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Research Article

GERIATRIC INDIVIDUALS CRYING OUT FOR NEWSOLUTIONS (NEW ROADS ON OLD MOUNTAINS)

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ABSTRACT

The only thing that comes unlimitedly is old age. The aging process is universal but not uniform. Ageing is a global phenomenon. Ageing is a natural process. People worldwide are living longer. The size of the oldest old section of the population is rising and is set to continue to increase. Aging is the action of getting older. Death is frequently interrelated with aging, and inversely. And a fear of death contributes to a panic of aging. The accumulation of damaged DNA over time is a principal cause of aging and aging is, of course, one of the main miscreants when it comes to death. Old age people face several issues and require a cross departmental approach involving inputs from various disciplines of health, psychology, nutrition, sociology and social sciences.

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INTRODUCTION

The prevailing view regarding causes of aging is that aging results from accumulation of somatic damage. Damage to DNA can lead to cell cycle arrest, cell death or mutation⁽¹⁾ One of the important domains of the elderly health is its psychological dimension, which requires special attention and prevention of disorders such as anxiety. For many reasons, older adults are vulnerable to mental illness, and about 15%–25% of them have serious psychological problems.⁽²⁾ Anxiety is one of the most common mental problems of old age because people face a variety of feelings of deficiencies and disabilities at this stage of life. Studies show that older adults are more exposed to anxiety due to reduced self confidence, reduced activity and movement, loss of friends, reduced financial and physical independence, and chronic illnesses. Their most common anxiety is death anxiety.⁽³⁾ Death is a biological and psychological fact, but thinking of death is dreadful and most people prefer to avoid such thoughts.⁽⁴⁾ Multiple other neurodegenerative conditions like Parkinson's disease or the sudden devastation of a stroke are also increasingly common with age⁽⁵⁾ Alzheimer's and Parkinson's diseases are the progressive neurodegenerative diseases associated with ageing⁽⁶⁾ The proportion of older people in the world is about

11% and are rapidly increasing⁽⁷⁾ In Europe, the age group 65 years and above represents about 15% of the population⁽⁸⁾

Alzheimer's disease causes an overall imbalance among the elderly by causing memory loss, changes in personality and behaviour-like depression, apathy, social withdrawal, mood swings, distrust in others, irritability and aggressiveness⁽⁹⁾ Healthy ageing is no longer limited to the physical and medical support of the maturing population.⁽¹⁰⁾ This lack of research could be related to researchers' desire to protect older persons, but it could also be due to a lack of interest in older persons' last period of life. Other explanations could be a lack of knowledge among staff⁽¹¹⁾ Stroke is another common cause of mortality worldwide⁽¹²⁾ These conditions are typical age-related diseases: hypertension, diabetes, obesity, ischemic heart disease (IHD) and chronic obstructive pulmonary disease (COPD) and other diseases⁽¹³⁾

The pre-existing conditions are manifestations of biological age, whereas aging and diseases are two sides of the same coin⁽¹⁴⁾ The mortality rate is twice higher in men than in women in part, because men age faster than women and, at any chronological age, men are biologically older than women^(15,16)

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Humans do not die from aging itself but from age-related diseases such as ischemic heart disease (IHD), hypertension, diabetes, cancer, Alzheimer's and Parkinson's diseases, age-related macular degeneration, osteoporosis and sarcopenia^(17,18) Diabetes is one of main risk factors of death in COVID-19⁽¹⁹⁾ Normal ageing is characterised by a decrease in bone and muscle mass and an increase in adiposity⁽²⁰⁾

HISTORY

The term aging coined by Dr Robert Butler. Marjory Warren (1897–1960) is given much credit for the development of modern geriatrics. Joseph Sheldon (1893–1972), while working at the Royal Hospital in Wolverhampton, undertook a survey of 583 old people, which he published in his book *The Social Medicine of Aging* in 1948. The first chair for geriatrics in the world was the Cargill Chair at Glasgow University awarded to Dr. Ferguson Anderson in 1965. William MacNider was the first president. *The Journal of Gerontology* was first published in 1946.

Common health conditions associated with ageing

Common conditions in older age include hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia.. They are often the consequence of multiple underlying factors and include frailty, urinary incontinence, falls, delirium and pressure ulcers.

Age -problems

Physical problems.

Physical decline and illness are one of the biggest problems aging people experience. Deteriorating health may prevent a person from doing things you enjoy or interfere with their routine activities. Also, chronic illness in the elderly may limit or cause a loss of independence, which is distressing for most people.

Cognitive problems

Aging adults are susceptible to dementia, psychotic depression, personality changes, mood swings, aggression, and other mental health issues

Emotional problems

The decline in health and mental ability makes aging people dependent. Lost independence can be a great source of stress. Additionally, many aging adults face emotional challenges such as feelings of loneliness and isolation. The death of a spouse and other loved ones can add to the stress, depression, and anxiety the person already experiences.

Social problems

Transition to retirement often means limited social life. Also, the death of a spouse, friends, and relatives restricts the person's participation in social life. Studies show that loneliness and fear of being cut off from social circles are among the biggest fears people have as they age.



Courtesy-(Late Smt J. NirmalaDevi, Age-91Years, W/O Late. JNK Muralidhar)

Molecular and cellular changes

Telomere shortening, accumulation of somatic mutations, mitochondrial dysfunction, protein damage are some proposed theories of aging. Decreased hyaluronan induces xerosis, mutations in the keratinocytes, lead to solar lentigenes, increased production of matrix metalloproteinases causes degradation of extracellular matrix causing wrinkles. Modifications in the epigenetic landscape, accumulation of molecular damage together with, dysregulation of gene expression, and altered endocrine communication, accelerate the aging process.

Programmed theory

Aging follows a biological timetable regulated by changes in gene expression leading to the concept of programmed theory. Programmed aging is caused by evolved biological mechanisms to obtain an evolutionary advantage. As per programmed theories aging per se is a treatable condition

Skin problems in old age

Skin diseases in old age leads to psycho-social morbidity. Papulo-squamous disorders like psoriasis, eczema-dermatitis, lichen planus, drug eruptions, top the list. Infections and infestations are next in line. High prevalence of fungal infections are due to decline in immunologic functions, decreases in personal care, epidermal turnover, and immunologic functions. Senile pruritus, senile purpura are also noted

Bruises

A bruise is the result of blunt force trauma with concomitant rupture of small blood vessels under the skin, eyelids, neck and scrotum are very susceptible to bruising. The evaluation of bruising on an older person must be taken in context. For example blood thinning medications taken by older people can cause bruising to occur more easily from non-assault related causes additionally older people are more prone to fall-related injuries that may cause bruising. The most common locations for non-accidental bruising are face and neck, chest wall, abdomen and buttocks.



Courtesy-(Late Smt J. NirmalaDevi, Age-91 Years, W/O Late. JNK Muralidhar)

Signs of aging

- Dry skin with pruritus
- Fine wrinkles
- Thinning skin
- Hollowed cheeks and sunken eye sockets with noticeable loss of firmness on the hands and neck
- Inability to sweat sufficiently to cool the skin
- Hair changes include Greying hair eventually turning white

Treatment of aging skin

Daily skin care and Sun protection are the two most important pillars in maintain the skin health in geriatric skin disease. Antioxidants, cell regulators Hormone replacement therapy are the oral drugs used. Invasive procedures include Chemical peels, Visible light devices, Intense pulsed light, Ablative and nonablative laser photo-rejuvenation Radiofrequency (RF) Injectable skin bio stimulation and rejuvenation. Boto Xinjections and autologous PRP fetch good results.

Medical Emergencies in the Elderly

Introduction

Diagnosing and treating medical emergencies in the elderly comes with many challenges. Age related factors play a significant role in not only increasing the risk of complications in the population, but also alter the presenting symptoms which leads to delayed diagnosis and make the treatment challenging due to pharmacokinetic and pharmacodynamic alterations. Due to the physiologic changes that the body undergoes with aging, older patients are more likely to present with “non-classical” presentations. In contrast to a younger individual having myocardial infarction, older patients often present without chest discomfort or pain. In the presence of a UTI, they are more likely to present with non-specific symptoms like loss of appetite instead of urinary frequency or dysuria, delaying the diagnosis and in turn increasing the risk of complications.

Sepsis

Sepsis is one such condition in the elderly that is diagnosed late due to its frequent atypical presentation in the elderly. Firstly, along with every other system, the immune system becomes less effective with age increasing the risk of sepsis in the geriatric population. Moreover, age-related physiologic changes significantly alter the way the condition presents. Elderly patients are more likely to present without fever or chills. Loss of appetite, generalized weakness or frequent falls may be the presenting complaint making the timely diagnosis of sepsis difficult. Due to the blunted inflammatory response in this population, biomarkers such as ESR and CRP may not be

as reliable, so anticipating these clinical challenges is important for a clinician working with the geriatric population.

Additionally, these age-related factors play just as important of a role in the management of sepsis as they do in its diagnosis. The prevalence of comorbidities and age-related changes significantly impact the prognosis. When compared to younger patients, a more aggressive approach may be warranted when treating older patients with sepsis. These comorbidities also play a major role in the choice of medication or therapy.

UTI

UTI is one of the most common causes for hospitalization in the elderly. In 2018, 17% of the patients who were hospitalized in the US had a principal diagnosis of UTI.

Diagnosis of UTI in the elderly: Urinary frequency, urgency and dysuria are the most common presenting symptoms of UTI. But, in the elderly population, atypical symptoms like back pain, constipation or generalized weakness may be the first symptom to develop. The incidence of atypical presentations of UTI is higher in patients residing in long-term care facilities and those with indwelling urinary catheters. Another factor that complicates the diagnosis of UTI further is the high prevalence of asymptomatic bacteria in the geriatric population. Studies suggest that the prevalence of asymptomatic bacteria may be as high as 20% in the elderly and it may be as high as 25-50% in those living in long-term care facilities.

Management

One of the most important things to remember when treating UTIs is that it is not recommended to treat asymptomatic bacteria. Firstly, it increases the risk of infection with MDR organisms. Secondly, older patients are at higher risk of complications arising from antibiotic use, including *C. difficile* infections.

The most common causative organisms of UTI in the elderly are *E. coli* followed by *Enterobacteriaceae*. European Society for Microbiology and Infectious Diseases recommends using either Nitrofurantoin or TMP/SMX as the drug of choice for treating uncomplicated UTI. Even though *E. coli* is usually sensitive to Nitrofurantoin, *Enterobacteriaceae* may have intrinsic resistance. Also, nitrofurantoin is contraindicated in patients with CKD which is very prevalent in the elderly. Given these factors, TMP-SMX should be the empirical oral antibiotic of choice in this population.

Respiratory emergencies

Chronic obstructive pulmonary disease (COPD) is a chronic inflammatory lung disease that causes obstructed airflow from the lungs. Chronic obstructive pulmonary disease (COPD) is the third leading cause of death globally only coronary heart disease and stroke claim more lives each year. But the COPD, which causes the small airways to taper and lung tissue to cease to work, has long been disregarded and neglected. COPD is common for ages 40 and older. COPD is a chronic disease that causes shortness of breath and makes breathing difficult and less effective. High prevalence places also have no cure. (Alpha 1) α 1-Antitrypsin deficiency is also related to the development of airflow obstruction. Its deficiency is a genetic cause of COPD and associated with more rapid decline in lung function.

Tuberculosis

Mycobacterium tuberculosis is highly dynamic and complex pathogen. T B occurs in every part of the world. Tuberculosis in older adults may be difficult to diagnose as the population often does not have the classic presentation of the disease. Older adults are less likely than younger patients to have hemoptysis, fever and night sweats. Instead nonspecific symptoms are common among the older population and may include, fatigue, anorexia, weight loss, low-grade fever.⁽²¹⁾

Coronary artery disease (CAD)

It is a leading cause of death in elderly because aging is the important risk factors of atherosclerosis and also a predictor of poor outcomes. Underuse of guideline directed therapy may contribute to suboptimal risk factor control and worse outcomes in the elderly. The most common aging change is increased stiffness of the large arteries, called arteriosclerosis, or hardening of the arteries. This causes high blood pressure, or hypertension, which becomes more common in the elderly.

Hospitalization, death of elderly patients with heart failure rises in winters

Drastic change in temperature and atmospheric pressure is closely related to rate of hospitalization and death in elderly patients with heart failure. Numerous studies over the years have shown that hospitalization and mortality rates for heart failure patients are higher during the winter. 'Heart failure' is a chronic (long-term) coronary artery disease (CAD) which, despite its literal connotation, doesn't mean that the heart has failed and is about to stop working, rather it is a potentially life-threatening condition where the heart is unable to pump enough blood as required by the body.

Low temperatures can cause blood vessels to narrow, restricting the flow of blood through the body and so reducing the amount of oxygen reaching the organs including heart. This means the heart needs to work even harder to continue pumping enough blood and oxygen to the body. A study shows that exposure to cold or high-pressure weather could trigger events leading to hospitalization or death in heart failure patients. There are several reasons to this: During cold weather, smog & pollutants settle on ground leading to chest infections & breathing problems.

During winter, the BP rises and coronary arteries shrink leading to lack of blood supply. As sweating doesn't occur, the extra water gets accumulated in lungs leading to failure symptoms. Finally, due to weather change, various respiratory infections are also more common. As observed by Dr.Sundeep Mishra, Professor of Cardiology, AIIMS, New Delhi, "There is a higher risk of mortality in the winter seasons than in the summer seasons. We have also seen an increase in the number of cases reported on heart failure, especially at night. The aim of long term treatment is to prevent these acute exacerbations, as each episode can be potentially life threatening. As the weather becomes colder, we see a surge in hospitalization related to heart failure."⁽²²⁾

Other medical emergencies are

Hearing loss is the most common communication disorder in the older population. Cataract and glaucoma are the common visual problems in old age 70% older adults suffer from kyphosis. Age related changes in immune system, diabetes,

thyroid disorders, GIT disorders, gallbladder disease, colorectal cancer, constipation, malnutrition, Age related changes in temperature like hypothermia, hyperthermia, burns, prevention etc.

Attitude of gratitude

Always attempt to serve as an advocate for older people be a positive role model and a force for positive changes in the attitudes of others and in the quality of services provided to older people

1. Difficulty in communicating with older patients is often the result of normal effects of the aging process on sensory function.
2. Confusion and dementia are not normal changes of aging process, but rather the results of acute or chronic disease process
3. Patients over the age of 85 years are more likely to initially present with SOB than with chest pain when suffering an acute myocardial infarction.

Incredible Achievements of older people

1. At 72, Margaret Ringenberg flew all around the world
2. Minoru Saito from Japan became the oldest person to sail solo and non-stop around the world in 2011 at age 77
3. Glenn flew aboard the space shuttle Discovery's STS-95 mission in 1998, spending nearly nine days in space at the age of 77.
4. The oldest person to reach the summit of Mount Everest is Yuichiro Miura who did so at age 80.
5. Johanna Quaas from Germany is recognized as the world's oldest gymnast at age 86
6. Nola Ochs became the oldest college graduate in 2007 at age 95
7. At 84, Thomas Edison produced the telephone
8. At 77, John Glenn became the oldest person to venture into space
9. At 74, Nelson Mandela became oldest person elected president in South Africa
10. At 69, Ronald Regan became the president of United States

A NEW VISION FOR OLD AGE CARE

A formal approach to homes for the elderly is an important policy and planning issue for India

As India becomes increasingly urbanised and families break up into smaller units, homes for the elderly have sprung up. The care of elderly people is managed by a set of professionals or voluntary organisations interested in geriatric services⁽²³⁾

Old age homes as a fact of life

To understand the concept of OAHs, one has to go back in time five to six decades to see the life pattern of elders and chronologically trace the developments that led to the slow yet steady changes that were necessitated by circumstances. There was the much-acclaimed joint family or extended family system wherein elders lived with not only their children but also with their brothers, sisters or uncles and aunts in nearby

houses, mostly in villages or in small towns. They all used to live close by, helping each other for many purposes, be it happy small events or big occasions like marriages. Everyone was close at hand for any emergencies such as health problems or deaths.

Whenever there were some health issues for an elder, the whole family would run around to attend to all needs, rendering medical to personal assistance. With perfect understanding of caring and sharing the duties, the elders did not feel let down or lonely.⁽²⁴⁾

Age-old problem needs new solutions

The traditional Indian society and the age-old joint family system have been instrumental in safeguarding the social and economic security of the elderly people. However, with rapid changes in society and the emergence of nuclear families in India in recent years, the elderly are likely to be exposed to emotional, physical and financial insecurity in the years to come.

Recommendations of WHO

Promote and live a healthy lifestyle across the life-course. Create age-friendly environments and policies to engage older men and women. Make primary health care age-friendly. Ensure access to health care and rehabilitation services for older people. Adapt physical environments to existing disabilities. Lifestyle choices for Active Ageing should start early in life and include participating in family and community life, eating a balanced, healthy diet, maintaining adequate physical activity, avoiding smoking and excessive alcohol consumption.

It is time for a new paradigm, one that views older people as active participants in an age-integrated society and as active contributors as well as beneficiaries of development. Dr. Gro Harlem Brundtland, Director General of WHO, says that "there is much the individual can do to remain active and healthy in later life. The right lifestyle, involvement in family and society and a supportive environment for old age - all preserve well-being. Policies that reduce social inequalities and poverty are essential to complement individual efforts towards Active Ageing."⁽²⁵⁾

In India face psychological problems: Study

"Forty-three per cent older persons are facing psychological problems due to loneliness, relationship issues. It was also observed that more than 45 per cent elderly claimed that their family members do not care for their needs and interests," the study revealed. The foundation has appealed to the government and other stakeholders to make provisions in government schemes in keeping in mind the welfare and empowerment of the older people.

"Today there is an urgent need to include elderly friendly provisions in all government schemes and programs because their life span and their share in the national population has increased remarkably. Ignoring their needs and rights and leaving them unaddressed can pose a great threat to our social development agenda. Older persons need to be brought into mainstream by focusing on their issues and encouraging their active participation in the society," Himanshu Rath, Chairman of Age well Foundation, said⁽²⁶⁾

How yoga helps senior citizens keep their balance, avoid falls

Vertigo, loss of hearing, tinnitus, Alzheimer's and Parkinson's - all of these make senior people susceptible to loss of balance. Even if you haven't practiced any form of fitness till 60, here are some basic, simple asanas, pranayama and diet to ensure that your feet and head are firmly planted in their respective places.⁽²⁷⁾

Lifestyle tips for age over 50

It is essential to note that as you approach 50, the body's metabolism slows down, and there is a decrease in oestrogen, among other hormonal changes, said Dr. Archana Batra, dietitian nutritionist, physiotherapist and certified diabetes educator. Also, there are many foods like cereal, bread, and juice that are enriched with both these crucial dietary components.

Around this age, high blood pressure may become a problem. As such, getting rid of table salt is one step toward a heart-healthy diet. You can try spices like garlic powder, onion powder, paprika, pepper, citrus, and fresh herbs instead. You can also opt for sodium-free or low-sodium alternatives. Also, always check the sodium quantity of any packaged food you may consume. Preparing home-cooked meals with fresh ingredients is the simplest approach to keeping a tight eye on sodium intake.⁽²⁸⁾

Hydration Tips for Older adults

Further, they also have difficulty adapting to things like fluctuating temperatures, declining sense of thirst, and medical conditions that affect the ability to retain fluids. To add to the woes, the presence of Dementia makes them forget to eat and drink, difficulty in swallowing (dysphagia) prevents them from getting the fluids, use of drugs like diuretics, antihistamines, laxatives, antipsychotics, and corticosteroids can cause frequent urination & deplete water and electrolytes. In addition, some adults may also experience incontinence and thus often purposely refuse or limit fluids to avoid accidents.

Dehydration in this population can be diagnosed by looking for initial signs like headache, constipation, muscle cramps, dry mouth and tongue, and sleepiness or lethargy. Urine color is another helpful indicator. It should be clear or light yellow for someone who is properly hydrated. Severe dehydration can be diagnosed by signs like little or no urination, dark or amber-colored urine, dry skin that stays folded when pinched, presence of irritability, dizziness or confusion, low blood pressure, rapid breathing and heartbeat, weak pulse, cold hands, and feet.⁽²⁹⁾

Old age home - Advantages

1. Emergency services are available 24x7 and doctors are always at hand
2. Elderly people can schedule appointments with doctors and go with them to the chamber.
3. Doctors can take care of hospitalization in case of a medical emergency,
4. All basic facilities are provided
5. Good friendly environment
6. Mental and physical care is taken
7. Don't feel abandoned
8. Each stage of your aging is taken care of by the community itself.

9. In the case of living in a retirement home, medical facilities, nurses and aid is available right at your doorstep. This is one big advantage of living in a fully set up retirement community.
10. In a well-equipped retirement facility, there is an option for its residents to gather, socialize and make new friends. This gives the retired an opportunity to not feel lonely, which is a common case, and to participate in social activities. Most of the retirement communities today have a full-fledged gymnasium, swimming pool, Ayurveda centre, indoor games centre and even playing courts. This is a great way for the retired to stay fit by including exercise and social activity in their everyday routine.

Disadvantages

1. May be costly
2. Very Limited choice in food and other needs
3. Cannot get a personal space
4. Home sickness is felt commonly
5. Living away from family and home is a very sad moment for any person at any age but living in old age becomes more difficult.
6. Many old age homes are run by a charity which is not much payable thus there sometimes can be a lack of services due to lack of money.
7. No privacy
8. Some elders are not taken care properly
9. Old Age home management is profit driven. Patient care is low on their priority
10. Employees are poorly trained
11. They are badly paid and not usually treated well. The workers do direct harm, such as pushing, hitting, shaking, hair pulling and unreasonable physical restraint. They cause pain through verbal or non-verbal acts. Examples: verbal assaults, threats, creating fear or isolation and withholding emotional support.
12. Failure to provide needed care, services or supervision. Examples include failure to provide food, clothing, shelter, health and safety and medical care.

Age old Problems needs new solutions

In India, Out-of-pocket expenses account for about 62.6% of total health expenditure - one of the highest in the world. Lack of health insurance coverage and inadequate coverage are important reasons for high out-of-pocket health expenditures.⁽³⁰⁾ Old age brings with it deteriorating health, physical challenges and financial limitations. Hence it is essential to have adequate health insurance to take care of medical expenses in the 'golden years'. Senior citizen health insurance plans offer a much-needed solution to our senior citizens or people aged 60 years or more.⁽³¹⁾

According to Dr. Vinod K Paul, member of NITI Aayog, India has large strides towards Universal Health Coverage (UHC) with launch of Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY). It is the largest fully government subsidized scheme in the world, covering nearly 40% of India's population at the bottom of the pyramid. Nearly 70% of the India's population is now estimated to be protected by some health insurance coverage.

Government of India has set up a senior citizen helpline phone number 14567. This center provides any help/support needed by senior citizens 24 hours. One can refer a case of senior citizen in distress medical help needed, or protection from harassment, vaccination centers nearby etc. at any time of the day/night. The services are available between 8AM to 8 PM only.

CONCLUSION

The aging process is universal but not uniform. Functional deterioration in an elderly person can also arise from social and mental health problems. Awareness of these problems may prevent age-related deterioration, such as attention to depression and suicide risk in men during the first year following the death of a spouse or depression after hip fracture or stroke. Optimizing vision and hearing can prevent isolation, depression, and cognitive impairment. Lower extremity strength especially of the quadriceps muscle is critical for basic activities of daily living, especially bathing, walking, and performing transfers. Maintaining a healthy body weight throughout the life span likewise can prevent diabetes, osteoarthritis, and other chronic diseases.⁽³²⁾

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