to grow more connections among brain cells by intellectually self-challenging, solving a puzzle, learning a new musical instrument, reading a challenging book, playing a board or card game, attending a lecture or playing, or writing a short story. ^(101, 156)

Reducing stress:

Just as stress can wear our bodies down and increase blood pressure and the risk of heart disease, it can also affect the way we think, our moods, and ability to remember. In fact, the hormones our bodies release when we are under stress may shrink the brain, affecting memory and learning. Stress can also cause or contribute to depression and anxiety. Coping is a very important skill needed in the aging process to move forward with life and not be 'stuck' in the past. The way a person adapts and copes, reflects his aging process on a psycho-social level. ⁽¹⁰¹⁾

Staying socially connected:

The support we receive from our friends, family, and colleagues helps maintain our mental health. Social engagement is considered as an important element contributing towards successful aging. There is compelling evidence that involvement with societal activities has positive outcomes for people in older age. Studies have found that engagement with societal activities is associated with lower mortality, better physical health, fewer depressive symptoms, higher cognitive function and improved subjective well-being ^(157, 158).

Safe environment:

Current philosophies of aging emphasize “aging in place”, where older people as far as possible are able to maximize their independence and quality of life by adjusting their chosen social and physical environment instead of moving to a new environment. Older people generally express a strong wish to continue to live in the family home rather than move. An important step is for the person to feel able to actively exert control over their new environment and see “home” as the place where control can most easily be exerted. Adapting the environment for older adults’ needs should be a healthy aging priority, due to the fact that over one-third of adults aged 65 and over have reported falling, and falls are the leading cause of injury death for adults aged 65 and over. ⁽⁷⁷⁾

Common mental disorders in elderly:-

1-Depression:

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-esteem, disturbed sleep or appetite, and poor concentration. ⁽¹⁹⁵⁾ These symptoms generally persist for two weeks or more and can occur continuously or in cycles for periods of years. ⁽¹⁶⁰⁾

Prevalence:

Depression is a common disorder found in elderly, affecting as many as 20% of people over 65. ⁽¹⁶⁰⁾ Prevalence rates of between 6% and 20% have been reported in community-dwelling elderly populations, up to 50% in older people living in residential aged care. ⁽¹⁶¹⁾

Females are at greater risk of developing depression throughout the lifespan, including the later years, with a female to male ratio of 2:1. ⁽¹⁶²⁾ and also have higher rates of all types of depression than men. ⁽¹⁶³⁾ Although this difference tends to diminish later on in life where men are almost as often affected as women. It appears to be true as women are more likely to report depression than men, Depression is often under-diagnosed and undertreated, especially in older men who are less likely to present with psychological (‘I’m depressed’) than physical (‘I have pain’) problems. ⁽¹⁶⁴⁾

The Disability Adjusted Life Years (DALYs) for depression (major depressive disorder plus dysthymia) over 60 is 9.17 million per years or 1.6% of total DALYs in this age group. ⁽⁷⁵⁾

Symptoms of depression in elderly:

Depression is essentially the same disorder across the lifespan, although certain symptoms are accentuated and others are suppressed in older people. For example, older people with depression typically report more physical symptoms and less sadness compared to younger people with depression additionally, psychotic symptoms, insomnia, hypochondriasis, and subjective memory complaints are more likely to occur in older people with depression compared to younger people with

depression. This somatic presentation, together with high comorbidity with other physical conditions, can create a challenge for diagnosis. ⁽¹⁶⁵⁻¹⁶⁶⁾

Normal Brain aging and depression:

There are significant brain changes in depression; frontal and temporal lobe atrophy, periventricular and subcortical deep white matter hyperintensities and significantly decreased metabolism in a variety of brain regions (dorsolateral prefrontal cortex, inferior frontal cortex, basal ganglia). Many of these changes are associated with normal aging especially ventriculomegaly and white matter hyperintensities. ⁽¹⁶⁷⁻¹⁶⁸⁾

Risk factors and causes for late-life depression:

Older people are more vulnerable to many of the factors that are known to cause depression, including: ⁽¹⁶⁹⁻¹⁷⁰⁾

- Neurobiological changes associated with aging.
- Loss of a significant other, including spouse, family member, close friend.
- Being divorced or unmarried.
- Physical disability or chronic illness such as cancer and stroke.
- Loneliness and isolation.
- Living in residential aged care.
- Being retired or unemployed, and low socio-economic status
- History of depression, and/or dementia
- Medication for other conditions,
- Genetic susceptibility which increases with age.

2-Anxiety

Anxiety is an unpleasant state of inner turmoil, often accompanied by nervous behavior, such as pacing back and forth, somatic complaints and rumination. It is the subjectively unpleasant feelings of dread over something unlikely to happen, such as the feeling of imminent death . Anxiety is not the same as fear, which is felt about something realistically intimidating or dangerous and is an appropriate response to a perceived threat. ^(171, 172)

Prevalence

Anxiety disorders are common among elderly. However, research in this area is less compared to research undertaken in other mental disorders in older people, such as depression and dementia (Alzheimer's disease). ⁽¹⁷³⁾

Prevalence of Anxiety disorders is about 10% of community samples of older adults, ⁽¹⁷⁴⁾ and anxiety symptoms that do not meet criteria for a disorder affect 15% to 20%. ⁽¹⁷⁵⁾ Older women are also more likely to have anxiety disorders, such as generalized anxiety disorder (GAD), than older men. ⁽¹⁷⁶⁾

Anxiety disorders in older –adult:

Generalized anxiety disorder (GAD) and phobic disorders are the two most common anxiety disorders in older people. ⁽¹⁷⁶⁻¹⁷⁷⁾

➤ **Generalized anxiety disorder (GAD):**

is an anxiety disorder that is characterized by excessive, uncontrollable and often irrational worry⁽¹⁷⁸⁾ and It is called generalized because the remorseless worries are not focused on any specific threat and occurs without an identifiable triggering stimulus.⁽¹⁷⁹⁾ These excessive worries often interfere with daily functioning, as individuals suffering GAD typically anticipate disaster, and are overly concerned about everyday matters such as, health issues, money, death, family problems, friendship problems, interpersonal relationship problems, or work difficulties. Individuals often exhibit a variety of physical symptoms, including fatigue, fidgeting, headaches, nausea, numbness in hands and feet, muscle tension, muscle aches, difficulty swallowing, bouts of difficulty breathing, difficulty concentrating, trembling, twitching, irritability, agitation, sweating, restlessness, insomnia, hot flashes, and rashes and inability to fully control the anxiety (ICD-10). These symptoms must be consistent and on-going, persisting at least six months, for a formal diagnosis of GAD to be introduced. .⁽¹⁷⁸⁾

➤ **Phobic Anxiety Disorder:**

It is a type of anxiety disorder defined as a persistent unexplained fear of an object or situation such as a type of animal, or fear of heights, or a fear of an illness, or intrusive medical procedure and will lead to avoidance of the situation or object with marked distress and significant interference in social or occupational activities.⁽¹⁸⁰⁾

Symptoms of anxiety in elderly:

Elderly may deny psychological symptoms of anxiety (fear, worry) but endorse similar emotions with different words (worries, concerns). Elderly also tend to emphasize somatic rather than psychological symptoms of anxiety such as complaining with anxiety or worries about physical health illness as muscle tension or pain, GI symptoms, shortness of breath, and heart palpitations, changes in vision or hearing, cognitive difficulties.⁽¹⁸¹⁾

Risk factors of anxiety disorder in later life: ⁽¹⁷⁷⁻¹⁸²⁻¹⁸³⁾

- Previously having a psychological disorder as dementia and depression.
- Stressful life and traumatic events with poor coping strategies.
- Living in residential home care.
- Chronic and multiple physical co-morbidities.
- Increase levels of independence and disabilities.
- Being female.

Depression and anxiety in older people

Comorbidity of depression and anxiety disorders is highly prevalent. 47.5% of older people with major depressive disorders also met criteria for anxiety disorders, whereas 26.1% of those with anxiety disorders also met criteria for major depressive disorders.⁽¹⁸⁴⁾ Mixed anxiety and depressive disorders (where symptoms of both anxiety and depression do not reach diagnostic criteria for either disorder) also frequently occur in older people.⁽¹⁶⁵⁻¹⁷⁷⁾

Furthermore, when anxiety symptoms first occur in a person over 60 years of age with no history of anxiety, it generally suggests underlying depression. ⁽¹⁶²⁻¹⁶⁵⁾ Indeed, it is quite uncommon that people develop late-onset anxiety disorders for the first time in later life. ⁽¹⁶⁵⁻¹⁷⁷⁾ Although there are researchers who disagree with this. ⁽¹⁷³⁾

Older people with co-morbid depression and anxiety typically have more severe depressive symptoms, an increased likelihood of suicide ideation, lower social functioning and poor outcome. ⁽¹⁸⁵⁾

Causes of late-life depression and anxiety are multifactorial (including biological, physical and social factors) and that no single risk factor is responsible for late-life depression and anxiety. The development of late-life depression and anxiety is an outcome of “the accumulation of risks over time” and there is no evidence that aging per se is a risk factor for depression or anxiety in late-life. ⁽¹⁶⁵⁻¹⁶⁶⁾

3-Suicide:

Older people have a much higher risk of suicide than the general population. Moreover, of those who attempt suicide, older people are most likely to complete the attempt, with males 3-4 times more likely to suicide than females. Therefore, any suicide attempt by an older person should be taken seriously; even those attempts deemed not medically serious. Additional risk factors for suicide in later life are previous suicide attempts, other psychiatric conditions as depression and anxiety, serious physical illness, social isolation, poor social support, and significant loss including bereavement. Up to 83% of older people who complete suicide suffered from depression. Suicide is avoidable outcome of depression and depression is a very treatable disorder. ⁽¹⁶⁵⁻¹⁶⁶⁻¹⁷⁷⁾

4-Dementia:

Dementia is defined as acquired global impairment of cognition which has significant effects on occupational, social and functional ability. It may be understood as a non-specific neuro-degenerative syndrome where accelerated deterioration within two or more functional areas of cognition occurs. The areas of accelerated functional deterioration are typically observed in memory, language, emotional control, problem solving ability, and judgment. This functional deterioration is not accounted for by normative factors of aging and it occurs in the absence of gross clouding of consciousness such as delirium. ⁽¹⁸⁶⁻¹⁸⁷⁾

Prevalence:

The number of people with dementia in 2011 around the world was estimated to be 35.6 million, and this number will grow quickly. The total numbers will double every 20 years, to 65.7 million in 2030 and 115.4 million in 2050, with the majority of them living in low- and middle-income countries. From them about between 2% and 10% of all dementia cases start before the age of 65. ⁽¹⁸⁸⁾

The prevalence of dementia doubles with every five-year increment after age 65. ⁽¹⁸⁸⁾ Therefore dementia affects around 5% of the over 65s, rising to 20% of the over 80s. ⁽¹⁸⁹⁾ Dementia is more prevalent in women, although incidence studies generally

find an equal sex incidence suggesting that men suffer from dementia at the same rate as women but die more quickly. ⁽¹⁹⁰⁾

Dementia has been found to be a principle factor for institutionalization, disability, and shorter survival in older individuals. ⁽¹⁹¹⁾

Signs and symptoms:

Dementia affects each person in a different way, depending upon the impact of the disease and the person's personality before becoming ill. The signs and symptoms linked to dementia can be understood in three stages. ⁽¹⁹²⁾

Early stage: the early stage of dementia is often overlooked, because the onset is gradual. Common symptoms include:

- ▶ Forgetfulness.
- ▶ Losing track of the time
- ▶ Lost in familiar places.

Middle stage: as dementia progresses to the middle stage, the signs and symptoms become clearer and more restricting. These include:

- ▶ Forgetful of recent events and people's names
- ▶ Lost at home
- ▶ Difficulty with communication
- ▶ Needing help with personal care
- ▶ Experiencing behaviour changes, including wandering and repeated questioning.

Late stage: the late stage of dementia is one of near total dependence and inactivity. Memory disturbances are serious and the physical signs and symptoms become more obvious. Symptoms include:

- ▶ Unaware of the time and place
- ▶ Difficulty in recognizing relatives and friends
- ▶ Increasing need for assisted self-care
- ▶ Difficulty in walking
- ▶ Experiencing behaviour changes that may escalate and include aggression.

Risks Factors for Dementia in older- adult:

Dementia is not a normal part of aging. It is different to the age-associated memory impairment that is common in older people. There are some groups of people who are known to have a higher risk of developing dementia. These include people with. ⁽¹⁹¹⁻¹⁹³⁾

- Severe psychiatric problems such as schizophrenia or severe depression.
- Mild cognitive impairment (MCI)
- Parkinson's and Huntington's disease
- Risk factors for cardiovascular disease (angina, heart attack, stroke, peripheral vascular Disease, high blood pressure, smoking, high cholesterol level, lack of exercise, etc
- Poor social networks
- Lower intelligence and low educational level

- Genetic susceptibility that can make someone more likely to develop dementia as it seems to run in some families.

Causes of dementia among elderly:

1-Primary causes

Alzheimer's disease (AD)

Alzheimer's disease is the primary cause of dementia and cause irreversible memory loss and impaired thought processing. ⁽¹⁹⁴⁾ Alzheimer's disease is an irreversible, progressive degenerative brain disorder related to changes in nerve cells that result in the death of brain cells. It is gradually progresses worsen over time as the brain becomes more and more affected. Alzheimer's disease is not a normal part of the aging process but is the most common cause of dementia after the age of 65 years although the less-prevalent early-onset Alzheimer's can occur much earlier. AD contributes to 60–70% of cases of dementia and because it is highly associated with aging, and women have a longer life expectancy than men, women account for over two-thirds of the elderly population with this disease. In 2006, there were 26.6 million people worldwide with AD. Alzheimer's is predicted to affect 1 in 85 people globally by 2050. 66 %of the elderly population with Alzheimer's disease, compared to 27% of the elderly population without it, report being in fair to poor physical health and 51% of elderly nursing home residents suffer from dementia especially among residents age 85 and older. ⁽¹⁹⁵⁻¹⁹⁶⁻¹⁹⁷⁾

2-Secondary Causes

Vascular dementia:

This causes about a quarter of all cases of dementia. It is due to problems with the small blood vessels in the brain. The most common type is called multi-infarct dementia. In effect, this is like having many tiny strokes, that otherwise go unrecognized, throughout the thinking part of the brain. A stroke is when a blood vessel blocks and stops the blood getting past. So, the section of brain supplied by that blood vessel is damaged or dies (an infarct occurs). After each infarct, some more brain tissue is damaged. So, a person's mental ability gradually declines. Vascular dementia can also sometimes happen after a more major stroke. The risk of developing vascular dementia is increased by the same things that increase the risk of stroke. For example: high blood pressure, smoking, high cholesterol level, lack of exercise. ⁽¹⁹³⁻¹⁹⁸⁾

Lewy body dementia

Lewy body dementia affects approximately 10 to 22 percent of people with dementia and it becomes more common with age. Lewy bodies are abnormal clumps of protein that have been found in the brains of people with Lewy body dementia, Alzheimer's disease and Parkinson's disease.

Lewy body dementia symptoms are similar to symptoms of Alzheimer's disease. Its unique features include fluctuations between confusion and clear thinking (lucidity), visual hallucinations, and tremor and rigidity (parkinsonism). People with Lewy body dementia often have a condition called rapid eye movement (REM) sleep behavior disorder that involves acting out dreams. ⁽¹⁹⁹⁾

Huntington's disease:

Huntington's disease is a genetically inherited neurological disease that can cause dementia. Huntington's disease causes behavioral changes, and chorea (chorea is involuntary dance-like movements). The usual age of Huntington's disease onset is between thirty and fifty years old^(199,200)

Parkinson's disease:

Parkinson's disease is a progressive neurological disease that affects movement and muscle control. Symptoms of Parkinson's disease include tremors, balance problems, difficulty walking, and a rigid posture. Parkinson's disease caused by abnormal microscopic deposits composed chiefly of Alpha-synuclein clumps. These clumps are thought to cause degeneration of the nerve cells that produce dopamine which responsible for muscle control. Dementia develops in between 30–70% of people with Parkinson's disease, depending on duration and age.^(200, 201)

3 - Other Causes

Dementia-like symptoms can develop as a result of an underlying medical condition. If the underlying condition can be treated, the symptoms will generally improve. The following are some of the more common secondary causes that can lead to dementia in elderly.^(194, 199, 200, 202)

- ***Medication:*** As people age, they tend to require more medication for their health. Many of the medications include dementia symptoms as a side effect. The list of medications that cause dementia symptoms is incredibly long, and includes such common medications as: anti-diarrhea medication, anti-epileptic medication, antihistamines, cold and flu medication, lithium, sleeping pills, tricyclic antidepressants, reducing the dose or switching to an alternative medication can often prevent dementia symptoms.

- ***Vitamin Deficiency:*** A deficiency in vitamin E, the B vitamins, or folic acid may increase the chance of developing dementia. Current research is examining the relationship between vitamin deficiency and dementia symptoms. Eating a healthy diet may help prevent or reverse certain types of dementia. Of special interest to researchers is a possible link between vitamin deficiency and Alzheimer's disease.

- ***Infectious Diseases:*** A number of infections that affect the central nervous system have been known to cause dementia symptoms, including human immunodeficiency virus (HIV), meningitis, and encephalitis.

- ***Creutzfeldt-Jakob Disease:*** Creutzfeldt-Jakob disease is similar to "mad cow disease," Creutzfeldt-Jakob disease is an infectious disease that attacks brain tissue, leaving the tissue full of holes. The disease is fatal, and progresses rapidly. Creutzfeldt-Jakob disease begins with small changes to personality, and progresses into dementia symptoms that worsen over the course of several weeks

- ***Metabolic Disorders:*** Metabolic disorders can also cause symptoms of dementia. These disorders include; cortisol hormone imbalances, diabetes, kidney failure, liver disease, thyroid disorders.

-Pseudo dementia: Depression can result in dementia symptoms, including memory loss and a lack of motivation. Elderly people dealing with health problems, the loss of a spouse, or loneliness are particularly susceptible to depression. Treating the depression often results in the reversal of dementia symptoms

-Brain Tumors: Brain tumors put pressure on and damage the surrounding brain tissue. A brain tumor can cause a number of symptoms, including dementia. The tumor may originate in the brain, or may have spread to the brain from other organs.

-Alcohol Dementia and Substance Abuse: Alcohol abuse can lead to symptoms of dementia. The long-term toxic effects of alcohol on the brain are enough to cause dementia. Symptoms can often be improved by abstaining from alcohol. Alcohol abuse increases the chances of head injuries, vitamin B1 deficiency, infections, and liver disease, all of which can cause dementia symptoms. Abuse of illegal drugs can also cause damage to the brain that result in dementia.

Rationalization:

Many changes have occurred in the life structure since the beginning of the 20th century for instance; modernization, urbanization and immigration. These changes lead to variation in life style from dynamic to sedentary and turn family structure from extended family to nuclear family. These factors affect also type of elderly living arrangement and care. Nowadays, many elderly live alone and need support and care from their family members and a lot of them didn't found this care. So institutionalization takes place of family in elderly care in many countries especially developed one. Egypt one of the developing countries which seeing a great change in their life and family structures. The present study tries to make a comparison between elderly living in the community and those residents in elderly homes to explore differences in psycho-social profile between both groups of elderly and identify factors affecting the type of elderly care.