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YOUR HEALTH

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GERIATRICS

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YOUR HEALTH
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Editorial

Dr Samarendra Kumar Basu

Geriatric Medicine, a new branch of medicine dealt with elderly patients. India has now a separate Geriatric dept in the public health system but many private hospitals has taken on the onus to setup exclusive department for the senior citizens. Among the common geriatric diseases are diabetes, hypertension, osteoporosis, arthritis, heart problems, cancer & dementia.

Gerontology is the study of the social, cultural, psychological, cognitive & biological aspect of aging. The word came from Greek term heron i.e. old man & logica i.e. study. Aging is part of the development sequence of the entire lifespan. Gerontology, however is concerned primarily with the changes that occur between the attainment of maturity & the death of the individual & with the factors that influence these changes.

Medical council of India has decided to introduce MD in geriatric following the Union Health Ministry's nod for the same. MCI included MD Geriatric in 2012. Right now only one autonomous body AIIMS offers this particular course. The Chennai based Stanly Medical College have this facilities. The planning commission too , under the 12th Five Year Plan allocate a separate fund for Geriatric health care. Now we need to start this Postgraduate course to every medical college so that the aim to keep our older generation fit both physically & mentally.

At last high quality, person-cantered care is essential in this field of medicine where medical treatment is not only needed but human touch personalised approach should be there. We are in Covid threat for the last two years, where we have lost many senior persons who survived are suffering from various post Covid problems particularly mental disturbances. They need our help and we should come forward to alleviate their mental problems including physical disease & as a right citizens of India. This is the right time to raise our helps.

I am grateful to Dr. Arunansu Talukdar, Professor & Head, Geriatric Medicine Department, Medical College Kolkata, who have agreed to be the Guest Editor of this edition of our journal and I do firmly believe that this issue will be helpful to doctors as well as common persons.

From the Desk of Secretary

Dr Sarbari Dutta

Care Of The Elderly

Geriatrics or Geriatric Medicine, is a speciality that focuses on health care of elderly people. It aims to promote health by preventing and treating diseases and disabilities in older adults. There is no set age at which patients may be under the care of a geriatrician or geriatric physician, a physician who specializes in the care of elderly people. Rather, this decision is determined by the individual patient's needs and the availability of a specialist. It is important to note the difference between geriatrics, the care of aged people and gerontology, which is the study of the aging process itself.

The term geriatrics comes from the Greek γέρων geron meaning "old man", and ιατρός iatros meaning "healer". However, geriatrics is sometimes called Medical Gerontology. Medical Gerontology is the study of the physical aspects of aging, as well as the mental, social and societal implications of aging. Medical Gerontology can be a rewarding field, allowing you to practice a range of skills to improve the health of older adults.

In India, Geriatrics is a relatively new speciality offering. A three-year post graduate residency (M.D) training can be joined for after completing the 5.5-year undergraduate training of MBBS (Bachelor of Medicine and Bachelor of Surgery). Unfortunately, only eight major institutes provide M.D in Geriatric Medicine and subsequent training. Training in some institutes are exclusive in the Department of Geriatric Medicine, with rotations in Internal medicine, medical subspecialties etc. but in certain institutions, are limited to 2-year training in Internal medicine and sub-specialities followed by one year of exclusive training in Geriatric Medicine.

The geriatric assessment is a multidimensional, multi-disciplinary assessment designed to evaluate an older person's functional ability, physical health, cognition and mental health, and socio-environmental circumstances.It is usually initiated when the physician identifies a potential problem.

“Your Health of IMA” the publication of Indian Medical Association from Kolkata for the common masses for upliftment of basic knowledge of commonest diseases has dedicated its January 2022 issue on “Geriatric Medicine” – The care of the Elderly.

I am really grateful to all the authors who have tried to focus on the commonest geriatric problems and its remedies and I hope it will be of utmost help for the common masses.

Stay Home, Stay Safe; Wear Masks Properly, Maintain Physical Distancing and Wash Your Hands with Soap & Water or Sanitisers. We shall win the battle against Corona Virus.

Wish you all A Very Happy New Year 2022.

Guest Editorial :

Dr. Arunansu Talukdar, MD, PhD, FICP
Professor & Head, Geriatric Medicine Department
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Medical science has made huge discoveries in the twentieth century. In the 21st century it has changed its goal to keep people fit and healthy. This in turn has boosted the maximum life expectancy of the elderly population. Globally, in 2017, 962 million people were above the age of 60 years. This is expected to be more than double by 2050 (2.1 billion). With the change of the demographics and emergence of nuclear families the elderly population is becoming more and more isolated- an integrated and comprehensive care plan is required to improve their quality of life.

Multiple focus areas have been identified that we are going to stress upon on this particular issue of the journal. With gradual loss of mobility, the aged becomes dependent on their caregivers for their basic needs. Technology can play a big role for inventing basiccost-effective devices that will help them with everyday work and make the elderly self-reliant. Elderly population has a tendency to fall down more often due to loss of balance. Simple solutions need to be formulated on to prevent this from happening. Also Proper Nutrition of the elderly is another raging issue that is often overlooked. With aging their digestive system gradually becomes effete.So, they are unable to continue with their previous choice of cuisine .Hence they need to switch to easily digestible food .This is a major lifestyle change that greatly affects their source of nutrition. Deficiency of nutrition especially Calcium and Vitamin D leads them to various vulnerable aging diseases.

Dementia is one of the principalissues which lead to loss of independence among the elderly. This in turn burdens the patient as well as their caregiver. With the advancement in psychiatric research, it has been seen that certain preventive measures can be taken to either delay the onset of dementia or prevent mild cognitive impairment from turning into dementia. Statistics demonstrate that 56% of total cancer diagnosis and moreover 70% of total death due to cancer occur among the elderly. In Spite of this alarming number little is done specially for their age group.

Abuse of the elder is a broad term which involves harming the aged people physically, emotionally, sexually, financially or neglecting their welfare.Moreover the pandemic has deteriorated the situation.Caregiver burnout is an overlooked topic.Geriatricians can play an important role in educating the caregivers on how to take care of their own physical and mental health as well. The strategies and plan to do so is further illustrated inside. Due to the ageing process the aged develops multiple diseases. This leads an elderly person toconsume multiple medicines. The polypharmacy can have fatal effect on their heath.

With the global population advancing towards the upper side of the demographic pyramid we need to focus our attention on taking care of the elderly and innovating devices, care plan and policies for their benefit by the next decade following the footsteps of UN motto of 'Healthy Ageing'.

Arthritis In The Elderly

Dr. Udas Chandra Ghosh, MD (Med), DNB (Med), DNB (Resp.Dis), DTCD, FICP, FRCP (Glasg)
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Member, Editorial Advisory Board of Your Health

When an elderly patient comes to an OPD with joint pain and swelling i.e. arthritis, we have to suspect different causes for this. The commonest causes of arthritis in elderly are: Osteoarthritis (OA), Rheumatoid arthritis (RA), Polymyalgia rheumatica (PMR), Gouty arthritis, Malignancy related arthritis etc

Osteoarthritis — OA can be confused with RA in the middle aged or older patient when the small joints of the hands are involved. However, different patterns of clinical involvement usually help in the correct diagnosis:

- OA of the fingers typically affects the distal interphalangeal (DIP) joints and is frequently associated with **Heberden's nodes** in this area. In contrast, RA typically affects the MCP and proximal interphalangeal (PIP) joints and is not associated with Heberden's nodes.
- The carpometacarpal joint of the thumb is typically involved in OA.
- Swelling of the joints is hard and bony in OA. In contrast, soft, warm, boggy, and tender joints are typical of RA.
- Early Morning Stiffness (EMS) of the joint is a very common feature of RA but is relatively uncommon in OA.
- Radiographs also help distinguish RA from OA. OA is characterized by narrowing of the joint space due to cartilage loss and osteophytes due to bone remodeling, but not erosions or cysts.
- OA is classically associated with the absence of RFs and normal levels of acute phase reactants. However, RFs may be present, usually in low titer, consistent with old age.
- Inflammatory OA can cause severe and rapidly progressive arthritis in the small joints of the hands, when distinction from RA can be made by characteristic findings on radiographs as well as a lack of systemic inflammation and serologic markers.

Rheumatoid arthritis- RA in the elderly i.e. **Elderly Onset Rheumatoid Arthritis (EORA)** differs from RA of the young in the following points:

- **Women and men get EORA at nearly the same rate (2:1), but a**mong younger people, women are more likely to have RA **(4:1).**
- **Symptoms come on quickly in EORA with** acute presentation, where in young; symptoms tend to show up over time.
- **EORA usually strikes large joints, like shoulders.** With younger people, the disease mostly starts in small joints.
- About 50–75% of EORA cases occur with other conditions, or co morbidities. These co morbidities can influence the treatment of RA.

Polymyalgia rheumatica (PMR): PMR is a medical condition common in the elderly that has some similarities with RA.

- It causes joint pain and stiffness in the morning, along with extreme tiredness and weight loss.
- In older adults, RA may be difficult to distinguish from PMR, but RF and ACPA are negative.

Gouty arthritis: Gouty arthritis is not uncommon in the elderly, but many times, osteoarthritis of knee joints wrongly treated as gouty arthritis in the elderly patients, whom serum uric acid is marginally elevated due to old age and use of concomitant drugs like diuretics.

Malignancy related arthritis: Arthritis in elderly may be due to hidden malignancy, when apparent cause of arthritis could not be found. Old age, very high ESR, CRP not decreased by anti inflammatory drugs raise a suspicion of occult malignancy.

Successful rheumatic pain management in the elderly should begin with an accurate diagnosis by the physician, and patients must be realistic in their expectations. Treatments should be multimodal, with attention given to the co-morbidities of pain as well as the global health status of the patient.

Care Givers in Geriatric Care – A High Priority Issue

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President, Geriatric Society of India

Introduction :

We have been passing an era where number of senior citizens (60 years+) have been increasing with great pace. In India presently about 9% of population are senior citizens. It is estimated that about 20% of population will be 60 years + in 2050in India. Peoples are living longer. Globally the life expectancy increased from an average of 29 to 73 years in 2019. In 2019, the average life expectancy of women at birth in India was about 70.95 years & the average life expectancy of men at birth in India was **about 68.46 years**. From the state of affairs mentioned above it makes us easy to understand that the number of elderly has been increasing and age related disease and disability AND other elderly issues have been on rise. Senior citizens require assistance in their activities of daily life(ADL) and instrumental activities of daily living(IADL) in disease and disability at their place of residence viz. with family, living alone or with spouse only, with friends/relatives, at senior citizens home, care facilities and other living facilities; the person who provides care is known as care giver, in geriatric care we call them Geriatric Care Giver. In the absence of care, life of elderly becomes miserable, quality of life deteriorates, increased morbidity and mortality supervenes. We know that World Health Organization (WHO) has declared "Decade of Healthy Aging "starting from January 2021 and ending on December 2030. We are as a member state have been implementing the programme. Unless we provide assistance to our senior citizens in need through care giver (may be family members, friends relatives, members of society or professional geriatric care giver), the programme of healthy aging will not be successful. In the context of rapidly rising elderly population, there have been consequent increase in diseases and disability, throwing our elderly in grave situation and imposing great burden on our nation. Unless we prepare to combat the issue of care giving, the issue will hit our society like Tsunami. Therefore, the issue of care giver must be addressed giving high priority.

Status Elderly in India (Related to care giving):

Assuming that population of India in present days as **131** crore & present 60+ population as **9%** some relevant status of elderly in India projected as below:-

- Total number of Elderly are **11.79** crore;
- **68%**(8,01,72000) senior citizens lives in rural areas & **32%** (3,77,28000)in urban areas ;
- About **84%** (10.02 crore) live with family**, 8% (**94.32 lakh) lives with spouse & **6% (**70.74 lakh) lives alone & **2%** (23.58 lakh) lives with relatives or others.
- **69%** elderly male have house in his name**,7%** in spouses name,**3%** living with others & rest live in rented house.
- **14%** of elderly are economically independent **60%** fully dependent & **26%** partially dependent.
- **53%** elderly can earn some income; of them males number are more.
- Around **50%** of elderly not working due to health related & other issues.
- About **8%(**94.32 lakh) of total elderly in our country have been dependent (for ADL & IADL) this rises to about **33%(1.32 crore)** in 80 +years age group

Need for trained Geriatric Care Giver :

Data stated above guides us toward selecting the areas, types and number of caregiver required in present situation; it also tells us about magnitude of the problem and also knocks us to act toward resolving the issue urgently. Care related problems in elderly are multifaceted and a basic knowledge is required for addressing their issues, those requires care giver; geriatric care is also individualized hence family care givers and persons interested to provide voluntary service to elderly also require to be trained with basic aspects; without making them aware ,their role in healthy aging will not be up to mark. Matters related to the issue has been described below -

(1) Senior Citizens living with family : Since majority of our senior citizens live with family and economically dependant, family care giving in disease and disability is the main tool for them ; here comes the question of awareness training , support system and maintenance of firm family bonding. Apart from imparting training to these family care giver, trained geriatric care giver is required to provide respite to family care giver in their physical, mental and social needs and also to prevent burn out.

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SARCOPENIA

Prof Jyotirmoy Pal
Hony. Secretary, JIMA

INTRODUCTION:

Sarcopenia is defined as the loss of skeletal muscle mass and strength that occurs with advancing age. It is a syndrome characterised by progressive and generalised loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death. Sarcopenia has multiple contributing factors—the ageing process over the life course, early life developmental influences, less-than-optimal diet, bed rest or sedentary lifestyle, chronic diseases and certain drug treatments.

CATEGORISATION OF SARCOPENIA:

Sarcopenia can be categorized as primary and secondary sarcopenia. Sarcopenia can be considered 'primary' (or age-related) when no other cause is evident but ageing itself, while sarcopenia can be considered 'secondary' when one or more other causes are evident.

Primary Sarcopenia	
Age-related Sarcopenia	No other cause evident except ageing
Secondary Sarcopenia	
Activity-related Sarcopenia	Can result from bed rest, sedentary lifestyle, deconditioning or zero-gravity conditions
Disease-related Sarcopenia	Associated with advanced organ failure lung, liver, heart, kidney, brain), inflammatory disease, malignancy or endocrine disease
Nutrition-related Sarcopenia	Results from inadequate dietary intake of energy and/or protein, as with malabsorption, gastrointestinal disorders or use of medications that cause anorexia

CRITERIA FOR DIAGNOSIS OF SARCOPENIA:

Parameters for sarcopenia are the amount of muscle and its function. Variables that can be measured are mass, strength and physical performance.

CHALLENGES IN MANAGING SARCOPENIA:

Sarcopenia affects >50 million people today even with a conservative estimate of prevalence and will affect >200 million in the next 40 years. So, its high time to take proper steps to manage sarcopenia. The impact of sarcopenia in older people are measured in terms of morbidity, disability, high costs of health care and mortality. Following are the questions that seeks answers from health care professionals.

- Role of nutrition.
- Amounts of macronutrients needed for older people.

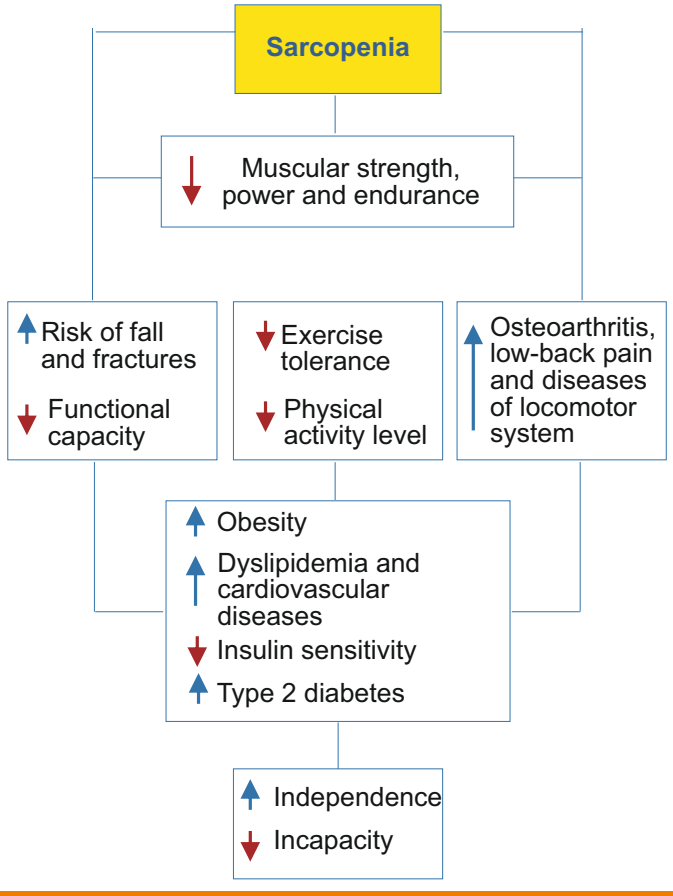
Measurements of muscle mass, strength, and function in research and practice:

Variable	Research	Clinical practice
Muscle mass	Computed tomography (CT) [Gold standard] Magnetic resonance imaging (MRI) [Gold Standard] Dual energy X-ray absorptiometry (DXA) Bioimpedance analysis (BIA) (may be considered as portable alternative to DEXA) Total or partial body potassium per fat-free soft tissue	BIA DXA Anthropometry
Muscle strength	Handgrip strength (It is a good simple measure of muscle strength and it correlates with leg strength) Knee flexion/extension (suitable for research studies but use in clinical practice is limited) Peak expiratory flow (measures the strength of respiratory muscles but it cannot be recommended as an isolated measure)	Handgrip strength
Physical performance	Short Physical Performance Battery (SPPB) Usual gait speed Timed get-up-and-go test (TGUG) Stair climb power test	SPPB Usual gait speed Get-up-and-go test

Diagnosis of sarcopenia:measurable variables and cut-off points:

CRITERION	MEASUREMENT METHOD	CUT-OFF POINTS BY GENDER	REFERENCE GROUP DEFINED
Muscle Mass	DEXA	Skeletal muscle mass index(SMI) Men:7.26 kg/m^2 Women:5.5 kg/m^2	Based on 2 SD below mean of young adults (Rosetta Study)
	BIA	SMI using BIA predicted skeletal muscle mass (SM) equation (SM/height2) Men: 8.87 kg/m2 Women: 6.42 kg/m2	Based on 2 SD below mean of young adults in study group (n = 200)
Muscle strength	Handgrip strength	Men: <30 kg Women: <20 kg	Based on statistical analysis of study group (n = 1,030)
Physical performance	SPPB	SPPB ≤8	SPPB score is a summation of scores on three tests: Balance, Gait Speed and Chair Stand. Each test is weighted equally with scores between 0 and 4—quartiles generated from Established Populations for Epidemiologic Studies of the Elderly (EPESE) data (n = 6534). Maximum score is 12.
	Gait speed	6-m course GS <1 m/s	Based on statistical analysis of Health ABC participant data

Effects of Sarcopenia:



- Role of physical activity in prevention and treatment of sarcopenia in older people.
- Specific medications for treatment of sarcopenia.
- Combination of nutrition and exercise regimens for prevention of treatment of sarcopenia.

MANAGEMENT OF SARCOPENIA:

The primary treatment of sarcopenia is exercise, specifically resistance training or strength. These activities increase muscle strength and endurance using weights or resistance bands.

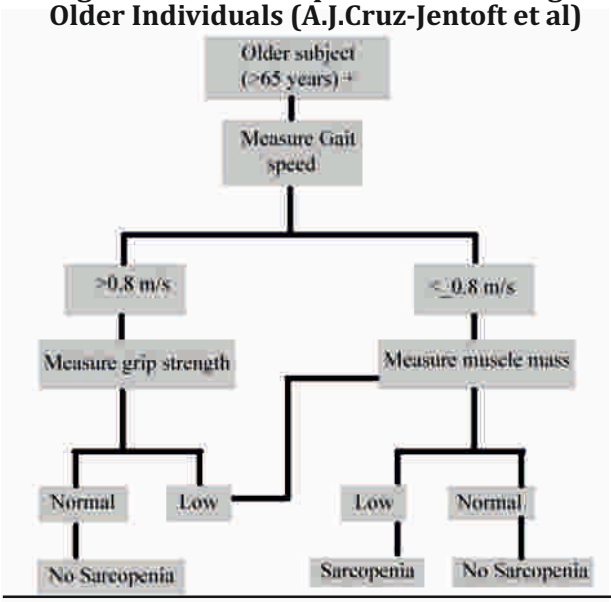
NON-PHARMACOLOGIC TREATMENT:

An exercise regimen is considered a cornerstone in the treatment of sarcopenia. Short-term resistance exercise has been demonstrated to increase ability and capacity of skeletal muscle to synthesize proteins. Both resistance training (RT) and strength training (ST) of muscles have been successful interventions in the prevention and treatment of sarcopenia.

PHARMACOLOGICAL THERAPIES:

Currently, there are no FDA approved agents for the treatment of sarcopenia. Testosterone or other anabolic steroids have also been investigated. These agents have a mild effect on muscle strength and mass but are of limited use .

Algorithm for Sarcopenia case Finding in Older Individuals (A.J.Cruz-Jentoft et al)



New therapies for sarcopenia are in clinical development.

1. Selective androgen receptor modulators (SARMs) - androgenic signaling with these agents can achieve gains in skeletal muscle mass and strength without dose-limiting adverse events.
2. Myostatin
3. Vitamin D
4. Angiotensin converting enzyme inhibitors,
5. Eicosapentaenoic acid,
6. MT-102, the first-in-class anabolic catabolic transforming agent (ACTA), has recently been tested in a Phase-II clinical study for treating cachexia in late-stage cancer patients.

Care Givers in Geriatric Care – A High Priority Issue

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(2) Elderly living with spouse or living alone: Senior citizens who live with spouse only or living alone need help /assistance in various areas of their living and livelihood. Social support system is a tool for helping them, where elderly will get help free of cost and through dedicated volunteers. Here also comes the question of training of those dedicated members of the society. For economically sound elderly, professional care giver can fill the vacancy of kids /relatives of the deserving elderly and this is the prominent tool for providing care to those elderly.

(3) Elderly staying in Senior Citizens home and service facilities: Many senior citizens have to stay in Senior Citizens home and other service providing centres for elderly care viz. respite care & chronic care centres and hospices. where, without a trained professional care giver, appropriate service providing is far from reality.

Need for Professional Care Giver :

Therefore, Geriatric Care Giver training is required for – (a) Family care giver (b) Dedicated members of society (c) For making professional care giver. There has been emerging demand for professional care giver and in the context of degradation of family norms, values and system demand will be more in coming days. For salvage of our senior citizen from a helpless, disgraceful situation; organization of support system is mandatory. Apart from preservation of extended nuclear family system, strengthening of family bonding, societal support system; making trained professional care giver and imparting training to other care givers is the key activity to be done on emergency basis. Training of lakhs of professional care giver is required on urgent basis.

How to Make Professional Care Giver:

Presently NISD (National Institute of Social Defence) under Ministry of Social Justice and Empowerment has been providing different training by itself and through RRTC's; but number is meagre. We the members of Geriatric Society of India / Geriatric Physicians (may be considered as front line worker) have been exchanging views regarding the need in the context of aforesaid needs including need of professional care giver for running home care (Rapidly emerging area of Geriatric care) of geriatric population. Geriatric Society of India has approved a training module for care giver training, encouraging care giver training programme in possible ways and also in the process of launching an online pre-recorded video care giver training programme within a short time. All organizations engaged in Geriatric care should come forward for such training. Very pertinent to mentioned that elderly care must be included expressly in the charter of duties of ASHA workers of government; by imparting geriatric care training to them, their role as care giver can alsobe utilized in providing training to family care givers and voluntary social workers.

Conclusion : It is hoped that government and other authorities will consider urgent preparedness for a healthy aging including making trained geriatric care giver in required quantity as an urgent measure; family care givers and other voluntary workers will be supported as needed; our esteemed senior citizens will pass their life with dignity. We should be optimistic in this regard.

Cancer in the older adults - awareness about special needs and optimum care

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Introduction

With rapid aging of population globally, India too is faced with a surge in the aging community. An increase in life expectancy portrays a triumph of the medical sciences on one hand, while on the other, it brings along many age -related issues which needs special attention. Cancer is a disease of aging. Cancer in aged population is usually accompanied by numerous issues like co-existing diseases, dependency on care-givers, disabilities and psycho-social issues which proves a challenge for the doctor and the patient both. Thus, cancer in the older population needs special planning and care.

How does an older cancer patient differ from a younger counterpart?

Younger patients are physiologically stronger and may have better coping powers. Moreover, the younger patient diagnosed with cancer mostly will not have accompanying co-existing diseases usually found in older adults like high blood pressure, diabetes, arthritis, and conditions that affect the heart, lungs, or kidneys. They are also more likely to experience complications with memory and thinking, imbalance and falls, malnutrition, urinary incontinence and functional decline further complicating treatment of malignancy.

Standard chemotherapy regimens are tolerated better in younger adults. Older patients are more prone to toxicities to chemotherapeutic agents. Interactions of anti-cancer medications and other medications being taken for already existing chronic diseases may pose a challenge for the treating physicians. The goals of treatment also differ in the young and the old. Many young adults with cancer maybe dealing with competing demands of work, family and other roles and responsibilities of life whereas the older patient may not have similar responsibilities and may have lived their life. Whereas cure from the disease and longevity might be the main goal in younger adults, enhanced quality of remaining life might be of utmost importance in older patients with cancer. This changes the goals of treatment tremendously.

The aged population is quite heterogenous and a “one size fits all” standard care protocol may not be accurate for them. Every older adult has different coping power. They require more individualized care depending on their functional age rather than the chronological age.

Signs and symptoms

Signs and symptoms related to aging many a times mimic general symptoms of malignancy. General signs of malignancy like loss of weight, fatigue, weakness, loss of appetite etc may sometimes be overlooked as age related issues thus proving a hindrance to early diagnosis. Older adults should be made aware that any new symptom appearing should be investigated without fail. Early reporting can help in diagnosis at an earlier stage. With the disproportionate increase of cancers with age and an increase in longevity, it has also become imperative that there is enough of awareness among the health care fraternity to recognize and diagnose these malignancies at the earliest and create awareness.

Some of the general signs and symptoms that need to be investigated are:

General symptoms :

- Continuous fever
- Fatigue
- Unexplained weight loss
- Loss of appetite
- Pain
- Skin changes

The general symptoms of unexplained weight loss, fatigue, weakness and loss of appetite in elderly should always be taken as warning signs and investigated thoroughly.

Changes specific to cancers of specific sites

- Changes in bladder and bowel habits
- Non healing sores
- White or red patches inside the mouth or white spots on tongue
- Unusual bleeding or discharge from private parts or natural orifices
- Lump in the breast or any other part of body.
- Indigestion or difficulty in swallowing
- Recent change in warts or moles or any new skin changes

- Nagging cough or hoarseness of voice
- Persistent headache and double vision / frequent giddiness
- Bony pain- low back ache

Common cancer in aging population

Some of the common cancers in the aging population are oral, lung, prostate, esophageal and larynx cancers in male whereas cervical, breast, ovary uterine, endometrial, esophageal and lung cancers are common in females.

Oral cancers: Rampant use of tobacco in different forms makes oral cancers predominant in India. It affects males twice as often as females. Poor dental hygiene and sharp jagged tooth or ill-fitting dentures in elderly also predispose to oral cancers. Oral cancers can be easily detected at earlier stage if screened properly. There should be high degree of suspicion in people who have been consuming tobacco, betel nut, gutkha, khaini, smoking cigarettes and alcohol.

Any new development inside the mouth. tongue, cheek like white plaques or redness and sores, continuous sore throats, hoarseness of voice, difficulty in swallowing etc. should be taken seriously and a doctors consultation taken. Health care fraternity should also be on high alert to pick up early signs and symptoms of pre-malignant disease. A simple inspection of the mouth under a good light source may help pick up any new lesion.

Breast Cancer and other Gynaecological cancers: One of the biggest risk factors for the development of breast cancer is age and obesity. Increased awareness among women about breast health and encouraging them to take a breast self-examination monthly goes a long way to pick up suspicious nodes, lumps, discharge from nipple at earlier stage. Screening for breast cancer through mammography in patients aged 50-70 years is also advocated. Awareness about alarming signs and symptoms like postmenopausal bleeding, foul discharge per vagina or lower abdomen pain with general debilitating signs and symptoms can help in early diagnosis of gynaecological cancers of cervix, uterus and ovaries common in this age group.

Prostate and lung cancers are very common in the older adult males in India. Signs like frequent urge to urinate, increased night time urination, blood in urine or semen, pain or burning during urination, painful ejaculation, frequent pain or stiffness in lower back, hips, pelvic or rectal area or upper thighs and dribbling of urine should raise suspicion and calls for further attention. Similarly, development of a new, persistent cough, difficulty in breathing, coughing up blood or rust-coloured sputum, chest pain that worsens with deep breathing, coughing, or laughing; hoarseness, loss of appetite, unexplained weight loss, shortness of breath and feeling tired or weak should raise suspicion of a lung malignancy.

Gastric and colorectal cancers: Any abnormal change in bowel habit, difficulty in swallowing and digesting, blood-tinged stool etcetera should raise a doubt of upper or lower gastric cancers.

The way forward-planning and implementation of optimized care

It is imperative that we see more older adults diagnosed with cancer in the future and should be well equipped to deal with this. Cancer treatments have seen tremendous progress in the last couple of decades and should be used for benefit of the older patient optimally. Increasing awareness about cancers through different media platforms, education of older adults and their caregivers about common signs and symptoms, knowledge regarding screening tests for common cancers in elderly is the need of the hour. Proper geriatric assessment of the older patients to tailor treatment protocols for optimum results is a pressing necessity. Financial constraints play a major role in the long drawn and expensive treatment of cancer in the Indian context because of minimum medical insurance coverage, more so in older adults who are mostly unemployed and dependent on caregivers. Providing an adequate support system to an older patient diagnosed with cancer including access to proper healthcare, financial, emotional and psychological aid, is important in management of disease and enhancing quality of life.

Falls in Elderly

Dr. Boudhayan Bhattacharjee
RMO Cum Clinical Tutor
Department of Tropical Medicine, School of Tropical Medicine, Kolkata

INTRODUCTION: -

- A fall is "an event which results in a person coming to rest inadvertently on the ground or floor or other lower level"
- More than one-third of persons 65 years of age or older fall each year, and in half of such cases the falls are recurrent.
- Falls also occur frequently when people are in hospital.
- Many view falls as merely a risk factor for fractures, disregarding the fact that falls can lead to irreversible health, social, and psychological consequences, with profound economic effects
- Around 37% to 56% of all falls lead to minor injuries; while 10% to 15% of falls lead to major injuries.
- Falls are the leading cause of injury related hospitalisations in persons aged 65 and older.

RISKS OF FALL:

- Independent risk factors for falling include the following (arranged in order of evidence strength):

1. Previous falls
2. Balance impairment
3. Decreased muscle strength
4. Visual impairment
5. Polypharmacy (more than 4 medications) or psychiatric drugs
6. Gait impairment and walking difficulty
7. Depression
8. Dizziness
9. Functional limitations
10. Age older than 80 years
11. Female sex
12. Incontinence
13. Cognitive impairment
14. Arthritis
15. Diabetes
16. Pain

- The risk of falling quadruples for the first 2 weeks after discharge from hospital, highlighting the vulnerability of this patient population and the adverse effects hospitalization might have on older adults.

FALL RISK SCREENING AND ASSESMENT:

- A range of tools for screening fall risk have been validated for use in older people in community, hospital, and nursingand residential care settings.
- Fall risk screening provides an efficient means of identifying those people at greatest risk of falling who should have a comprehensive fall risk assessment performed
- A simple, easy-to-administerscreen is to ask older people about their history of falls in the past 12 months and assess their balance and mobilitystatus.
- The Timed Up and Go Test (TUG) measures the time taken for a person to rise from a chair, walk 3 m at normal pace with their usual assistive device, turn, return to the chair, and sit down. A time of 12 or more seconds to complete the tests indicates impaired functioning in community-living older people.

FALL PREVENTION STRATEGIES:

- Single intervention strategies shown to successfully reduce falls include exercise, enhanced podiatry, occupational therapy interventions, psychotropic medication withdrawal, cognitive behavioural therapy, expedited cataract extraction, provision of single lens glasses for regular multifocal glasses wearers, and cardiac pacing for carotid sinus hypersensitivity

SUCCESSFUL SINGLE FALL PREVENTION STRATEGIES:

- **Exercise:** Exercise has a major role to play in preventing falls among older people. Exercise covers a wide range of physical tasks (balance, strength, flexibility, etc)delivered in many formats, some of which result in bigger reductions in falls than others.

- Individually prescribed home exercise programs to be undertaken three times per week
- Exercises include: standing with one foot directly in front of the other; walking placing one foot directly in front of the other; walking on the toes and walking on the heels; walking backward, sideways, and turning around; stepping over an object; bending and picking up an object; stair climbing in the home; rising from a sitting position to a standing one; knee squats, moderate-intensity strengthening exercises with ankle cuff weights, and a walking program.

VISUAL INTERVENTIONS:

- This visual intervention involved counselling as a core intervention component to demonstrate how bifocal glasses blur ground level hazards and was effective in significantly reducing all falls (by 40%), outside falls, and injurious falls in the subgroup of people who regularly took part in outside activities.
- Cataract surgeries or correction of refractive errors also shown to be beneficial in preventing falls.

MEDICATION MANAGEMENT:

- Gradual withdrawal of psychoactive medications has shown a large reduction in falls(66%).
- In hospital patients, medications have also been reviewed as part of an effective multifactorial fall prevention interventions.
- Vitamin D supplementation may prevent falls via improvements in muscle strength and balance.
- **HOME SAFETY INTERVENTIONS:**
- Home safety interventions are effective in high-riskgroups and when delivered by an occupational therapist.
- These interventions included a comprehensive evaluation process of hazard identification and adequate follow-up and support for adaptations and modifications, while involving the older person in priority setting.

FEET AND FOOTWEAR:

- This intervention consisted of the provision of foot or thoses, advice on footwear, a voucher for new safe footwear, a home-based program of foot and ankle exercises, a fall prevention education booklet, and routine podiatry care for 12 months.

PSYCHOLOGICAL INTERVENTIONS:

- Psychological conditions, such as depression, anxiety, and sleep disorders, have been identified as risk factors for falls.
- There is good evidence that cognitive behavioural therapy is an effective treatment of these conditions in older people.

CARDIOVASCULAR INTERVENTIONS:

- Not all falls are caused directly by gait and balance problems.
- An abnormal hemodynamic response to massage of the carotid sinus that is characterised clinically by unexplained dizziness and/or syncope can be managed by pacemakers in reducing drop attacks and syncope and reducing the frequency of falls.

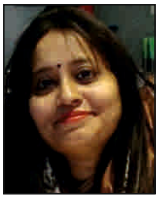
MULTIFACTORIAL FALL PREVENTION STRATEGIES:

- Multifactorial interventions involve identifying a range of risk factors associated with falls and interventions based on the identified risk profile.
- Common strategies in multifactorial prevention programs are medication adjustment, home safety modifications, exercise programs, and education.
- Overall, it appears that multifactorial interventions are most effective in reducing falls if the interventions are provided directly, but are less effective if the interventions rely on referral to routine service providers.

TAKE HOME MESSAGE:

- Falls are common in older people and frequently have serious consequences including fractures, significant fear of falling, reduced mobility and dependency, and need for institutional care.
- A broad range of risk factors for falls have been documented. Key among these are factors directly or indirectly influencing balance control and gait stability.
- Evidence-based screens and assessments are available for community, hospital, and residential aged care settings.
- Single intervention strategies shown to successfully prevent falls include exercise, enhanced podiatry, occupational therapy interventions, psychotropic medication withdrawal, cognitive behavioural therapy, expedited cataract extraction, provision of single lens glasses for regular multifocal glasses wearers, cardiac pacing for carotid sinus hypersensitivity and vitamin D supplementation in people with low levels of vitamin D.
- Tailored multifaceted and multifactorial interventions are the most effective interventions for preventing falls in high-risk populations including residential aged care facility (RACF) residents

The perils of Geriatric Population



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When the whole world is writhing with the fear and pain of loss of innocent lives due to the invasion of Covid 19 virus, the millennia witnessed the insecurity of the geriatric population towards this deadly disease. Not that too many old people died out of this corona virus, but many fell a prey to the fungus Mucor mycosis due to their debilitated condition, as also most of the population witnessed the mental breakdown of this population in the face of such calamity.

We had been talking about people in general and their insecurities, but have we ever been vigilant about the elderly population and their status in the old age homes during the covid period? However, glorified it may sound, but it is never a good and safe destination for the elderly to take refuge in a desolate home, away from family and near and dear ones. Its akin to a prison cell where they are in constant vigil and dependent and not on their own.

It is such a pity that when the world is moving such fast and talking about great reforms of how to improve our lives and make it better, it is such a shame that we consider our parents to be akin to a burden when it comes to caring them and be their constant support. It is a Physiological process only, much akin to our own childhood when they saw us through thick and thin, but on the other hand, we fail to revert back them the love and the constant care they took of us during our growing years.

We often talk of mental health of people, but hardly do we think of the mental health of our own parents who demand only little love, care and support during their natural process of ageing. We often scold them when they fail to recollect something in their mind, we often think them not so good enough when they cannot stand the physical strain they used to once upon a time. Their fragile body and their insecure mind make us believe that they ae next to some puppets in a show and as if we are the string bearers but the reality is something else. That might for sometime lead to our inflated egos but we are so very wrong. We are wrong not only because we will be spared but that we all have to undergo this process of transformation.

Human life is constantly challenged with change and this change is essential as whatever is born, has to die one day. We must embrace this phase of life with utmost respect and empathy and then only can we diagnose the problem and accordingly treat their maladies. Once we are in the plane of understanding their agony, their insecurities and their fragility, we will be then in a position to provide the adequate services that will help them in the long run. Old age is nothing but a get way to a new life all together in another realm of life, the spiritual world. Thus, one must take ca of this aspect and grow old graciously and must enjoy life by living for the moment.

In the event of such a calamity, the elderly population must not forget to take care of themselves, but must inspire the peer group to adopt healthy and safe practices among their peer groups, as for example, using masks, sanitizers regularly, and maintain safe distance amongst themselves and also maintain environmental ventilation. They must be serious enough to take two jabs in order to protect themselves and make it a point to travel a little less in comparison to what they did before covid. After all, at the fag end of their lives, they have understood the real essence of life and that is Health is Wealth.

Elder Abuse

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Elder abuse is mostly underreported, under diagnosed and undertreated. It is a global phenomenon across the borders, countries which severely affect its victims. As it is mostly being perpetrated behind closed doors and by family members—victims face many obstacles when disclosing/ reporting**.** Elder abuse can happen just once or repeatedly.

WHO defined elder abuse as "An intentional act, or failure to act, by a caregiver or another person in a relationship involving an expectation of trust that causes harm to an adult 60years and older" (World Health Organisation, 2021**).** Helpage India marks the World Elder Abuse Awareness Day on 15th June every year to show their solidarity and support for elders. It was first described in British Scientific journals in 1975 under the term 'Granny Battering' (Baker A, D Burston G.R, 1975). Although identified previously in developed countries now it is a universal phenomenon. A workshop on elder abuse participants wished to add to the definition –

a) Loss of respect for the elder which was equated with neglect
b) Accusation of witchcraft
c) Abuse by systems(mistreatment at health clinic and by bureaucratic bodies)

There are nearly 138 million elderly persons in India in 2021 including 67 million men and 71 million women. The increasing share of older persons in the population is poised to become one of the most significant social transformations of the twenty first century. This significant jump in the elderly population in the coming years is being called the '*Grey Tsunami*'. Improved health, enhanced hygiene and rapid medical breakthroughs are reasons cited to explain their aging boom. Victims of Elder Abuse were twice as likely to die compared to older people who did not report abuse.

Primary research in the issue of elder abuse and neglect in India is limited due to tremendous reluctance to discuss intergenerational conflicts.(1) Elders across the cities were asked about the abusers within their family. The daughter-in-law (61%) and son (59%) emerged as the topmost perpetrators. Not surprisingly, 77% of those surveyed live with their families.

Elder victims cite that primary reason underlying their abuse are "Emotional dependence on the abusers" (46%), "Economic dependence on the abusers"(45%) and "Changing ethos"(38%). 70% of the youth accept elder abuse exists. While abuse has gone up unfortunately, still 41% of those abused did not report the matter to anyone, "Maintaining confidentiality of the family matter" is cited to be the major reason behind not reporting abuse (59%). (2)

Causes for elder abuse-

1. Economic condition of the care givers.
2. Psychological state of the care givers
3. Deteriorating health of the elders.
4. Cultural practices and eroding values of the society.
5. Discrimination against women.

Ageism Remedial Measures–

Intervention refers to the actual services/ strategies enacted to protect the welfare of the aged. It includes-

1) Provisions of Community support services-
   - Housekeeping Assistance
   - Home nursing
   - Visiting services
   - Transportation
2) Crisis Care-
   - Provision for Hospital bed
   - Alternative Accommodation
   - Legal Services(3)

Laws are necessary to curb the growing problems of Elder Abuse. Some of the acts and bills that have been introduced in this regard are-

Maintenance of Parents Act (2007) --According to this Act, the sons have a legal obligation towards taking care of their parents. Parents can complain against them and they could be legally held for not supporting their parents. Also daughters and son-in-laws are to be held responsible.

Parents and Senior Citizens Act (2007) – This makes it a legal obligation for children and legal guardians to provide maintenance to older adults. It permits state governments to start and maintain old age homes in

Types of Abuse	Definition	Signs
Physical Abuse	It is the intentional use of force against an elderly person that leads to physical harm, ranging from physical pain to death.	Pain or restricted movement Bruises, bite marks, cuts, burns, scratches Unexplained accidents and injuries(broken bones, sprain) Over/ Under use of Sedates Fear/ anxiety Stories about injuries that conflict between older persons and others
Financial Abuse	It is the illegal, unauthorized, or improper use of an older individual's resources by someone in a trusting relationship with that individual.	Cheques or bank statements that go to the perpetrator Forgeries on legal documents or cheques Large bank withdrawals or transfers between accounts. Missing belongings or properties Mood changes(Depression, anxiety) New changes to an elder's will or power of attorney Using elder's cash or credit card
Emotional Abuse	These are intentional acts that inflict mental pain, fear, or distress on an elder.	Often disturbed sleep/ hopelessness Avoiding eye contact or not talking openly Anxious, shy , depressed, withdrawn Low self esteem Desire to hurt himself or other people Sudden changes in eating or sleeping patterns or moods
Neglect	It happens when the person responsible for the care fails to protect an elder from harm or meet an elder's needs in a way that result in or risks serious injury.	Unusual weight loss, malnutrition, dehydration Untreated physical problems(bed sores) Unsanitary lining conditions—dirt bugs, soiled bedding, clothes Being left dirty or unbathed Unsuitable clothing or covering for the weather
Self Neglect	It is a behavioural condition in which an individual neglect to attend their own basic needs .	Rapid weight loss, malnutrition, dehydration Unaddressed medical conditions
Sexual Abuse Abandonment	It is the forced or unwanted sexual interaction of any kind with an older adult. It is the purposeful and permanent desertion of an elderly person. The victim may be left at a hospital, a nursing home, in a public location or alone.	Sustaining a pelvic injury Having problems in walking/sitting Developing sexually transmitted diseases Torn, bloody or stained underwear Bruises in genitals/ inner thighs Bleeding from anus or genitals Alone and appears confused, lost, or frightened Looking frail, appearing lonely or depressed Being malnourished or dehydrated, and having poor hygiene.

Risk Factors

Victims	Perpetrators	Context
Cognitive Impairments and developmental disabilities Poor physical health and disability Mental illness or psychological problems Low income Dependency(social, emotional, physical) Ethnic minority	Caregiver burden and stress Caregiver mental illness Substance abuse Financial difficulties and dependency Lack of experience and support	Past abuse and history of family history Crowded and shared living arrangements Low social support and social isolation Poor family relationships Ageism

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Role of Assistive Devices in Geriatric

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Background-

Ageing involves physical, cognitive, social and familial losses and brings with it an increased incidence of disability and the need for assistance with activities of daily living (Joan O' Donnell, et al., 2020). Ageing is defined in terms of chronological age with a cut off age of 60 or 65 years. WHO in 2008 recognized that 60 years is the age of entering old age.

Globally, the 60-plus population constitutes 11.5 per cent of the total population of 7 billion. By 2050, this proportion is projected to extend to concerning 22 per cent (UNFPA, 2017). The National Population Commission in India has estimated that the population of the elderly (age group 60 years and above) is expected to grow from 71 million in 2001 to 173 million by 2026.

As age increases, the physical capabilities as well as self-care abilities gradually declines. Elderly people can use various types of devices to help with daily activities and to maintain functional independence despite physical and cognitive decline. Caregivers can base on the needs of the elderly, provide the appropriate assistive devices, to enable the elder to live safely, independently and happily, thus improving self-confidence, self image and self-care abilities.

There are three different categories of old age: Young-old (55–75), Old-old (75–85) and Oldest-old (85+). The 'Young-old' represent the majority of older individuals who are relatively healthy, competent and satisfied with their life, and remain engaged in a variety of activities in the society. The 'Old-old' are those individuals who are frail, suffer from poor health, and are in need of medical attention, special care and other forms of support. (Kumar P., et al., 2019).

Assistive Device -

Assistive devices are tools, products or types of equipment that specially designed to assist people who have difficulty to perform activities of daily living (ADL).

Assistive Technology refers to practical tools that enhance independence for people with disabilities and older people. It is "any item, piece of equipment or product system whether acquired commercially, modified or customized that is used to increase, maintain or improve functional capabilities of individuals with disabilities" (World Health Organization & World Bank 2011).

Both assistive device and assistive technology based devices can be applied in different situations of activities like mobility, dressing, feeding, toileting, bathing, grooming, household activities and communication to achieve independent living. Consult occupational therapist for assessment and training before making a decision.

I) Mobility :

CANES - It can help redistribute weight from a weak or painful lower extremity, improve stability by increasing the base of support, and provide tactile information about the ground to improve balance. Canes also have been associated with improved self-reported functional ability and confidence.

- Standard canes - A standard cane or straight cane is generally made from wood or aluminum and is inexpensive and lightweight. An aluminum cane has the advantage of an adjustable height. A standard cane can help with balance in a patient who does not need the upper extremity to bear weight.
- Offset canes - An offset cane distributes the patient's weight over the shaft of the cane. An offset cane is appropriate for patients who need the upper extremity to occasionally bear weight, such as those with gait problems caused by pain from knee or hip osteoarthritis.
- Quadripod canes - A quadripod cane commonly referred to as a quad cane, is a four-legged cane that provides a larger base of support and allows more weight bearing by the upper extremity. It also can stand freely on its own if the patient needs to use his or her hands, and it can be particularly useful for patients with hemiplegia. However, all four points of the cane must be in contact with the ground at the same time for proper use.

A standard cane typically has an umbrella handle, which may increase the risk of carpal tunnel syndrome because of pressure on the palm of the hand. A

shotgun handle, referred to as such because of its similarity to the butt of a shotgun, is a flat handle more commonly used with offset canes. The shotgun handle distributes pressure across the entire hand from the thenar to hypothenar muscles with less pressure on the palm, decreasing the risk of carpal tunnel syndrome. Special handles with finger and thumb grooves are also available and may prompt patients to use the cane in the correct hand.

CRUTCHES – It is helpful for patients who need to use their arms for weight bearing and propulsion and not just for balance. One crutch can provide 80 percent weight bearing support, and two crutches provide 100 percent weight-bearing support. However, crutches require substantial energy expenditure and arm and shoulder strength, making them generally inappropriate for frail older adults.

- Axillary crutches - These are inexpensive and provide weight-bearing ambulation, but they can be cumbersome and difficult to use. If the crutch is incorrectly fit, it can cause nerve compression or axillary artery compression.
- Forearm (elbow) crutches – It has a cuff around the proximal forearm and distal hand grips, allowing bilateral upper extremity support with occasional weight bearing. This allows the patient's hands to be free without needing to drop the crutch, making it less awkward to use, particularly on stairs.
- Platform crutches - It provide a horizontal platform for the entire forearm, which is used to bear weight rather than the hand. They can be useful for patients with elbow contractures or with weak or painful hands or wrists.

WALKERS - It improve stability in patients with lower extremity weakness or poor balance, and they facilitate improved mobility by increasing the patient's base of support and supporting the patient's weight. However, walkers can be difficult to maneuver and can result in poor back posture and reduced arm swing. Walkers require greater attentional demands than canes, and it is difficult to navigate stairs when using a walker.

- Standard walkers - A standard walker is the most stable walker, but it results in a slower gait because the patient must completely lift the walker off the ground with each step. This may be useful for patients with cerebellar ataxia, but it may be challenging for frail older patients with decreased upper body strength.
- Front-wheeled walkers- A front-wheeled walker , also called a two-wheeled walker, is less stable than a standard walker, but maintains a more normal gait pattern and is better for those who are unable to lift a standard walker. In patients with parkinsonism, front-wheeled walkers may reduce freezing compared with standard walkers.
- Four-wheeled walkers- A four-wheeled walker , commonly called a rollator, is useful for higher functioning patients who do not need the walker to bear weight. Although the four-wheeled walker is easier to propel, it is not appropriate for patients with significant balance problems or cognitive impairment because it can roll forward unexpectedly and result in a fall. Rollators often come with seats and baskets, making them a popular option, but they must be used with caution. The brakes should always be on and the rollator should be against a wall or other solid object before the patient sits. This device can be particularly useful for those with claudication, respiratory disease, or congestive heart failure who often need to stop ambulating and sit down to rest.

WHEELCHAIR–A wheelchair is a wheeled mobility device in which the user sits. The device is propelled either manually or by various automated systems. Wheelchairs are used by people for whom walking is difficult or impossible due to illness, injury, old age or disability. Both folding and non-folding types are available for use.

- Manual wheelchair – As the name suggest powered by the use of the users hands. By grabbing the handling around the wheels, the user propels the chair forward, backward and pivot as well. For elderly use it can be pushed by someone else standing behind the wheelchair user. For this reason, manual wheelchairs have handles located behind the back rest.
- Powered wheelchair – Powered wheelchairs are electric, battery operated wheelchairs that propel the user forward by use of controls. A motorized wheelchair like this resolves the issue of fatigue as well as disabilities that restrict the use of manually operated wheelchairs. Elders having good cognition abilities can use this without tiring and gain more independence.
- Positioning wheelchair – It offer the user the ability to maneuver into different positions on their wheelchair. Some positioning wheelchairs recline backward. Other wheelchairs can raise and lower the users feet and legs. Still other types allow the user to tilt in space automatically. Some chair offer every kind of movement capability while others are only able to do one kind of positioning. It help the individual to have better circulation and avoid

ulcers, sores and wounds and help old age people with movement impairment do more independently.

II) Dressing : Suitable for elderly with impaired limb function for put on/off clothing, socks and shoes. Useful assistive devices are long handle reacher, dressing stick, stocking aid, shoe horn, button hook.

III) Feeding: Advisable for elders with impaired hand function and agility such as in stroke, Parkinson disease. The assistive device require are mug with two handles, universal cuff, nosey cutout cup, adapted chopsticks, scooper bowl with suction cup base.

IV) Drug management: Prescribed for elder with impaired memory and hand function. Examples are Med-on-time, Drug organizer, Pill splitter, Pill crusher.

V) Personal Hygiene: Assistive device suitable for elders with impaired mobility, so as to avoid home accident. The therapist and care giver can consider shower chair, Grab bar, Bath board, Raised toilet seat, long handle comb, long handle brush, looped towel to enhance safety.

VI) Communication: Device that assists an old age person with hearing loss or a voice, speech, or language disorder to communicate. With the event of digital and wireless technologies, more and more devices are becoming available to help people with hearing, voice, speech, and language disorders communicate more meaningfully and participate more fully in their daily lives.

Fig 1- Assistive Devices use in ADL **Impact of Assistive Devices on Independent living -** The most frequent assistive devices that used by elders were cane, walker, wheelchairs, eyeglasses, hearing aids, shower seats, toilet seats and incontinence aids. Assistive devices facilitate freelance living and could provide caregivers immediate relief, reduce stress and help them provide care more easily and safely. (Gitlin L.N., et al., 2001). Assistive device can make life easier for persons of all ages who mayneed help carrying out their daily activities through home modification and adaptation. (Ocepek, et al., 2012)

Khosravi & Ghapanchi, (2016); investigated the role of assistive device to assist mobility, provide social connection, decrease depression and reduce hospitalization for elderly people living at home. It identified that the use of assistive device are effectively assisted elderly people to live independently safely and actively.

Study done by Agree & Freedman (2011) suggest thatassistive devices supports psychological well-being as it provides elders with the ability to choose the type of activity, time to do the activity and ways to carry out. For aged people, being able to live in their own houses rather than long term care facility, is the core component of quality of life.

Conclusion -

The purpose of use of assistive devices by elderly is to enhance the balance, increase the activity and functional independence. It also devote to a better quality of life, improving parameters of daily living such as self care, transportation, communication and participation in social life. The department of occupational therapy at National Institute for Locomotor Disabilities (NILD), Kolkataproviding services to all age group including elders by fabricating need based assistive devices. It has a dedicated geriatric unit focusing on ADL independence.

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Elder Abuse

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each district. Senior citizens can apply for a monthly allowance from their children, in case they are not able to support themselves. (4)

Worldwide reports have shown that domestic violence has been on the rise since pandemic struck. This could be attributed to various reasons such as stay at home orders that force victims to stay in close proximity to abuses. Being socially isolated the aged have lesser chances to seek help, cessation of non essential services that restricts victim's access to aid and the negative economic impact that causes anxieties and household tension. (5)

We want every older person everywhere to be able to say:

- I enjoy wellbeing.
- I am treated with dignity.
- My voice is heard.

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Geriatric Nutrition: An Overview

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Introduction

Ageing gracefully is an art. It requires lot of awareness, motivation and support, physically, mentally and socially. It is found in the study that by 2050, around 30 percent of people in industrialised countries will be over 65 years. But, tremendous rise in chronic diseases is increasing the risk of related disorders in elderly. Malnutrition leads to decreased independence due to physical weakness and muscle wasting. It frequently leads to falls and fractures. In India 50% of the elderly population is malnourished. Balanced nutrient is very important for overall wellbeing. It becomes still important in perspective of elderly masses due to physiological changes in the body. Immunity weakens with proceeding age which is influenced by lack of nutrients and differed dietary habits. Elderly are more prone to several infections also.

Dentition, taste, smell, loss of memory and Parkinson disorders also influence food intake. A lower food intake among those who live alone may be affected by both functional capacities (including fatigue and mobility) and loneliness. Study has shown that elderly people living with their partners living in a better way than those without partner (Barrette et al., 2006). As people age, adequate nutrition propels the maintenance of health, physical performance and psychological wellbeing. Poor nutritional status refers to an inadequate or even excessive intake or utilisation of the nutrients to meet the body's requirements (Joshi, 2010). Multi-morbidity associated with increasing age is common and is found to be more frequent in developing countries (Joshi et al., 2003). In India, geriatric age group (aged 60 years and above) constitute 8.6% of the total population as per 2011 census. The magnitude of malnutrition among the elderly in India is underreported. Studies have shown that more than 50% of the older population is underweight and more than 90% has an energy intake below the recommended allowance (Tripati et al., 2016)

Nutrition for geriatric population

The calorie requirement in the geriatric population is less than adults , this can be attributed to decreased physical activity. Again it can vary from person to person. An individual maintaining same activity level during adulthood may continue to have the same requirement. Another important aspect is protein. Protein requirement almost remain same 0.8-1.0 gm /Kg body weight. Though this is same there is a tendency of older geriatric population to lose lean body mass and the phenomenon is called sarcopenia. This cannot be completely reversed and body does deplete protein cells but in such conditions increasing the protein intake does help in fact adding a few protein supplements also do wonders. There are lots of ailment which are regularly seen among geriatric population then the requirement changes according to the clinical condition. Diabetes, chronic kidney disease, hypertension, fatty liver different kinds of cancer, dyslipidaemiaetc will require special clinical diet. We are not going to discuss specific clinical diet now instead we will put some light on the basic requirements of the geriatric population. Among protein rich food it is important to know that not all protein sources are good quality protein when it comes to older adults , most of them cannot eat much quantity together hence it is important to give them good quality protein. For vegetarian patients we need to select a combination of rice with dal, even better if it is mixed dal or any kind of mixed pulses. The combination of dal and rice provides us a good amount of essential amino acids which are required for the body to function well. In case of other food items I always advise my patients to add nuts of their choice to enrich the protein content of the food they eat. some people may have problems in eating due to dentures they can grind the nuts of their choice and add it to the food item. Milk powder can also be used in the same way to enrich the protein content.

Fat is another important nutrient in this age. Extensive use of fat is not welcome. Fats are of two kinds good fats and bad fats here we would definitely lie to go for good fat milk fat from A2 milk gives good quality fat and fat from fishes and nuts also help increase the antioxidant levels. It is important to choose the correct fat. There is no need to eat boiled food but in case one has dyslipidaemia a specific diet chart is always recommended so that it does not promote atherosclerosis. Fatty liver is also an aspect we need to

avoid because during old age the process of digestion already slows down and fatty liver makes digestion and many other metabolic processes doubly difficult. Proper lifestyle helps to keep liver healthy. The important minerals that affect old age are Calcium and Zinc. The antioxidant vitamins, vitamin E, carotenoids and vitamin C, continue to receive attention because of their potential to improve immune functions. Need for vitamin A decreases and that of riboflavin, vitamin B6 and B12 and zinc increases. Higher sodium intake leads to greater calcium excretion which may result in reduction in bone density. Existing evidence reveals a deleterious impact of high salt intake on blood vessels, blood pressure, bones and gastrointestinal tract. Salt intake in our population generally exceeds the requirement. It should not be more than 6 g per day. Salt is used as a vehicle for food fortification since it is commonly used in food preparation. Salt is used as a vehicle for food fortification since it is commonly used in food preparation. The antioxidant vitamins, vitamin E, carotenoids and vitamin C, continue to receive attention because of their potential to improve immune functions. Need for vitamin A decreases and that of riboflavin, vitamin B6 and B12 and zinc increases. A diet consisting of foods from several food groups provides all the required nutrients in proper amounts. They help in prevention of micronutrient malnutrition and certain chronic diseases such as cardiovascular diseases, cataract and cancer. Fresh fruits are nutritionally superior to fruit juices. Overweight and obese individuals are at an enhanced risk of co-morbidities including type 2 diabetes, fatty liver disease, gallstones, high blood cholesterol and triglycerides, orthopaedic disorders (Osteoarthritis), hypertension and other cardiovascular diseases, certain cancers and psycho-social problems. Eat variety of foods to ensure a balanced diet. Processed foods being rich in fats, salt, sugar and preservatives may pose a health risk if consumed regularly. Water is the most important nutrient of all and helps in the upkeep of our health. Adequate water-intake guidelines are 1.0 ml water/kcal energy consumed (for example, 1.8 L for a 1,800- calorie intake), or 25-30 ml/kg of weight for most individuals. Healthy and positive food concepts and cooking practices are foundation for good health. Senior citizens need more of vitamins and minerals to remain healthy and active. Elderly should try to incorporate variety of nutrient-rich foods. They should maintain the balance of food intake with physical activity. Eat food in many divided portions in a day. Food with more oil and spices should be avoided. Body movements are essential in elderly in the form of exercises like walk, yoga etc regularly. This controls the body weight and composition, reduces risk chronic diseases, such as Type 2 diabetes, high blood pressure, heart disease, osteoporosis, arthritis and certain types of cancers. Another important aspect of diet for elderly is the fibre content because constipation is a common scenario. Hence we need to choose non refined cereals and bran rich food, fresh fruits and vegetables also contribute to the fibre content.

Table 1: Sample Diet for balanced nutrition of geriatric population

(Naik N et al. 2015)

BREAKFAST	High- fibre breads and cereals, colourful fruit, and protein filled with energy for the day. yogurt with berries, omelette, peanut butter
LUNCH	Keeping body fuelled for the afternoon with red lentil, dhal, Spinach, chick pea, curry, Yoghurt raita, Side salad, Rice or chapatti, Banana, Chicken curry, Rice
SNACKS	Choose almonds and raisins and fruits. Other smart snacks include milk product, apples and Veggies.
DINNER	Vegetable salad, crusty brown bread and cheese, grilled salmon etc

Conclusion:

Improper nutrition not only affects physical appearance but also it affects psychological status of patient. The management of the elderly population differs from that of the general population because of age-related physiological changes, the presence of age- related conditions/diseases, increased incidence of physical and mental disabilities, and also social and economic concerns. Malnutrion is more common in uneducated village people. Good nutrition for elderly population can help them have better quality of life cause they can control lifestyle diseases and metabolic disorders including immunity.

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MULTIMORBIDITY IN ELDERLY

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Introduction :

Older age is a risk factor for multimorbidity and it affects a large proportion of the older population. This high prevalence and its huge impact on prognosis, efficacy of treatments and healthcare expenditure makes it a central challenge of modern medicine. Multimorbidity is defined as any combination of chronic disease with at least one other disease (acute or chronic) or biopsychosocial factor or somatic risk factor. It includes common chronic conditions such as falls, sleep disturbances or sensory impairments. Comorbidity on the other hand refers to a condition that coexists in context of an index disease.

MEASUREMENT OF MULTIMORBIDITY

There are two major types of measurements in an individual - simple disease counts and indices to summate morbidity burden. Available methods are Charlson Comorbidity Index (CCI), the Kaplan Index (KI), the Cumulative Illness Rating Scale (CIRS). Some diagnosis or medication-based measures of multimorbidity that includes an assessment of functional status or subjective disease burden, appeared to be a stronger predictor of health outcomes than those that counts the number of diseases without adjustment for their severity or impact.

PREVALENCE

Prevalence of multimorbidity among studies was variable across countries, settings and methods used to diagnose diseases. A study from Netherlands showed that a prevalence of multimorbidity (greater than or equal to two diseases) based on self-reports, clinical examination and hospital records was 82% in nursing home, 56%-72% in general population and 22% in hospital settings. If defined by four plus disease, then prevalence was 30% in age range 65 to74 years and 55% in those aged more than 75 years. But no significant data was available for Indian subcontinent.

MULTIMORBIDITY, DAILY FUNCTIONING AND DISABILITY

Multimorbidity negatively affects the daily functioning of older people. Daily functioning dependency is defined as restriction or even loss of capacity for performing activities of daily living, such that help is needed. This is the consequence of combined impact of specific diseases and age-related impairments. Multimorbidity was closely related to higher risk of limitations in basic and some instrumental activities of daily living. The effect of coexistence of chronic diseases was more than additive. The likelihood of presence of any ADL limitations was more than twice, more than four and more than nine times higher among those with three, four or five diseases respectively. Hand grip strength as an objective measure of muscle strength was shown to be negatively related to the number of chronic diseases. Cognitive impairment and dementia are believed to modify the effect of multimorbidity on functional decline and further disability in the oldest old.

QUALITY OF LIFE

Multimorbidity negatively affects health related functioning and various domains of quality of life in those with multiple comorbid conditions with or without functional dependency. Women with one or two chronic conditions reported lower quality of life than men. Although there was no gender difference for those with 3 or more chronic disease.

RISK OF POLYPHARMACY, ADVERSE EVENTS AND FRAGMENTED CARE

Evidence based treatment for those with multimorbidity is limited for the older person because they have frequently been excluded from clinical trials. Individuals with multiple chronic health related problems may attend multiple medical appointments with different specialists who each apply single disease-based guidelines. The resulting combinations of diseases and their treatments results in polypharmacy, drug-disease and drug-drug interactions. It increases the risk of adverse events and also reduces treatment efficacy. For example, it was evident no cardiovascular benefit from tight diabetic control in older patients with multimorbidity.

MORTALITY

The relationship between multimorbidity and mortality depends not only on the number of diseases but also on the type and severity. There is combined

effect of coexistence of multiple chronic disease and functional disability in survival. Co-existence of multimorbidity and disability substantially lower survival, with risk of death almost four times higher during the four year follow up.

ECOMOMIC BURDEN

Multimorbidity is related to increased needs for long term care. Data based on analysis of the claims for long term care insurance in a five year follow up period in Germany showed that multimorbidity had 85%higher risk of worsening and becoming care dependent than those who are not multimorbid at baseline. The greatest risk was noted for neuropsychiatric disorders (79%).

Patients with multimorbidity have higher use of both ambulatory and in patient care resulting in increased total healthcare expenditure. This includes expenses on medications, additional invasive and non-invasive diagnostic and treatment procedures primary care services, medical advice, hospitalizations and rehabilitations and post hospitalization care including ling term service.

MODELS OF CARE

Elderly people with multimorbidity need care that involves a holistic approach, continuous collaboration across specialties and over professional and organizational boundaries including both medical care and social service. Our primary research agenda should be the validation of quality measures for existing or new care models for persons with multimorbidity. For example, chronic care model has been proposed (CCM). CCM is centered in primary care and involves six interrelated components –

i. Self-management support
ii. Clinical information system
iii. Delivery system predesign
iv. Decision support
v. Healthcare organization
vi. Community resources

GUIDELINES

Until now there are no established guidelines for patients with multimorbidity. However, some rules for decision making were provided by AMERICAN GERIATRIC SOCIETY EXPERT PANEL which has developed principles for care of older adults with multimorbidity. The document focuses on primary care management of older adults with multiple chronic conditions. It has five domains –

i. Patient preferences
ii. Interpreting the evidence
iii. Prognosis
iv. Clinical feasibility
v. Optimizing therapies and care plans

The most important component of the approach is to establish and incorporate patient preferences into medical decision making.

CONCLUSION

A comprehensive definition of multimorbidity includes any combination of chronic disease with at least one other disease (acute or chronic) or biopsychosocial or somatic risk factor. The prevalence of multimorbidity differs across countries, settings and methods used to diagnose disease. Multimorbidity negatively affects functional independence, health related functioning, various domains of quality of life and increases the risk of polypharmacy. It also increases need for long term care and health care cost. Until now most clinical guidance has focused on single conditions but in recent years several approaches to the treatment of patients with multimorbidity has emerged.

Quiz

Dr Olivia Bhattacharya
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1) **Most common cause of Dementia in elderly?**
   a) Alzheimer's disease
   b) Vascular dementia
   c) Drug induced
   d) None of the above
2) **Most common blood malignancy in elderly?**
   a) CLL
   b) Multiple Myeloma
   c) AML
   d) None of the above
3) **Polymyalgia Rheumatica age of onset usually around**
   a) 30yrs
   b) 40yrs
   c) 50yrs
   d) 60yrs
4) **Risk factors of falls in elderly is/are?**
   a) Poor eyesight
   b) Anti hypertensive medication
   c) Gait impairment
   d) All of the above
5) **Which of the drugs can cause cognitive impairment in elderly?**
   a) Beta Blockers
   b) Metronidazole
   c) Anticholinergics
   d) All of the above
6) **Risk factor for Alzheimer's disease is/are?**
   a) Diabetes
   b) Advanced age
   c) Low educational status
   d) All of the above
7) **What is Sarcopenia?**
   a) Loss of skeletal muscle mass and strength
   b) Depression
   c) Cognitive decline
   d) None of the above
8) **Treatment for osteoarthritis is/are?**
   a) Calcium and Vit D3
   b) Programmed exercises
   c) Joint protection
   d) All of the above
9) **Risk factors for Osteoarthritis is/are?**
   a) Obesity
   b) Steroid use
   c) Arduous physical tasks
   d) All of the above
10) **Drug of choice for treatment initiation in elderly for Rheumatoid Arthritis with no other comorbidity?**
   a) Methotrexate
   b) Rituximab
   c) Sulfasalazine
   d) Steroids

Answers: 1) a 2) a 3) c 4) d 5) d 6) d 7) a 8) d 9) d 10) a

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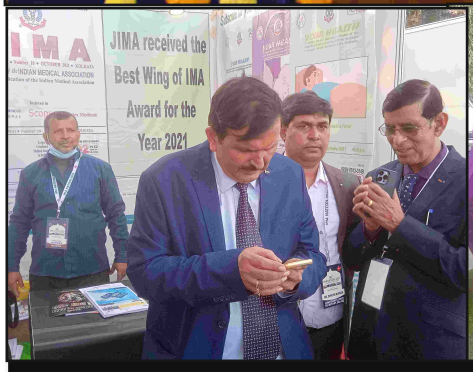

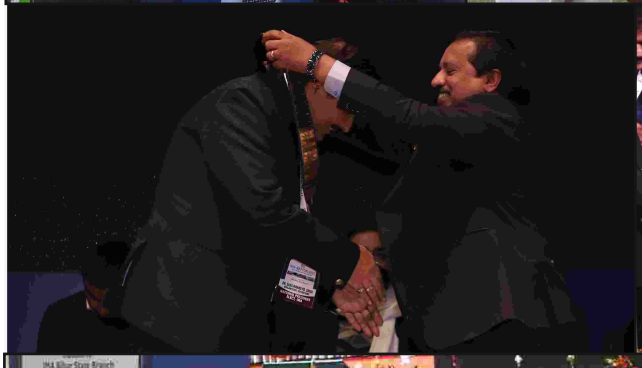

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