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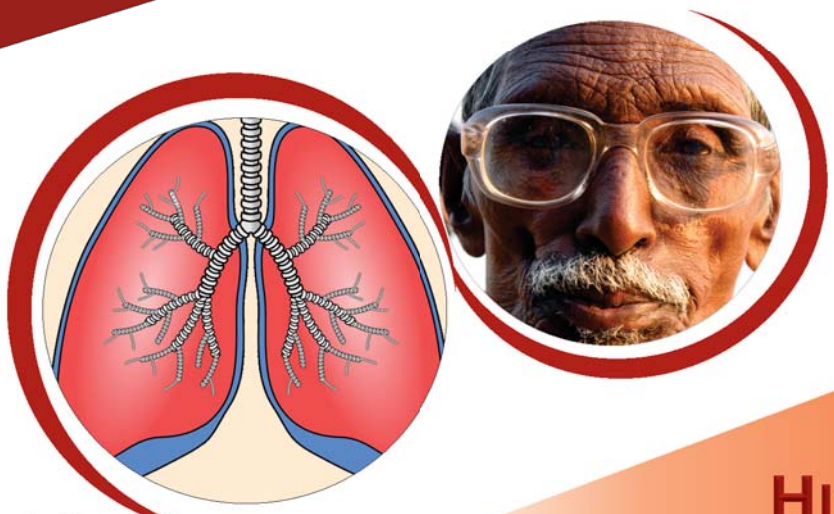

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Editorial

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"Geriatrics – An Emerging Field of Medicine"
"The Era of Geriatric Medicine"

The elderly population is one of the most discussed global phenomena in the present-day.[1] Countries with an increasing population like India have a large number of *people* now aged over 60 years or more. In the last five decades, the people over 60 years has tripled and will relentlessly increase near future. According to census 2011, older people are 8.14% of the total population. The projections for the people over 60 years in next four censuses are 133.32 million (2021), 178.59 (2031), 236.01 million (2041) and 300.96 million (2051).[1] The increase in the elderly population is the result of changing fertility and mortality regimes over the last five decades. Older individuals are highly prone to mental morbidities due to the ageing of the brain, problems associated with physical health, cerebral pathology, socio-economic factors such as the breakdown of the family support systems, and a decrease in economic independence. The mental disorders frequently encountered include dementia and mood disorders.[2] Other complications include neurotic and personality disorders, drug and alcohol abuse, delirium, Alzheimer's and mental psychosis.

In the twenty-first century, the science of medicine has progressed rapidly. The pathogenesis of many conditions, either chronic or acute, are recognised, as well as the structure of the human genome and many pharmaceuticals, as well as other technologies, were developed for the cure and care of diseases. Nevertheless, understanding the ageing process remains a challenge. Many different clinicians practice geriatric medicine in a wide variety of settings: hospital wards, outpatient clinics, day hospitals, general practitioner surgeries, care homes and the patient's own home.[3] Most doctors will spend a large part of their time dealing with older patients, which is why geriatric medicine is essential. It is also a challenge: illness in older people often presents in atypical ways, and there is sometimes an inaccurate perception that little can be done to help them, or that their problems are 'social' rather than medical. Geriatric medicine is a medical speciality that deals with a process of ageing, which is like paediatrics, and unlike other specialities that concentrate on systems (cardiovascular, gastroenterology, blood, immune system etc.). The added value of the geriatrician in medical practice is in the knowledge of the scientific background of ageing, as well as the practical implications concerning the physical and cognitive decline of function with ageing and its accompanying morbidity. The practice of Geriatric Medicine is the art of connecting the biological and medical sciences to the service and the environment of the individual ageing person.[2,3] It requires dedicating a lot of time and patience on the part of the physician, to retrieve the information, to build confidence in the relationship with the patient and to lead the patient to continue living with an optimal quality of life in his remaining years.

Editorial

During the last decades, the number of geriatricians across the globe has doubled, an obligatory clerkship in Geriatric Medicine is part of the medical schools' curriculum, and Geriatric Medicine is part of the board curriculum in Internal Medicine and Family Medicine. Geriatric medicine has developed three key roles in the care of older people facing dying and death: managing those with the most complex needs; setting standards of good practice; and disseminating good practice through training, education and research. Both specialities face challenges in fulfilling these roles.[4] The development of referral criteria, modes of rapid assessment, joint working practices and 'outreach' to all care settings and diagnostic groups are essential components which are not yet fully developed. Closer partnerships between the two specialities will be essential if rapid identification and transfer of patients in need are to be achieved. Training to be a geriatrician is complex. Geriatrician must demonstrate the knowledge, skills and attitudes relating to gender, culture and ethnicity pertinent to geriatric medicine. Also, all geriatricians must demonstrate an ability to incorporate gender, cultural and ethnic perspectives in research methodology, data presentation and analysis. Geriatrician must be able to work effectively in acute hospitals, long-term care facilities and the community, including the older patient's home.[3] Thus, Geriatric Medicine maintains the art of medical practice, using the recent knowledge in biology and medical sciences, and dealing with the population with the highest level of morbidity and lowest function. The Geriatric Medicine approach the old person who needs medical help has to lead medical practice shortly so that we can preserve the significant achievements of medicine during the twenty-first century.

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Caring Elderly, Now is The Time to Act

*MS SRIDHAR

Presidential Oration at GSICON 2017 and 14th International Conference on Geriatric Care and Gerontology held at Sri Venkateswara Medical College, Tirupati, Andhra Pradesh on 1-2 October, 2017.

Bharatamatre namah!
Gurubhyo namah!
Sarvebhyonamah!

Dignitaries on the dais, ladies and gentlemen

At the outset, I place on record my sincere thanks and deep sense of gratitude to the Academic Council of Sri Venkateswara Medical College and the Alumni Association for having come forward to host this important Conference at the feet of the Lord of Seven Hills and to the Geriatrics Society of India for having elected me as the President of the Society for this year. The story of slow but steady journey of the care of the elderly is documented to some extent in the book **'Indian perspective of Geriatrics and Gerontology'** to be released today during the inauguration ceremony. The Indian version of nuances of **'Long Term Care'** will be deliberated upon during the workshop.

The theme for the Conference is '**Caring elderly, now is the time to act'**. The altruistic intention and moral and statutory obligation to cater to the care of the elderly has by now permeated the corridors of political and professional bodies as well as the civil society. The awareness of rights of elderly so well propagated by all stakeholders is to be lauded wholeheartedly. But, the way ahead, for implementation of the intentions and plans is not so simple and plain. It is tenuous and riddled with many hurdles. It is precisely for this reason that we should strive to put in place a mechanism by which the elderly persons get what is due to them with dignity and without much ado. In this fast paced world, the way many of them who are physically weak and frail and without adequate social support and yet exhibit an indomitable will to cope up with profoundly changing world with new norms and mores without too much dependence, is a fact to be marvelled at. It is a tribute to that generation who led simple life with few wants and were imbued with spirit of sacrifice. From them we can learn a lesson or two. They represent the ever dwindling segment of the respective birth cohorts who have witnessed the ebb and flow of the society of their day. They are the repository of the values that sustained them and continue to sustain them and a significant segment of the society even now. Has the present generation been according them the due recognition is a question which cannot be answered quickly, easily and satisfactorily because all shades of care and neglect of all magnitudes are to be expected and are all too plainly obvious. The onerous responsibility of extending enhanced benevolent care to all elderly by all means rests with every one of us; the educated elite has a major role to play in providing leadership for such a miracle to happen. As a group they appear to have been in frozen state. My own observation over the years has been that the so called uneducated people engaged in all sorts of 'simple' occupations have done much more than their means would permit them to than their educated counterparts, for their respect and regard to kinship ties are strong and are worth emulation by others. I do not have any reservation in saluting them for their large heartedness and all of us can learn a lesson or two from them. The educated lot have been involved more in rhetoric and token service. However, their role in espousing the cause of the elderly by documenting their case in all aspects cannot be ignored. The contribution of civil servants of higher order is limited to sending advisories to States and Districts with little improvement in the much needed services at grass-roots level.

By virtue of their position, members of healing profession-doctors and paramedics, have a direct caring role in promoting well being, preventing disease, offering timely affordable essential care and guiding them in rehabilitation. However, majority of them, in their preoccupation with providing services, are divorced from administrative roles related to provision of services to elderly to such an extent that many

*Retired Principal and Professor of Medicine, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh.

of them are practically unaware of the Government policies and provisions. The Government agencies have not been very helpful either. The Social scientists and members of other professions have opportunity to play an important role not only in advocacy but in monitoring the implementation at grass roots level; the bureaucrats and politicians engaged in policy making have to make realistic plans the implementation of which should be well spread out through the length and breadth of this great nation. For a cause which does not need too much experimentation, tokenism and selective implementation and exclusionism does not enhance the reputation of the Nation. Small measures, if evenly implemented, will bring cheer to every elderly person. If GST can encompass whole of the nation, then, why, on similar count, welfare measures for elderly could not be implemented at every nook and corner of the country? A programme similar to Mother and Child Health has to be implemented with dedication. It would be too much to expect that Geriatricians will be 'manufactured' in the Medical Colleges of the Nation. Maximum number of seats is sanctioned to one Institute, All India Institute of Medical Sciences, New Delhi, the Nation's capital. There are just five other Institutions offering the course, apart from IGNOU in Distant Mode. With this much professional resource, how the whole picture of the elderly throughout the nation will be captured is anybody's guess. In a our own State orders were issued to start MD (Geriatrics) course in some Government Medical Colleges as early as in the year 2003 which remains on paper and is all but forgotten. Any initiative to do something consonance with the National Policy for Elderly in India does not find favour with the administrators. So, as an interim measure, all that is needed is an orientation to the special service needs of the elderly and knowledge of where and how to access them and who will help them to access these services. This orientation or reorientation is essential for everyone from top to bottom of the hierarchy of the implementation agencies concerned. In education field it is often said that assessment drives the curriculum. So, in all fields of education, knowledge of the needs of elderly and methods of provision of appropriate services should find a place in assessment schedule. Then every student, irrespective of the stream of study, will have opportunity to learn how he/she can contribute to the well being of the elderly and there will be scope to inculcate a positive attitude in caring the elderly. The extension education or internship in all professional courses should be planned innovatively to find optimal solutions to the problems of the elderly.

In Andhra Pradesh, **'Swasthya Vidhya Vahini'** is potentially a powerful tool for spreading this important message and creating awareness among all concerned. The educated elderly, for their part, have mostly accepted the norm that they have to live by themselves either in the community or in old age homes compromising their dignity, self respect, self esteem and their authenticity to various extents.

It is only the persons living in rural India who are more isolated. The Government's affirmative action in granting old age pensions, and giving priority in as many sectors as possible and the statutory obligation of children to ensure good living conditions for their parents is laudable. As in any other field, coercive action could be counterproductive. There is need to prepare the ground from school age so that the culture of caring elderly can re-evolve and be sustained. Education, and not propaganda, is the solution. Providing care to the elderly gives immense satisfaction and meaning to our adulthood energy. However, it should not be forgotten that every human being is unique. Hence, the caring elderly is not without problems. The Second Childhood could be full of childishness that may frustrate the care giver. But then, one should remember that our parents have endured our first childhood and childishness with fortitude. It is our turn now to render service with a spirit of gratitude and satisfaction. The question of getting rid of the debt simply does not arise because the care they gave is priceless. Similarly let the care that we provide them have a semblance of matching it.

Fortunately, the Indian culture and ethos has provided a firmer ground in serving the elderly. The new found relentless pursuit for wealth and the rise of hedonistic tendencies have to be discouraged from the time of childhood socialization. Our own happiness, ultimately, rests in the happiness of all family members including that of the elderly. I personally know many who took care of their elderly family members in an exemplary manner. I bow my head in reverence to such noble souls.

Let us introspect and do our best for the seniors who made our life so much comfortable today. The role of GSI cannot be underestimated. Let all the Professional Societies join into a Federation and use their energies synergistically and optimally so that best possible results could be obtained for the elderly, for whose cause they claim to exist. I venture to suggest that GSI should have a youth wing and orientation programmes can be arranged for them and then encourage them to innovate to make life worth living for the elderly. They alone can 'Add life to years'. As quoted by Bengoa, "as in politics, what is possible is done, what needs to be done should not be forgotten". Let us reiterate that we care for the elderly and we are prepared to do our best under all circumstances.

Jai Hind.

Geriatric Syndrome of Frailty

*PS SHANKAR

Abstract

Frailty is a clinical syndrome associated with increased risk of functional disability, and is a dynamic process. Frailty is a set of linked physiologic deteriorations with loss of cellular energy production, the key underlying biological process leading to altered physiology. Persons with frailty exhibit loss of functional muscle. Unsteadiness and falls are commonly encountered in older especially frail persons. In clinical practice, a low body mass index (BMI) may be a useful predictor of sarcopaenia. No specific treatment for frailty is available. The treatment of elderly persons who are frail involves the treatment of the precipitating acute illness and the underlying loss of function. Exercise is one of the important factors in therapy that can help in stopping frailty.

Keywords: *Frailty, Disability, Sarcopaenia, Mysteatosis*

INTRODUCTION

Elderly persons can become frail. Frailty refers to a condition in which a person exhibits diminished ability to undertake essential social activities of daily living under minor environmental stressful situations. There is a diminished reserve in the physiological function of different organ-systems of the body to carry out important daily activities and to maintain adequate homeostasis. In such a background, any minor illness or adverse drug effects lead to disproportionate loss of function, increased risk of disability, and increased risk of death from the effects of a stressor. It must be noted that a similar amount of stress does not cause any disturbance in a physically fit individual of the same age and sex. Thus frailty is a progressive physiological decline in multiple organ systems marked by loss of function, loss of physiological reserve and increased vulnerability to disease and death.[1]

Frail older patients, unlike robust, are visibly more vulnerable, withdrawn, unsteady and weak and they tend to have more complications as they age and a higher rate of hospitalization.[2] They exhibit different pathologic states and present clinical manifestations in an atypical manner. Frail elderly are highly susceptible to adverse health outcomes. There is functional decline, decreased mobility, falls, and social withdrawal.[3]

Frailty is a clinical syndrome associated with increased risk of functional disability, and is a dynamic process, It is common in older adults and in those with multiple comorbidities. The condition may be encountered independently thus differing from ageing.[4]

FRAILTY AND DISABILITY

Though frailty has been considered a form of pre-disability, the term should not be confused or mistaken with another entity called, disability. Disability may develop from a single pathological event leading to actual loss of function. Frailty develops from multiple pathologies and there is an increased vulnerability to loss of function.

They are separate entities. Disability refers to an established loss of function following a condition such as stroke, poliomyelitis or fracture. The situation may develop from a single pathological event in otherwise healthy individual. The person remains stable after recovery without much fluctuation in function. The person generally remains in good health. In frailty there is an increased vulnerability to loss of function, and the individuals are unable to withstand minor environmental stresses of daily life. There is a marked fluctuation in response to any minor illness. Frailty and disability can coexist. In addition there may be co-morbid illnesses. When they exist together there is marked deterioration of function even with minor illness, and the patient finds an inability to cope independently. There is an increased risk for falls.

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Table 1: Impaired domains in frailty

- Musculoskeletal function
- Cardio-respiratory function
- Cognitive function
- Neurological function
- Nutritional status

Table 2: Criteria for the diagnosis of frailty

- Unintentional weight loss of more than 4 kg in one year
- Physical exhaustion by self report
- Muscle weakness as measured by grip strength
- Decline in walking speed
- Low physical activity

DOMAINS IN FRAILTY

Frailty is a complex disorder that occurs during the ageing process. The frail person exhibits impaired function in different specific domains (Table 1). Each domain is assessed while making a comprehensive assessment of frailty. These examinations in different domains are necessary before applying the term 'frail' to an individual. It must be noted that not all old persons are frail.

Till recently, diagnosis of frailty was mostly subjective, and now objective methods for its diagnosis have been formulated. It was thought frailty is an inevitable part of old age, now it is considered as an avoidable condition. There is impairment of musculoskeletal function and poor nutritional status.

The objective criteria for the diagnosis of frailty have been formulated by Linda Fried and her colleagues which include the following (Table 2).[2] Frailty is defined as having any 3 of the 5 attributes.

There are altered biological processes in the frail subset of older adults. Frailty is both a physiologic and a biologic syndrome separate from normal ageing process and from disability. Ageing is far riskier for people who are frail. The biology of frailty appears to be independent of age and specific disease states.

Frail people may develop functional decline and disability following exposure to a stressor such as an infection (influenza), fall, death of a spouse or addition of a new drug in the treatment regimen. These individuals do not possess the resources to respond and maintain adequate homeostasis. The same stresses cause little disturbances in a fit person of the same age. Frailty has to be recognized early. The occurrence of acute illness, and loss of reserve needs to be evaluated. An early intervention may help in reversal of some of the aspects of frailty or may delay the onset of disability in elderly.[3] As an example, a person with heart failure requires treatment of the basic condition, but also an exercise program to improve musculoskeletal function, balance and aerobic capacity, and nutritional support to restore the lost weight.

AETIOPATHOLOGY

The development of frailty is influenced by genes, environment and life style. The persons with frailty exhibit an excess loss of functional muscle. There is some deterioration in executive function.

Many different body systems become dys-regulated on an anatomic, molecular and physiologic level as people reach old age. Some of these systemic changes are more quickly noticeable in people who are frail. The studies have linked frailty to an increase in inflammation and blood clotting activity. There is a decline in humoral and cell-mediated immunity with advancing age. There is over expression of cytokines, decline in the level of hormones, loss of muscle mass and muscle strength or sarcopaenia.

Frail patients exhibit significantly higher serum interleukin (IL-6) levels and significantly lower levels of haemoglobin and haematocrit than non-frail patients. Serum IL-6 level was inversely related to haemoglobin and haematocrit in frail group, but not in non-frail group. The subclinical anaemia might be related to chronic inflammatory state as evident by raised level of IL-6.[4]

Frail patients show increased levels of reactants linked to injury or inflammation such as C-reactive protein and clotting factor VIII. Some patients even demonstrate increased levels of the clotting breakdown product-C dimmer.[5]

Certain humoral changes are also noticeable in frail patients. Serum levels of insulin-like growth factor (IGF)-1 and dehydroepiandrosterone sulphate (DHEA-S) are significantly lower in frail patients than non-frail patients. IL-6 levels correlate inversely with IGF-1 level in frail patients suggesting a potential interaction between endocrine and immune or cytokine dysregulation.[6] DHEA-S plays an important role in suppressing inflammatory signal transduction. A decreased level in this weak androgen-steroid is likely to contribute to an increased inflammatory process.

It is not clear whether raised levels of inflammatory factors actively contribute to development and progression of frailty or whether they occur as a response to some other unrecognized factor that causes or results from frailty. It is yet not clear what triggers frailty in some but not in others. Certain environments, medication, age-related changes and disease make older people particularly vulnerable to become frail. There is a high prevalence of frailty in patients with chronic renal insufficiency, depression, Parkinson disease, diabetes mellitus and atherosclerosis. Atherosclerosis

Table 3: Changes responsible for frailty

- Increase in age-related free radical production and resulting DNA damage
- Shortening of telomere
- Changes in gene expression
- Cellular senescence

Table 4: Conditions producing frailty

- Pain limiting the ability to exercise
- Disease limiting cardiopulmonary function
- Disease interfering with muscle function
- Weight loss
- Impaired executive function (depression, cognitive deterioration)

contributes to frailty by decreasing blood flow to the muscles and nerves leading to muscle wasting syndrome (sarcopaenia). Frailty is encountered in persons who are inactive and malnourished. Ageing results in the loss of complexity of physiological control system. Many older patients lose their adaptive capacity considered as a hall-mark of frailty.

It has been postulated that some of the following changes are responsible for frailty (Table 3).[7]

The cellular changes may contribute to dys-regulated neuroendocrine and inflammatory signaling that in turn contribute to decline in muscle, bone, cognitive and immune system functions.

Frailty is a set of linked physiologic deteriorations with loss of cellular energy production, the key underlying biological process leading to altered physiology.

Frailty is measured by using a 5-minute scoring tool. Using the gait-speed test (consisting of a timed 25-foot walk) it is possible to identify frailty before it becomes advanced.[8]

The interaction of age-related physiologic deterioration and different disease processes such as anaemia, congestive heart failure, chronic obstructive pulmonary disease (COPD), conditions that interfere with muscle function such as diabetes mellitus, peripheral vascular disease, *polymyalgia rheumatica*, and pain by limiting the capacity to undertake exercise result in the development of frailty (Table 4).

SARCOPAENIA

The persons with frailty exhibit loss of functional muscle. Sarcopaenia (Gk. *Sarx*-flesh; *penia*-loss) is age-related loss of muscle mass that is responsible for the decline in muscle strength. It forms the main factor in the pathogenesis of frailty.[9] Elderly persons with sarcopaenia, exhibit decreased lean body mass and muscle strength. Ageing is associated with a marked uncoupling of muscle cross-sectional area and muscle fibre strength. There is also accumulation of fat in the muscle (myosteatosis). Myosteatosis refers to accumulation

Table 5: Conditions associated with sarcopaenia

- Presence of angiotensin-converting enzyme (ACE) D allele
- Age-related loss of muscle fibre
- Atherosclerosis
- Diabetes mellitus
- Decreased physical activity
- Obesity in some individuals
- Decreased food intake including protein and creatine
- Decreased testosterone level
- Decreased intake of vitamin D
- Decreased insulin-like growth factor-1 and Mechano-growth factor
- Increased cytokines (tumor-necrosis factor-alpha, interleukin-6)
- Decreased motor unit acuity with a decrease in ciliary neurotrophic factor
- Loss of muscle mass and strength
- Over-expression of myostatin, a transforming growth factor

of fat in muscle and it causes a decline in muscle strength leading to functional impairment and physical disability bringing about changes in gait and balance.[10] In contrast to this condition, obese persons often have a greater lean body mass than normal weight persons. However, among them a small subset exhibits sarcopaenia (sarcopaenia obese or 'fat frail'). These persons can become frail if they do not exercise adequately, and develop disability.[11]

There are many causes for development of sarcopaenia (Table 5).[4]

Muscle tissue is not static. It exhibits a continuous process of atrophy and hypertrophy. It is a cyclical process of death and rejuvenation. Muscle proteins undergo degradation when they unfold and it leads to atrophy. The cells also undergo apoptosis. However, there is rejuvenation of the cells following incorporation of amino acids. It causes synthesis of protein leading to muscle hypertrophy. There is also stimulation of stem cells leading to production of satellite cells that are capable of repairing damaged muscle.[4]

The intake of food has to be adequate to maintain proper function of muscle. Protein and creatine play an important role.[12] Motor unit acuity gets diminished with advancing age. There is fall in the levels of ciliary neutrotrophic factor (CNTF) and it is associated with decreased muscle strength.[13] The raised levels of cytokines, such as tumor-necrosis factor (TNF)-alpha and interleukin (IL)-6, is associated with decreased muscle strength.[14] Muscle strength is decreased in diabetes mellitus. Muscle rejuvenation is affected with development of atherosclerosis as it causes a fall in blood supply to muscle.

The anabolic hormones such as growth hormone and testosterone activate insulin growth factor (ICF)-1 gene

within the muscle. IGF-1 stimulates protein synthesis and muscle hypertrophy. It is under growth hormone regulation.[15] The production of satellite cells is activated by mechano-growth factor (MGF) leading to an increase in muscle mass. In the absence of resistance exercise, the muscle fails to acquire strength. Growth hormone exhibits its action after the process is initiated by resistance exercise.[16] Ghrelin, a growth hormone secretagogue is able to increase muscle mass and food intake.[17]

There is a fall in the level of testosterone in advancing age and it is associated with a decrease in muscle strength and function. The level of testosterone falls with ageing at the rate of nearly 1% per year.[18] Muscle mass shows atrophy with androgen deprivation.[19] Testosterone stimulates protein synthesis and satellite cell production.[20] Administration of large doses of testosterone is able to increase muscle mass and strength in hypogonadal men.[21]

Myostatin inhibits satellite cell production thus inhibiting muscle rejuvenation. A double-deletion of the myostatin gene can result in muscle hypertrophy.[22] Vitamin D deficiency is associated with poor muscle function. There is a longitudinal change in serum 25-hydroxy vitamin D in older people. The levels of vitamin D appear to fall throughout the life time.[23] The studies have shown supplementation of vitamin D in elderly result in a decreased rate of fall and reduced functional impairment.[24] Muscle quality is maintained by adequate food intake including creatine. Often there is a decline in appetite in elderly. Many of them take less food. There is inadequate intake of protein and it will affect deleteriously the muscle maintenance. Muscle strength decreases with a fall in the level of ciliary neurotrophic factor. There is an increase in cytokines (TNF-alpha and IL-6) with ageing and is associated with decline in muscle strength and frailty.

Many frail persons show certain amount of weight loss. This is due to the play of multiple factors in elderly persons that includes sarcopaenia, anorexia, dehydration, wasting, depression, disease states such as tuberculosis, cancer, congestive heart failure, COPD, chronic renal failure, and hip fracture, dietary restriction and side effects of medication. Efforts are to be made to improve the nutrition status in the elderly to protect from effects of frailty.

Many disease states lead to frailty that includes diabetes mellitus, and anaemia. Diabetes mellitus is associated with decline in muscle strength. There is an increased rate of falls among frail persons. The level of angiotensin II is elevated in diabetes which stimulates caspase 3 to cleave actomyosin to actin and myosin. Insulin resistance facilitates fat infiltration within the muscle cells. Coexistent neuropathy causes a decrease in motor unit firing that is responsible for the maintenance of muscle quality. Atherosclerosis is responsible for a fall in blood flow to muscle which in turn prevents adequate muscle rejuvenation.[4] Anaemia has to be treated with iron supplementation or with erythropoietin or darbepoietin-alpha in chronic renal failure. Depression is often associated with frailty.

CLINICAL FEATURES

The patient presents with a variety of vague complaints and narrates them very slowly. The clinical presentation is often atypical and they appear quite late. Often there are multiple co-morbid associated conditions. Frail elderly patients exhibit symptoms such as weight loss, weakness, fatigue, slow walking speed, and low physical activity.[25] These manifestations interact with each other and lead to a fall in physiologic reserves. Some of these features are related to the loss of muscle mass and muscle strength.

The patients often present with falls and unsteadiness. Many illnesses present with falls, confusion or incontinence rather than more specific signs and symptoms. These individuals often exhibit reduced perception of pain and are febrile

FALL

Unsteadiness and falls are commonly encountered in older especially frail persons. Though not all fall results in fractures or serious injury, the occurrence of fractured neck of femur is the most dreaded situation. Many conditions are associated with falls (Table 6).

Fracture of the neck of femur is one of the commonest fractures encountered. The falls occur from simple trip, blackout, collapse due to acute illness and impaired vision. There can be underlying illnesses like infection, stroke, metabolic disturbances, heart failure, osteoarthropathy, postural hypotension and history of medication (sedatives, diuretics). Other presentations include infections, malnutrition, hypertension, heart failure, dizziness, and blackout, urinary incontinence, osteoarthropathy, immobility, stroke, diabetes, fluid balance disturbances, confusion and dementia.

Table 6: Causes of fall

- Accident
- Tripping and slips
- Age-related changes in vision, and strength
- Gait and balance disorders
- Syncope
- Collapse from acute illness
- Multiple risk factors

Often the frail people fall and it appears as an atypical presentation of an underlying illness. This is due to reduced reserve to integrative neurologic function. The reserves are affected by acute illness such as infection, stroke, metabolic disturbances, arthritis, cardiac arrhythmias, and heart failure, to result in their inability to maintain balance. The addition of a new drug may result in deterioration.

Many patients who are frail may exhibit multiple risk factors and chronic disabilities. The risk of falling increases with an increase in the number of risk factors present. The risk factors include cerebrovascular disease, Parkinsonism, deafness, visual impairment, dementia, diabetic neuropathy, postural hypotension, osteoarthritis and depression.

CLINICAL ASSESSMENT

The history should give information on the mode of onset of the complaints and their speed of progress, medication, details of the daily activity and ability to perform them, walking and occurrence of confusion. The clinical examination should include gait, balance and stamina, nutrition, vision and hearing and mental state including cognitive function. All systems are to be examined in detail to identify the abnormality.

A comprehensive assessment of the patient has to be made with a detailed, slowly elicited history, and a thorough physical examination. Frailty may exhibit the following features: 1) weight loss of 4.5 kg or more during past implying poor nutritional status, catabolic metabolism and sarcopaenia, 2) poor endurance presenting with a feeling of exhaustion, 3) weakness as demonstrated by poor grip strength, 4) slow walking with short steps, and 5) decreased physical activity. The cognitive function, gait, balance, hearing capacity and nutrition and ability to perform daily normal tasks are to be assessed. The findings help in planning the regimen to deal with acute problem and to improve overall health and function, with an aim to reduce the likelihood of recurrence of subsequent illness and improve the quality of life. The presence of co-morbidities is to be recognized.

There are several indices and measurement techniques that are used to categorise sarcopaenia. The relative skeletal muscle index (RSMI) {the appendicular skeletal muscle (derived from dual energy X-ray absorptiometry-DEXA-scanning) /height in metres squared}, fat free mass, muscle strength and loss of hand grip strength have been used to define sarcopaenia. However in clinical practice, a low body mass index (BMI) may be a useful predictor of sarcopaenia.[26]

TREATMENT

No specific treatment for frailty is available. The treatment of elderly persons who are frail involves the treatment of the precipitating acute illness and the underlying loss of function. There is also need to prevent any further loss of functions by early intervention. After treating the precipitating event, a multi-pronged approach in the management is necessary to improve the musculoskeletal function, and balance. Nutritional support is necessary to restore lost weight. Thus two factors such as physical activity and diet are readily modifiable. Pharmacological intervention is also undertaken, though the benefits from such interventions are less evident.

Exercises are necessary to improve flexibility, strength and balance. Inactivity forms an important factor contributing to the loss of muscle mass and strength. Immobilisation induces anabolic resistance, skeletal muscle apoptosis, sarcopaenia and frailty at old age.[27,28] Physical exercise strengthens the muscles and also reduces levels of inflammatory factors and increase in IGF levels to a small degree. Exercise is one of the important factors in therapy that can help in stopping frailty. Resistance or weight training is an effective counter measure to sarcopaenia, decline of muscle mass and muscle strength. Such exercises are able to bring about an increased muscle cross sectional area (CSA). Resistance exercise training increases mixed muscle protein synthesis rate in frail individuals.[29] Muscle strength increases after a few days of training, whereas muscle mass increases after 6 to 8 weeks of resistance training.[30] It must be noted that the aerobic activity such as walking, running, cycling or jogging has not much effect on augmenting muscle mass and strength.[26]

The exercises are prescribed in such a way to progressively overload the muscles so that positive adaptations occur. There is an increase in strength, power and endurance. Exercises are to be dynamic, not static and they should target the major muscle groups of the body, that take part in lifting or pushing, and eccentric movements.

Sarcopaenia that leads to frailty and functional impairment can be improved with resistance exercise. ACE inhibitors may retard the loss of muscle strength in some individuals.[31] A reduction in the level of testosterone with ageing is associated with the loss of muscle mass, strength and functional decline. Testosterone replacement may stimulate protein synthesis in hypogonadal men. There is a moderate increase in muscle strength among men.[32] However indiscriminate administration of testosterone in frail older individuals may have an increased risk of cardiovascular adverse effects.

Growth hormone supplementation has not shown an increase in muscle mass or muscle strength even in association with resistance training.[33] It is associated with

many side effects. Myostatin expressed in skeletal muscle inhibits myogenesis and promotes adipogenesis.[34] Drugs that inhibit the effects of myostatin form a promising therapeutic approach for sarcopenia. Use of recombinant human antibodies to myostatin in healthy postmenopausal women has caused an increase in lean body mass.[35]

Decreased food intake especially protein leads to weight loss and decreased muscle mass. It aggravates frailty. Often there is anorexia. Loss of muscle mass occurs from an imbalance between protein degradation and synthesis rates. The elderly individuals need an increased dietary protein and amino acid.[36] Leucine, an essential amino acid stimulates muscle protein anabolism in healthy elderly adults.[37] In the background of this administration of proteins rich in leucine is likely to prevent sarcopaenia.[38] Adequate food intake, protein supplementation and supplemental creatine, and vitamin D help in maintenance of muscle quality. Creatine supplementation may be beneficial in the management of sarcopaenia.[39] However it has not demonstrated any increase in lean mass.[40]

Often the elderly patients exhibit proximal muscle weakness due to vitamin D deficiency. Vitamin D supplementation helps the treatment of sarcopenia. Calcium and vitamin D are to be given as a prophylaxis of osteoporosis. Administration of 800 IU of vitamin D3 for a period of 2 to 12 months exhibits improvement in lower extremity strength and reduces the risk of all.[41]

The underlying disease states such as diabetes mellitus, congestive heart failure, Parkinsonism, osteoarthritis, and anaemia have to be treated. The use of ACE inhibitors is associated with an increase in lower extremity lean body mass compared to those who are using other antihypertensives.[42] Loss of strength, and gait disturbances needs treatment with analgesics and physiotherapy. Hydration has to be maintained. Postural hypotension has to be corrected. Medication has to be rationalized. Visual disturbances are to be corrected.

PREVENTION

There is no specific modality of treatment for frailty. Since multiple pathways are involved in the development of sarcopaenia that has a key role in the development of frailty, the trials have shown that the condition can be prevented by muscle strengthening exercises, healthy diet, adequate amount of sleep, administration of hormones and growth factors, and lifestyle interventions. There is need to reduce the number of drugs taken, to train balance and gait, to correct postural hypotension by rationalizing medication, adequate hydration and use of non-steroidal anti-inflammatory drugs that cause salt and water retention, thus increasing the circulating volume, and to direct attention to those factors to reduce risk of falls.[43]

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News from Moradabad by Dr. D. P. Manchanda

GSI Moradabad Branch & Senior Citizen Welfare Association of Moradabad celebrated on 08th October 2017 as "Elder's Day"

Sri Rakesh Kumar DM, Moradabad was the Chief Guest.

The following senior citizens aged 90 plus years were honoured with a Letter of Honour printed on brass sheet, Shawl, Tilak & Coconut along with an envelope of Rs. 100/-

1. Sri Shankar Sharan Kothiwal
2. Sri Virendra Kumar Agarwal
3. Sri Lal Chand Rajeja
4. Sri Devi Sharan Tandon
5. Sri Suraj Prakash Vaid

Geriatric CKD Stage V Patients on MHD's with South Indian Data (Rural) – A Single Centre Study

*NAGINENI BHASKAR RAO

Abstract

Geriatrics is the subspecialty of General medicine and deals with the health problem of people aged 60 years & above. GeriatricMedicine was started in west in 1930 and is yet to take off properly in India even in 2017.Medical Council of India has recognized it recently and hence our medical graduates produced in Medical colleges in India, have no formal exposure to this specialty as per norms. Geriatrics Medicine OP and IP should be given importance in all the Government and private Medical colleges throughout India. But reality is very discouraging. Geriatric Nephrology is the branch of Internal medicine and Geriatric Medicine that deals with diseases of the kidney. This is yet to take birth in India.

An analysis of 38 Geriatric CKD stage V patients on MHD at MNR Medical College Hospital gives south India data (Rural) in various parameters.

Materials and Methods: *38 Geriatric CKD stage V patients on MHD who got registered for haemodialysis at Dialysis unit, Nephrology Department of MNR Medical College Hospital (Rural based) Sangareddy selected for this study from 05.11.2009 to 31.05.2017.*

Results:*In this study the age of elderly CKD stage V on MHD patients ranges from 60 to 75 years. Percentage of elderly to OP in our hospital is 10.018% (Total OP – 40,304,60+ YEARS OP – 4038) and percentage of IP is 11.934%(Total IP -5019,60+years IP 599). The random period for these figures is from 1st may 2017 to 31st May 2017. 38 out of Geriatric CKD stage V on MHD patients registered at our dialysis unit and only 3 patients are living as on today. Longest survival rate is 3 years 2 months & 3days (75 years elder) at 2years of total registered Geriatric CKD stage V on MHD patients is 26.20%.At 1Year survival rate Geriatric Patients (23.68%), at 2years 5patients, at 3 years 1 patient, more than 3years 1 patient. Almost all are financially dependent (36/38) 94.73%/independent (2/38) 5.26%.**key factors** for CKD stage V on MHD are hypertension, Diabetes mellitus: ADPKD, obstructive uropathy with Neurogenic bladder with UTI & cervical compressive myelopathy: AKI on to CKD etc.*

Keywords: *Geriatrics Nephrology, Chronic kidney diseases, Haemodialysis, survival rate.*

INTRODUCTION

Ageing is a progressive, generalized impairment of function resulting in loss of adaptive response to stress and including risk of age related diseases and disabilities.

Ageing occurs at various levels: Molecular; Cellular; Physiological; Morphological, Social and Behavioural. At older ages an increased proportion of prevalent CKD cases has low GFR alone when compared with Albuminuria alone or both low GFR and Albuminuria). Geriatric patients will have other age related disabilities like impaired mobility, Deafness ;gradual loss of sight and loss of memory and also other co-morbid conditions like hypertension, diabetes mellitus, cancer, Parkinsonism, Alzheimer diseases etc. along with loss of muscle mass.

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- Projected figures of elderly for the year 2001 and 2016 are 70 million and 112 million respectively. In 1991 census data it was observed at 78% of elderly lived in villages. There were 930 females to every 1000 males in 60+ age group: 34% of there were widoned (15% for males and 54% for females), 52% were illiterate & 39% were working (60% for males and 16% for females).
- By 2025 AD the number of elders, individuals would be 177 millions in India. Higher proportion of greying population is an evidence of greater health care, higher literacy and health awareness.
- Today i.e., in the year 2017 the life expectancy in India is 68.1 years.
- In Japan the life expectancy is 84.7 years; Singapore 84.7 years and in Monaco 89.5 years. Lowest life expectancy in the world is in South Africa with 49.7 years.
- For the welfare of older persons, Government of India in 1999 announced a "NATIONAL POLICY OF THE AGED."
- MCI gave recognition to Geriatric Medicine as a Medical Specialty.
- Beyond the fact that older persons have more interactions with the health care systems (more drugs i.e., polypharmacy; more procedures, and with multiorgans failure). Their weakened reserve puts them at greatest risk or iatrogenic injury.

ACUTE RENAL FAILURE: 'FIFLE' FORMULA

	GFR CREITERIA	URINE OUTPUT CRITERIA	
RISK	Increased Serum creatine *105 or GFR decreases > 25%	Ou< 0.5 ml /kg/h*6hr	HIGH SENSIVITY
INJURY	Increased serum creatinine *2 or GFR decreases> 50%	UO < 0.5 ml/kg/h * 12hr	
FAILURE	Increase serum creatinine*3 or GFR decreases > 75% or Serum creatinine ≥ 4mg/dl Acute rise ≥ 0.5 mg/dl	UO < .3 ml /kg/h * 24 hours or Anuria * 12 hr.	
LOSS	Persistent ARF**= Complete loss of kidneys >4 wks		HIGH SPECIFICITY
ESKD	End stage kidney disease		

GERIATRIC NEPHROLOGY

Geriatric nephrology yet has to find a place in the area of Nephrology in India.[1] This is the one of article in that course for its recognition.

Geriatric Nephrology is the branch of Internal medicine and Geriatric Medicine that deals with diseases of the kidney .It is a growing subspecialty of Geriatrics

A book about Geriatric Nephrology was published in 1986 by Bernard Davis, M.Michels.

- Among hospitalized older adults-renal failure is estimated to exist in at least 3% patients
- Urinary incontinence, acute renal failure, fluid and electrolyte disturbances, Renovascular diseases, hyponatremia, hypernatremia, CKD are more common in elderly patients.
- Diminished renal mass: There is a gradual decline in kidney weight starting in 5th decade, loss of kidney mass effects the renal cortex containing the glomeruli. Hence there is a reduction in functioning glomerular number. The percentage of sclerotic glomeruli increases after the age of fifty .The scleroticglomeruli increase to 10 to 30% of total by the age of 80-90 years. There is increase in basement membrane thickening and increase in proteinuria.

KEY FACTORS for CKD in Geriatric PATIENTS:

1. Age related renal physiological changes. 2. Hypertension. 3. Diabetes mellitus. 4. Cardio vascular diseases. 5. Acute Kidney Injury (AKI) Medication. 6. Benign prostatic Hypertrophy (BPH

Measurement of Renal function in Geriatric CKD patients:

Estimating GFR via equation is clinically better than serum creatinine.

Challenges with GFR measurement in Geriatric CKD patients

Serum creatinine revels lower due to lower muscle mass.

Under recognition of CKD in Geriatric patients due to "Normal lab serum creatinine"

COCK Croft - Gault equation = (140-age in years) Xweight in kgs

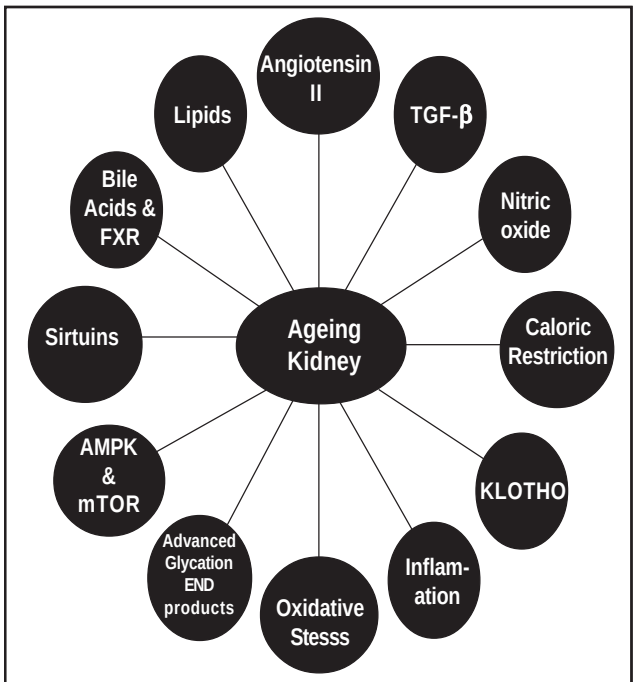
Serum creatine in mg/dl X 72

Serum Cystanine C – is a low molecular weight protein produced by all nucleated cells and filtered at the glomerulus.

Estimation of cystanine C and serum creatinine more accurate for the measurement of GFR[3]

Renal changes in ageing are summarized as follows:

Diminished renal mass, Decreased GFR, DECREASED



Factors that mediate and modrate age-related Glomerulo sclerosis and tubule interstitial fibrosis

Recommendation for Dietary Modifications based on Degree of Chronic Renal Failure[6]

GFR Dialysis (Min/1.73m^2	≥ 70ml	70-25 ml	25-5 ml
Proteins 1.4 (gm/kg/day	Normal	0.6	0.6+ Supplement
Energy >35 (Kcal/kg)	≥ 35	≥ 35	≥ 35
Carbohydrates 50% (% of total)	50%	50%	50%
Fat 20% (% of total)	20%	20%	20%

RBF,Diminished creatinine production, Impaired sodium conservation, Diminished plasma renin, Increased prevalence of Hyperkalemia, Impaired Synthesis of Ammonia, Impaired Maximal urinary concentration.

Longitudinal studies in healthy elderly indicate that upto one-third of individuals have little functional change in creatinine clearance where as two thirds show decrease in function.

It is possible that various factors hasten sclerosis in some more than others. The ability to modify these factors may result in preventing progressive age-related decline in renal function.

FROM LITERATURE

In older women, the prevalence of Urinary incontinence (U.I) is 15-30% in the community: 50% among home bound and 50% in hospital residents.

In men, the prevalence is about one third that of women until age 85 when ratio becomes 1:1.Besides age risk factors for U.I in women are pregnancy and child birth; Pulmonary diseases (because of associated cough); hysterectomy, obesity; other lower urinary tract symptoms; neurological disorders (e.g., delirium; stroke; Parakinson's disese; spinal cord injury); Diabetes mellitus and functional and cognitive impairment.

In men –additional risk factors include the presence of LUT symptoms and prostatectomy (risk greater than with radical prostatectomy than with transurethral resection). Dementia is associated with U.I but strongest correlate is impaired mobility not cognitive impairment.

Acute renal failure (ARF/AKI) or acute kidney injury – is more in elderly than in younger individuals with similar precipitating factor.

Serum creatinine rises from 1.0 – 1.5 mg/dl/day in typical AKI.

Recovery of renal function is less complete and mortality is higher in the elderly. Because of glomerular filtration rate (GFR) normally falls progressively with ageing, the aged kidney has less functional reserve, so that fluid and electrolytes complications occur in the course of AKI.

Glomerular diseases: Essentials of diagnosis:

1. Proteinuria (by dipstick or quantitative), Microscopic hematuria or red blood cell casts, Hypertension is usual, Periphleral edema common

Renovascular diseases: Renovascular diseases increases in prevalence with increasing age, risk factors include a history of atherosclerosis; Diabetes mellitus, Tobacco use, and hypertension. Autopsy studies in patients older than 70 demonstrate a prevalence of severe renovascular diseases in up to 60-65%.Angiographic studies have indicated a similar incidence of -70% in elders with hypertension and 35% in those who are normotensive.

Chronic renal failure: Essentials of diagnosis:

1. Bilaterally small kidneys by ultrasonography in most conditions.
2. Progressive azotemia over time.
3. Loss of urine concentrationability.

Elderly patients make up the majority of new ESRD patients in the US.TGO 1999 U.S. Renal data systems report indicated that, for 1997 of > 9000 new ESRD patients who began treatment, 51% were 64 years of age or older; of 300,000 patients receiving renal replacement therapy (RRT), 34% were of age 65 years or older. The most common cause of ESRD in elderly are diabetes and hypertension induced nephrosclerosis.

HYPONATREMIA

Hyponatremia is a common electrolyte disorder in elderly ranging from 7% in healthy ambulatory elder to as high as 15-20% in hospitalized individuals and those in chronic care facilities.

In hospitalized patients hyponatremia on admission is associated with a mortality of almost 10% compared with only 1% for those with a normal sodium concentration.

HYPERNATREMIA

Essentials of diagnosis-Serum sodium> 150mmol /L, Palsma chloride > 110 mmol/L, Plasma osmolality > 300 osm/kg.

Hypernatremia is common in sick elderly patients requiring hospitalization.The prevalence of hypernatremia is 30% and is associated with a mortality of 42%.

MATERIALS & METHODS

Out of 145 CKD stage V patients who got registered at dialysis unit of Nephrology department of MNR Medical College Hospital (rural based), Sangareddy (P.O), Sangareddy district, Telangana, from 05.11.2009 to 31.05.2017, 38 patients Geriatric CKD stage V comprising to the percentage of 26.20%.

Ageing itself is a curse and becoming elderly CKD stage V patients is an added curse to our elderly individual's period where the children are not looking after their elder patients in the back drop of collapse of joint family& emergence of "small family" & even isolated families in the present INDIA. Many elderly struggle for their livelihood at rural & urban areas. Old age homes are unreachable to many elderly CKD stage V patients. CKD stage V reaching ESRD is equal to DEATH SENTENCE.

These elderly CKD stage V patients need "Renal replacement therapy" to continue their lives. Dialysis especially "Haemodialysis" and" Renal transplantation" are the better choice. But many are unable to get their treatment and are dying daily all over India.

Some of the data is as follows:

1. No.of Geriatric CKD stage V on MHD registered from 07.11.2009 to 31.05.20007 – 38

2. % of Geriatric CKD stage V on MHD patients among total CKD stage V on MHD patients (145) = 26.2069%.

Dialysis is elderly – indications include – pulmonary edema: uremic encephalopathy: pericarditis and hyperkalemia.

Causative factors for CKD at our centers:

1. Hypertension, 2. Diabetes mellitus, 3. ADPKD, 4. HTN-CKD with cholecystitis, 5. ADPKD, HTN with –CKD on MHD with pericardial effusion, 6. Obstructive uropathy neurogenic bladder UTI CKD stage V ESRD on MHD and cervical compressive Myelopathy.

Some of the data is as follows

Share of OP/IP attending hospital–10.018% /11.934% respectively

Average age of elderly for haemodialysis – 60-75years

Whether able to do ADL - Mostly able

i. Financially dependent/independent - 38/2
ii. B.U. levels Maximum - 250mg/dl
iii. Serum creatinine levels - 18 mg/dl
iv. No.of hours of HD - 3 to 4 hours
v. Serum potassium level – Maximum of 6.9 mmol/l
vi. Observations made during above period.
    a. Geriatric CKD stage V on MHD patients more prone for hypotension; hypoglycemia.
    b. They are not well nourished.
    c. All are having co- morbidities like pulmonary diseases; anaemia, Cardiovascular complications, like cardiomegaly; LVH; TR&MR.
    d. All are with less muscle mass.
    e. All of them did not inform the complaints during haemodialysis sessions.
    f. All are unable to bear 4Hours haemodialysis.

Survival rates: At one year– 9 (23.64%), At two years – 5 (13.15%), At three years - 1 (2.63%),>Three years – 1 (2.63%)

* As per available date living Geriatric CKD stage V on MHD patients – 3/38 = 7.895%

* Maximum survival period of Geriatric CKD stage V on MHD patients is – 3 Years 2 months 2 days (75 years elder)

Male@ Female ratio = 29: 9

Complications occurred = Hypotension; Hypoglycemia; Chills&Rigors; Backache; Headache etc.

Type of care given by the care givers – Not Satisfactory.

Adherence to drugs, Diet and salt, water intake = Most of them not adherent

Blood Transfusions - Very few.

Co- Morbid conditions - Diabetes mellitus; Respiratory infections like TB, Pneumonia, Ascitis; Neurological – Like Hemiplegia etc.

Socio – economic status - poor (mostly)

DISCUSSION

Conducting haemodialysis on elderly CKD stage V patients is a challenge especially with diabetes mellitus with Hypertension. Most of them are ill nourished or malnourished and are prone to hypotension quickly compared to adult

CKD stage V patients. The care givers also will not pay much attention regarding drugs; diet and other instructions given by the Nephrologist.

In this study – elderly CKD stage V on MHD patients got complications on long term haemodialysis – hypoproteinemia, Ascitis; T.B (Pulmonary); TB –Ascitis; Anemia: Renal bone diseases; other respiratory infections like pneumonia and cardiovascular complications like EF; LVF dysfunction; Global hypokinesia; Severe MR, severe TR; Pericardial effusion etc. Because of the above co – morbidities their survival rate is less than the adult CKD stage V on MHD patients. Most of them financially dependent even though they are able to do ADA.

CONCLUSION

Geriatric Nephrology should be given attention as a branch because of increase in Geriatric CKD stage V patients, in the Nephrology Department. % of Geriatric CKD stage V on MHD patients among total cases registered for MHD at the dialysis unit of MNR MCH from 07.11.2009 to 31.05.2017,is 38(38/145 X 100)- 26.2069%.As per Available data living Geriatric CKD stage V on MHD patients registered is 3(3/38).7.85%. At 1year survival no of patients is 9 i.e. (9/38) - 23.684%; 2years survival no.of patients ,5 i.e.13.1578% and > 3 years survival patient is only one i.e.(1/38) – 2.6315%.

Facilities – Like free transport, free medicines and stay at hospital as per the necessity will improve the survival rates of Geriatric CKD stage V on MHD patients. **Government of India should come forward in this direction**.

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Asthma In Elderly

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Abstract

As the population increases in age, the diseases of older age will have increasing prevalence and place a greater burden on the health system. Despite asthma being usually considered a disease of younger people, asthma mortality is currently greatest in the over 55 age-group. Symptoms and emergency presentations for health care due to asthma place a great burden on the quality of life of those over age 55 with asthma. Asthma in older people is under-diagnosed due to patient and physiological factors. Medication strategies for asthma have been dominantly derived from younger cohorts so that effective medication strategies have usually not been explored in older people. Older people with asthma are very concerned regarding side effects of medication so that adherence to therapeutic regimes is often poor. In addition physical disability can lead to difficulty in accessing treatment and using inhaler devices. Practical strategies to improve asthma outcomes in older people have been studied infrequently and the goals of self-management suitable for younger age-groups may not be applicable in this group. While phenotypic approach in most of these cases may improve therapeutic success rates, nonadherence to therapy can be further improved by successful incorporation of new generation nebulization devices as maintenance strategy in moderate to severe cases of Bronchial asthma especially since immunosenescence plays a pivotal role in further progression or persistence of disease pathobiology markers

Keywords: *Bronchial asthma, elderly, nonadherence, immunosenescence, nebulization*

INTRODUCTION

The increasing burden of obstructive lung diseases, such as Asthma and Chronic Obstructive Pulmonary Disease (COPD), appears to be caused, at least in part, by the ageing of the world's population.[1] The term elderly usually refers to persons aged 65 years or older, a largely increasing population worldwide. The World Health Organization estimates that between the years 2000 and 2050, the proportion of persons over 65 years of age is expected to represent up to 17% of the total world population.[1] In the case of asthma, the prevalence in the elderly is also high, affecting >10% of patients >60 years of age, while the estimated prevalence for COPD represents a 20% to 30% in patients >70 years of age.[2,3]

Ageing is associated with pharmacokinetic changes of the medications. As a consequence, absorption, distribution, metabolism and excretion of antiasthmatic medications can be variably affected. Similarly, drug-to-drug interactions may reduce the effectiveness of inhaled medications and increase the risk of side-effects. For this reason, the term "geriatric asthma" be preferred to the more generic "asthma in the elderly.[1]

The physician-diagnosed prevalence of asthma in older adults is between 6% and 10%, just as in any other age group.[4] Asthma in older adults is either diagnosed after the age of 65 years or with a history of long-standing disease. In a cohort study of 1485 older asthmatics recruited by chest physicians, almost a quarter were diagnosed after 65 years.[5]

Examination of airway inflammatory changes, often through examination of induced sputum, has indicated the importance of eosinophils in a majority of those with asthma, however in older age neutrophilic airway inflammation is more common.

Clinical evidence suggests that asthma in older age-groups has different characteristics from that in younger groups with a lower lung function and greater symptom severity.[6]

With respect to the age of onset of the disease, Fig. 1 shows that the number of patients with adult-onset bronchial asthma is the highest for those in their onset age at 40s,

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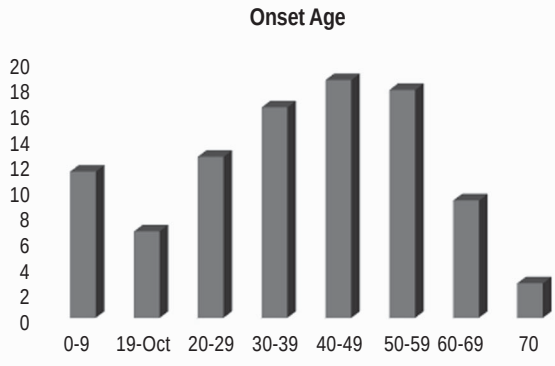

Figure 1. *The distribution of onset age in adult bronchial asthma in Japan – management 2002*

whereas the incidence of onset of bronchial asthma among the elderly (60 years or older) is low at approximately 10% of the total asthmatic patients.[7]

Tabe and Akiyama[8] reported that depending on the severity of bronchial asthma, mild cases account for 48.1%, moderate cases 38.2%, and severe cases 12.7% of adults. However, among elderly patients, the incidence of mild cases is low whereas the incidences of moderate and severe cases are high.

Consequently, among the elderly (60 years or older), mild cases account for 37.7%, moderate cases 43.2%, and severe cases 13.9%.[8]

QUALITY OF LIFE/LUNG FUNCTION

In general, asthma in older adults is characterized by less IgE-mediated processes and more frequently by irreversible airway obstruction. An accelerated decline in lung function occurs in elderly asthmatics, mainly due to airway remodelling, especially in the small airways from inflammation that characterizes asthma.

Plaza *et al.*[9] performed a cross-sectional study in an asthmatic population in the city of Barcelona addressing both quality of life and direct economic impact of asthma in the elderly (>65 years) versus an adult (<65 years) population. Again, asthma in the elderly was associated with reduced quality of life across all domains of the SGRQ. Asthma was more severe in the elderly with significantly more patients (55% *vs*. 18%) classified as severe.

Lange *et al.*[10] presented the results of a longitudinal epidemiological study of 17,506 Danish subjects of which 1,095 had asthma studied over a 15 year period. Asthmatics'rate of lung function/FEV1 decline was 38 mL/year which was significantly greater than the normals at 22 mL/year. These results stress the importance of good asthma control and the impact in the elderly asthmatic population where a prolonged duration of disease is evident.

Spirometry, Pulmonary Function Tests and Bronchial Hyperresponsiveness (BHR)

A final diagnosis of asthma is determined when either clinic spirometry or pulmonary function tests demonstrate airflow obstruction that improves significantly, defined as both a 12% and 200mL improvement in forced expiratory volume in one second (FEV1) in response to inhaled bronchodilator.[11,12]

The presence of a normal diffusing capacity for carbon monoxide (DLCO) can be useful to differentiate patients with asthma from patients with COPD; nevertheless, patients with asthma and a history of smoking may also present a reduced DLCO.[13]

Bronchial hyperresponsiveness (BHR) has long been considered a differentiating feature of asthma.[11,12] The role of BHR in the elderly is a matter of debate. Scichilone *et al*. in a review of eighteen studies showed a positive association between age and airway hyperresponsiveness, the prevalence of which appears to increase in the elderly.

DIAGNOSIS OF ASTHMA IN ADVANCED AGE

One of the crucial issues related to asthma in the most advanced ages is the proper recognition of the disease. The question is whether the traditional diagnostic algorithm can be applied in older individuals.

Self-limitation of activities, social isolation, and depression further contribute to underdiagnosis of asthma in older adults.[14] The condition that presents the greatest diagnostic confusion for asthma among older persons is COPD.

Although asthma and COPD share symptoms, their presentation is typically different. Wheezing, the most common symptom of asthma in the elderly,[15] can be also attributed to other pathological conditions such as COPD, cardiac failure, acute bronchitis, bronchiectasis, gastroesophageal reflux, aspiration or inhalation of foreign body, and tracheobronchial tumors.

Studies in older populations confirm substantial under-diagnosis by as much as Dow and co-workers,[16] in a cross sectional survey of 6,000 residents of Bristol over the age of 65, not taking asthma treatments, reported an estimated population prevalence for untreated asthma of 1.7%.

The diagnostic challenge is exacerbated by the reduced reliability of normal predicted spirometry values in the elderly population which are frequently extrapolated from younger age groups.[17] Further, old age (71-73 years) was an independent predictor for unsuccessful spirometry as defined by American Thoracic Society testing criteria amongst a

Table 1: *Common pitfalls in diagnosing asthma in the elderly*

Pitfall	Is it useful indiagnosing asthma?	Comments
Absence of reversibility	No	Elderly asthmatics may develop fixed airflow limitation
Impaired *D*LCO	Yes	*D*LCO should be normal in asthmatics
Smoking	No	Unfortunately, asthmatic patients do not avoid smoking
Disability	No	Presence of disability is not confined to COPD
Absence of allergy	No	Elderly asthmatics often are non atopic
Presence of allergy	Possibly	If associated with a long disease duration
Long disease duration	Possibly	Asthma starting in young age does persist

Norwegian randomly selected population (Table 1).[18]

High-resolution CT scan (HRCT) has been proposed as an additional tool to assess pulmonary structural changes in long-standing diseases, such as asthma and COPD.

High-dimensional biological techniques (e.g., genomics, metabolomics) allow assessment of disease biomarker profiles.[19] This provides opportunities to discriminate disease entities based on composite molecular signatures.

Exhaled air is known to contain thousands of volatile organic compounds (VOCs) that are derived from various metabolic and inflammatory pathways in the lung.[20] Fens *et al*.[20] showed that "breath prints" from patients with asthma were different from patients with COPD (accuracy 96%), from nonsmoking control subjects, and from smoking control subjects.

Pharmacological challenges in the treatment of geriatric asthma

Pharmacological treatment of asthma in the elderly needs to be administered with care as this population is more likely to experience medication side effects and is also more likely to suffer from drug-drug interactions.

Ageing is associated with pharmacokinetic changes that are primarily due to the decline in the function of the liver and the kidneys. As a consequence, absorption, distribution, metabolism and excretion of anti-asthmatic medications can be affected to a variable extent. In elderly subjects, the lack of coordination between activation of the device and inhalation of the active drug may increase the oral deposition and decrease the lung deposition, thus reducing the efficacy and increasing local and systemic side-effects.

ICS are the cornerstone of the pharmacological management of patients with persistent asthma at all ages.[21] However, particularly in the geriatric population, the long-term and high-dose use of ICS may be associated with increased risk of adverse events.

Bronchodilators are also affected by ageing- related changes of their pharmacokinetic andpharmacodynamic properties.[22] This has been demonstrated for β2-agonists, anticholinergics and theophylline.[23] β2-adrenergic agonists, either short-acting β2-agonists or long-acting β2-agonists (LABAs), bind the β-adrenoceptor, whose response is different in elderly asthmatics due to increased sympathetic system activity, reduction in adenyl cyclase responses, and reduction in β2-adrenergic receptor number and affinity with ageing.

Beta-agonist therapy can cause tremor, a dose dependent reduction in serum potassium and tachycardia. Tremor is a common concern in the elderly asthmatic and it is caused by β2 stimulation of skeletal muscle. Beta-2 agonists are recommended as first line reliever therapy in asthma guidelines.Indeed, some elderly patients respond better to anti-cholinergics than to beta agonists

Theophylline is recommended in patients with uncontrolled asthma despite combination inhaler therapy – Global Initiative for Asthma (GINA - Step 3). Theophylline must be used carefully in the elderly population and is associated with a number of adverse effects particularly when drug levels are above the therapeutic range.

A qualitative survey of elderly Australian asthmatics observed that 37% of respondents were concerned about medication side effects. Further, 41% reported side-effects from their preventer medication most commonly including voice changes and a sore dry throat. Fifty-one percent reported adverse outcomes from their reliever medication, particularly tremor. Such concerns constitute a significant barrier to regular asthma medication use.[24]

An exciting field in the treatment of asthma is the possibility to treat elderly patients with severe asthma with monoclonal antibodies (*i.e.*omalizumab). Previously published data have confirmed that omalizumab is as effective in elderly asthmatics as it is in younger patients: in different studies, anti-IgE treatment was shown to reduce exacerbations and symptoms in patients aged 50 years and over.

COMORBID CONDITIONS

The geriatric patient is (almost by definition) characterized by the concomitant occurrence of multiple diseases, the number of which increases with ageing. Soriano *et al*.[25] demonstrated that in elderly asthmatics, the spectrum of comorbidities in primary care resembles that of COPD, with angina (3.5%), cataract (3.0%) and osteoporosis (2.7%) being the most prevalent conditions.

Elderly patients with asthma are also frequently affected by cognitive impairments. This comorbid condition can be underdiagnosed in clinical practice and have detrimental consequences for the control of asthma.

MEDICATION ADHERENCE

Medication non-adherence is a problem when managing any medical patient and asthma is no exception. Patients with severe asthma who are non-adherent have poor symptom control, increased reliever medication, and increased emergency department presentations and hospital admissions.

Community based studies describe suboptimal drug delivery with both metered dose inhalers (MDI) and dry-powder devices in an elderly population. Non-adherence to asthma treatment can also be intentional. The physician must consider the possible risk factors for intentional non adherence so they can be addressed proactively.

Bozek *et al*.[26] identified poor cognition and depression as major risk factors for poor adherence in an elderly asthmatic population. Poor compliance was associated with poor asthma control as measured by the Asthma Control Test.

INHALATION TECHNIQUE

The pharmacological management of asthma is mainly based on inhalation therapy. In the elderly, the patients' ability to handle the inhalers may then play an important role. Inhaler technique is strongly influenced by the cognitive impairments, both those clinically evident (*i.e.* dementia) and those subclinical, which are more difficult to detect and more prevalent in the geriatric population.This implies that older asthmatics should receive appropriate instructions and the inhaler technique should be constantly assessed.

In most of these cases, drug Nebulization offers pertinent & relevant strategy to deliver therapeutic dosages for these patients with cognitive deficit, pMDI coordination issues, Low inspiratory flow rates (<30 L/min), 'frequent' exacerbations, increased frequency or higher dosages of SABA inhalation.

The new generation Mesh nebulizers as highlighted below (Table) offer several advantages including convenience for home nebulization as maintenance with noiseless operation and short nebulization time delivering therapeutic dosage with simple Tidal breathing within 5 to 7 mins when administering Solution or Suspension-based formulations involving SABA, SAMA or ICS including Budesonide.

Table 1: Clinical variables determining the choice of Nebulizer device

Parameter	Jet Nebulizer	Ultrasonic Nebulizer	Vibrating Mesh Nebulizer
Power Source	Compressed gas or Electric	Electric	Electric or Battery
Portability	Limited	Limited	Portable
Performance Variability	High	Intermediate	Low
Cleaning	After every use	After every use	After every use
Ability to nebulize Suspension (ICS)	Yes	No	Yes
Noise	+++	-	-
Additional space to operate	Yes	No	No

IMMUNOSENESCENCE

In these patients the lung function decreases with age with decreased response to bronchodilators and glucocorticoids. The pathobiology in these cases is rarely IgE mediated, and often develops with component of irreversible airway obstruction. The Naive T cells decrease, memory T cells increase, B-cell function decreases, but less impact on innate immunity. Similarly the Eosinophil function remains the same, but neutrophil numbers increase leading to immunosenescence with increased susceptibility and severity of infections or underlying inflammation.

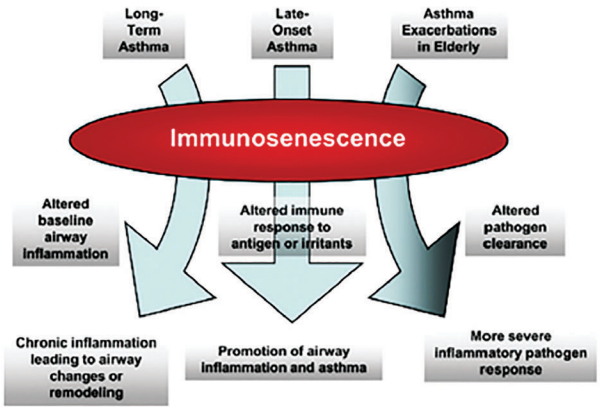

Fig. 2: Immunosenescence with related complications

Table 2: Pharmacological interventions in management of Asthma in Elderly

Characteristic	Associations	Specifically targeted treatments
Severe allergic asthma	Blood and sputum eosinophils	Anti-IgE (adults and children)
	High serum IgE	Anti-IL-4/1L-13
	High FeNO	Anti-IL-4/1L-13
Eosinophilic asthma	Blod and sputum eosinophils	Anti-IL-5
	Recurrent exacerbations	Anti-IL-4/1L-13
	High feNO	Anti-IL-4 receptor
Neurotrophilic asthma[$]	Corticosteroid insensitivity	Anti-IL-8
	Bacterial infections	CXCR2 antagonists
		Anti-LTB4 (adults and children)
		Macrolides (adults and children)
Chronic airflow obstruction	Airway wall remodeling as increased airway wall Thickness	Anti-IL-13
		Bronchial thermoplasty
Recurrent exacerbation	Sputum eosinophils in sputum	Anti-IL5
	Reduced response to ICS and/or OCS	Anti-IgE (adults and children)
Corticosteroid insensitivity	Increased neutrophils in sputum[$]	p38 MAPK inhibitors
		Theophylline (adults and children)
		Macrolides (adults and children)

FeNO: exhaled nitric oxide fraction; IL: interleukin; LTB4: Leukotriene B4: ICS: inhaled corticosteroid: OCS: oral corticosteroid: MAPK: mitogen-activated proten kinase. £:Unless otherwise stated, these potential treatments apply to aduts; [$]:neutrophilic asthma is rare in children.

MANAGEMENT

The suggested management strategy revolves around phenotypic approach in such cases of bronchial asthma with further assessment of the underlying pathobiological mechanisms that may determine the positive outcomes for the interventions that are employed or suggested as in the guidelines.

SUMMARY

Notwithstanding the recent advances in understanding of the disease or obstructive airway diseases with the availability of wide array of options that may be called upon to be utilized in these cases the clinical differentiation between Asthma and COPD plays an important yet pertinent role in ensuring therapeutic success or outcomes in such cases. This is especially so since in elderly patients with long-term asthma, reversibility of airway obstruction is diminished, and a disease pattern similar to COPD may develop. In addition, smoking and ageingincreasesBHR. Furthermore, the neutrophils are increased, resulting in asthmatics with a COPD phenotype.

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ASHA – A Resource In Elderly Care

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Abstract

Health Human resources (HHR) are defined as "all people engaged in actions whose primary intent is to enhance health" by World Health Organization (WHO). ASHA or the' Accredited Social Health Activist' is a community health worker instituted by the Ministry of Health and Family Welfare, GOI, as part of National Rural Health Mission (NRHM) programme in 2005. The program is guided by the philosophy of empowering the women who do not have alternate job opportunities; or career.

Keywords: *Accredited Social Health Activist, ASHA, Elderly*

Health Human resources (HHR) are defined as "all people engaged in actions whose primary intent is to enhance health" by World Health Organization (WHO). They are the core building blocks of a health system and include physicians, nursing professionals, midwives, dentists, allied health professionals, community health workers, social health workers etc. They also include as well , health management and support personnel, those who do not directly deliver services but are essential to the effective health system functioning.

"Community Health Workers" refers to a variety of health care providers. In India, these workers are known as :village health worker (VHW); community resource people (CRP); traditional birth attendants (TBA); and ASHA & Aanganwadi workers (AW). They are called by different names in different countries, i.e. 'Promoters' in Latin America; Lady Health workers (LHW) in Pakistan; Health extension workers (HEWs) in Ethiopia; Barangay Health Volunteers (BHV) in the Philippines; and Community Health Agent (CHA) in Brazil.

The distribution of professional health workers has been an issue of concern, especially in developing countries. In India, due a variety of social and interlinked professional reasons has resulted in an urban centric skewed distribution of these professionals. Resultantly, marginalized groups such as women, children and the elderly have been relative casualties as far as delivery of health services is concerned.

Over the years, "Task shifting" of primary care functions from professional health workers to community health workers has been found to be a more efficient means to make use of the human resources currently available and improving the health of millions at reasonable cost.

ASHA or the' Accredited Social Health Activist' is a community health worker instituted by the Ministry of Health and Family Welfare, GOI, as part of National Rural Health Mission (NRHM) programme in 2005. The ASHA is envisaged an "agent of change". Her role is to provide accessible, affordable, and accountable quality health services and serve as a key communication mechanism in between the health care system and population. ASHA is a promoter of good health practices making the community aware of the various Govt. health programmes and related facilities. Resultantly, people are coming out to avail these services and many positive health outcomes have been achieved.

Who exactly could be an ASHA? The ASHA must primarily be female resident of the village/ area they are likely to serve; likely to remain in that village/area for the foreseeable future. Married, widowed, divorced, women are preferred over women who have yet to marry as there is a chance that she may migrate/move away. The provision of education up to 10th Std. and ages between 25-45 years is relaxed if no suitable person is available. Further, fluency in the language of the area is essential. She is a grass root voluntary worker who is engaged to work in the community

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of residence which helps them to identify the problems of the community and find solutions for these problems with community involvement and participation.

A proper support mechanism has been set up by the states to provide guidance and advice on matter relating to selection, training, and support. ASHAs are trained through a series of modules by the Government and given an individual ID which is registered on the Health Management Information System (HMIS) portal. Each State oversees the programme conforming to the guidelines of NRHM.

What motivates the ASHA to enrol in the program? The program is guided by the philosophy of empowering the women who do not have alternate job opportunities; or career. The rural women consider being an ASHA as a magnificent opportunity to empower their selves, socially, personally and financially. Further, the Govt. identity of the program motivates them to be a bridge between the community and the public health care system. Other motivators are (i) better use of time; (ii) lack of alternative job opportunities; (iii) sense of social responsibility; (iv) having natural cultural awareness; (v) adaptability to local requirements and needs; (vi) enhancement in their family and social status, amongst others. The acquisition of knowledge and skills empowers them.

The ASHA is required to cover a minimum of 400 houses or a population of 2000, inter-alia, identifying pregnant women; collecting children for immunisation, delivering adolescent health and elderly care. She also motivates women for institutional delivery; encourage family planning, keep demographic records, give palliative care for geriatric population and hold community meetings on regular basis in few states among others. She provides health education that affects life style choices and individual health behaviour, related to health status; delivers a variety of community based health care services and is particularly important in areas where the use of facility based services is low. She acts as an interface between the community and public health care system and is the first port of call for any health related demands of the deprived sections of population, especially women, children & elderly. She is committed to meeting the needs of the economically, culturally, and socially marginalised people, and engaged in collective action for social change .Her interventions work as a key empowerment strategy, changing her life and that of the whole community or the system in a positive direction.

ASHAs are not salaried but incentivised through payments under various schemes that she is part of; and her kits are replenished during the monthly review meetings at the PHC. Incentive is key driving force in degree of interest & willingness to undertake and improve upon an allotted responsibility towards community health. Incentives paid to ASHA can vary in different state programmes but unfortunately most of the States do not have fund provisions for elderly care.

Can the NGO / Pvt. Sector use this resource to compliment the mechanism of existing health structure? Greater involvement of grass root workers could inculcate a sense of collective accountability and learning. Focussed public recognition of ASHA by the sectors would motivate the worker positively and could influence utilization of health facilities (provided by the sectors) by the community. Also, greater interaction with the ASHA could further empower the community to take timely and appropriate decisions for their own wellbeing and health.

Elderly care is the mandate of responsibilities of the ASHA. She is aware of the family structure, hierarchy; stature of the elderly in the family; control of the elderly on the family & vice versa; how the elderly are taken care of; the resources of the family. If required the ASHA accompanies the elderly to a higher health centre for further health assessment, treatment. On a routine level also during her rounds she can & does follow up on the elderly treatment.

ASHA is the main catalyst for various public health programs, is well positioned as a lay diabetes facilitator to take diabetes care including other NCDs to grass root levels, if adequately trained and empowered. ASHA could be empowered through basic training regarding the NCDs to increase competencies to a level where the ASHA is able to identify elderly with high index of suspicion and guide them to available affordable care available in the community setting in private /NGO sector (The care may / may not be available in the Govt. sector). Further the sectors could conduct outreach programs for focussed identification of common NCDs, i.e. DM, CVDs including HT; Cancers etc. in the elderly, holding health awareness programs for the community in respect of the NCDs with active involvement of the ASHAs.

The curriculum for say, diabetes care, can be divided into modules covering topics that include introduction on diabetes, its types, risk factors, complications, nutrition, physical activity, use of glucometer, medications, building partnership with a diabetes health care Centre team, psychosocial effects of illness, problem solving strategies. Services of ASHAs can be utilised in spreading awareness on diabetes and ensuring that people with DM receive optimal care.

ASHA can play an important role in areas of diabetic care by conducting awareness raising campaigns on diabetes, generally to prevent the onset of DM and its complications, identifying cases of DM within the community and referring

them to suitable care facilities (target screening), blood glucose monitoring, monitoring for complications, diet and exercise counselling, checking on compliance with diet, exercise, medication, and blood glucose monitoring and thereby motivating and supporting better glycaemic control. Also, allaying fears and misconceptions in PWD requiring insulin injections, educating for proper storage conditions for insulin vials, encouraging regular follow ups at clinics, early detection of PWD with their complication like foot ulcers/tingling feet, blurring vision & their referrals, providing simple tips for foot care, identifying symptoms of hypoglycaemia and its management, and conducting self-help groups to build a better psycho-social network.

Stake holders from the pharmaceutical companies can build the capacity of ASHAs by investing in her training and providing glucometers and ancillaries at subsidised rates. ASHA can offer some of the above services at a nominal price in agreement with other stakeholders. This allows ASHA to generate her own incentive and will help in terms of achieving sustainability of the outreach diabetes care programme as an intended outcome. Training programs can be devised for diabetes care and their grasp of the subject can be assessed by pre & post-tests. ASHA in the role of lay diabetes facilitator can prove to be one of the promising solutions in a country that has absolute dearth of diabetic educators. When ASHAs are empowered by adequate knowledge and skills, complimented by government backing their acceptability and credibility also will be restored in the community.

The way of enhancing the reach for diabetes care with a gamut of outreach tools and innovative means of resource generation will rapidly alter the prevention and management goals of NCDs by decentralising diabetes care, the scope of which can be extended to other NCDs in future; community empowerment, implying community ownership and action that explicitly aims at social and behaviour change.

The private / NGO sector could supplement and support the Govt. domain through collective engagement of the community, participatory programs and management efforts which are rare and underutilised in India. The Govt. can provide infrastructural facilities and private corporate bodies can invest on raising awareness on diabetes in the community and on training local health care providers. By working together stakeholders can draw on their collective core competencies to create a more comprehensive set of capabilities.

Maagh, a 7th century, Sanskrit poet from Rajasthan in his epic poem "Shishupaal Vadha" has a very encouraging/ motivating passage:

"Brihatsahaavah kaaryaantam ksodeeyanapi", i.e. even small people can get their work done with the help of the big people.

Here the 'big' private institutions, NGOs, pharma companies can support a critical 'small' link at the community level (ASHA), already put in place by the Govt. sector, for complementing health care delivery pan community.

FURTHER READINGS

1. TBL_Quarterly_No2_2014_ONLINE_A community approach to diabetes care - doorstep deliver.
2. Community Health Workers in Diabetes Management and Prevention', AADE Practice Synopsis, Issued June 4, 2015
3. 'Evaluation of ASHA Program 2010-11 Report' published by National Rural Health Mission by its technical support institution; National Health Systems Resource Centre (NHSRC) located at NIHFW campus, Baba Gangnath Marg, New Delhi-110 067.
4. Gopalan SS, Mohanty S, Das A. Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) programme. BMJ Open 2012; 2:e001557. doi:10.1136/bmjopen-2012- 001557
5. Bhatt BR. ASHAs in Rural India, the Ray of hope for diabetes care. J Soc Health Diabetes 2014;2:18-24.

News from Kolhapur

GSI Kolhapur Chapter in association with Magdum endoscopy centre organized a camp for prostate check-up. This was to detect and differentiate between cases of BPH and Cancer Prostate. 55 patients were examined, their USG & PSA tests were done.

The doctors who participated in the camp were Dr. Vishvanath Magdum (urologist) Chairman elect of GSI Kolhapur; Dr. Anand Kamat (surgeon) Chairman GSI; Dr. Mahaveer Mithari; Secretary GSI Kolhapur along with other executive members of GSI Kolhapur.

Other scientific activities of GSI Kolhapur included: Lecture on Joint replacement by Dr Deepak Joshi, Falls in Elderly by Dr Sanjay Bajaj, Geriatric Medicine by Dr Anita Basavraj. Importance of Physiotherapy in elderly by Dr. Pranjali Dhamne. Dementia & Alzheimer's disease in elderly by Dr. P. M. Chougule. Importance of Preventive check up & vaccination in elderly people by Dr. Mahaveer Mithari. CME for doctors on urology update by Dr. Vishwanath Magdum. Awareness about Glaucoma by Dr. Sanjay Ghotane & Dr. Mahesh Dalavi, Anaemia awareness programme & free CBC check up by Dr. Abhijit Ganpule.

News From West Bengal

Barrackpore police commissioner Shri Subrata Kumar Mitra (IPS) inaugurated 'ARPAN'' a unit of Barrackpore police commissionerate for care & protection of elderly on 16th October 2017.

This will be a great service for the elderly in this area. This was possible because of the cooperation between Dr. Kaushik Ranjan Das President Barrackpore Elderly Care Society & President, Barrackpore federation of elder's association and Barrackpore Police.

WORLD ELDER'S DAY

World elder's day was celebrated by by Geriatric Society Of India West Bengal Branch & Barrackpore Elderly Care Society on 8th October 2017 at CMDA Nagar, Barrackpore, North 24 parganas, West Bengal. This was celebrated as "ELDER'S FAIR " from 9.30 am. to 2.30 pm in which there were "Indoor game competition, prize distribution & short cultural session".

About 400 People of different age groups (including senior citizens) attended & participated in the meet & the unique programme has become grand success.

All elderly were presented a nosegay of ROSE & gifts.

This was sponsored by SBI officers Association, Bengal Circle).

On this occasion Memory screening by ARDSI Kolkata chapter (40 nos.); Audiometry & display of hearing aid by SU-SHRUTA, Barrackpore (35 nos.); Physiotherapy & assisting devices by Ashotosh Chakraborty. Insurance & mediclaim by New India Assurance Co.; Uric acid by Lupin Diabetic care (58 nos.); Haemoglobin % by AJANTA. (58nos.); Spirometry by CIPLA (52 nos.); BMD, orthopaedic consultation & dental checkup (72 nos. both); sponsored by APOLLO CLINIC Barrackpore; ECG done by Rajat Chatterjee (42 nos.) & Blood sugar (40 no) by Overseas Pharma..& general health check up (100 no.) were done.

Three daughters in laws & two granddaughters were

awarded for their positive role in their elder's care, Discussion was chaired by Sri Sumon Ranjan Bandyopadhayay, meeting was attended by Chief Guest Shri. Utpal Biswas, Special Secretary, Department of power & NES, Govt. of West Bengal.

Following persons also graced the occasion by their presence as Special guest : Shri Uttam Das, Honorable Chairman, Barrackpore Municipality ; Sri Nirmal Kar (Upa Prodhan, Mohampur Gram ponchayet); Shri K.P. Bhattacharjee (CMIG & VNM) Dr. S.K.Gope (Ex-President, IMA Bengal Br.); Dr. Anadi Nath Biswas (Hon. Sec. IMA Titagah branch): Dr. H.S. Pathak (GSI); Dr. R.N. Maiti (GSI); Dr. Sibasish Bhattacharjee) Dr. Monoranjan Roy, Dr. N.K. Roy, Sri Dayamay Biswas (President CPDR), Sri Sunit Gope (President, National Human rights commission); & others.

Following resolution has been adopted after discussion. Since due lack of fragile bonding within a family and high living cost in a service centre, elderly (specially disabled/ partially disabled) will fall in tremendous distress in near future, hence it is opined that "maintaining stable family bonding is the most prominent tool for graceful ageing". Therefore all concerned, specially younger people are requested to work for maintaining firm bonding in families for giving peace in the mind of their elder's AND also for the sake of their own secured old age. Kind attention of Honorable Chief Minister, Govt. of West Bengal has been drawn for action on the following resolution –

(a) A new law is required to be passed in legislative assembly at the earliest & be implemented without delay, that will encompass at least the following matters-

(i) Protection of life & property of Senior citizens

(ii) Protection of Senior Citizens from abuses, that will also include mandatory opening of "Parent care fund" in the line of Provident fund by all employees Govt./Private, that will be utilized by State Govt. in case of denial of taking care of parents by concerned employee; refund after death of parents.

(iii) Specific provision for building, registration, accountability, monitoring & cancellation of registration of all old age homes in the State of West Bengal.

(iv) Separate department in the name "BAYASKYOSHRI" to be installed & make operational immediately—that will address all matters related to senior citizens with special emphasis on stability of family & intergenerational bonding since absolute majority of elderly are still living with family in our State.

Evening session comprised of short cultural session, indoor game competition & prize distribution.

News from Vijayapura

Dr Anand P Ambali was invited as guest faculty at National Conference on Ageing held at SVS Medical college, Mahabubnagar, Telangana. It was organised by department of Physiology on 30 and 31 August 2017. The title of talk was 'Modalities of care of Older People'.

Dr Anand P Ambali was invited as guest speaker at Update in Geriatric Medicine, organised by Department of Medicine, Krishna Institute of Medical Sciences, Karad on 04/10/2017.

He delivered two talks at the CME.

GSICON 2017

1st October, Sri Venkateswara Medical College, Tirupati, Andhra Pradesh

Prayer & lighting lamp by organising committee

Dr. M.S. Sridhar being felicitated

INAUGURATION

The Chief Guest in the inaugural function was Sri. T. Rajan, freedom fighter & former MLA. The other dignitaries on dias were Dr. O.P. Sharma – GSI Secretary, Dr. M.S. Sridhar – President GSI, Dr. PS Shankar –Patron GSI, Dr. N.V. Ramanaiah – Principal SVMC, Dr. Rames Nath. L.- President SVMC Alumini, Dr. Ashok Kumar Reddy – Chairman GISICON, Dr. R. Ramesh –Co-chairman GISICON and Dr. Kireeti – Organising Secretary of GSICON.

President Oration –
Dr. M.S.Sridhar –
Caring elderly, time to act.

Bamcharan Hemalata dhar Oration –
Dr. O.P.Sharma-
Relevance of adult immunisation

Guest lecture-
Dr. Pratibha Pareira –
Living beyond 80: rural scenario

Guest lecture-
Dr. Bindu Menon – Stroke.

Guest lecture-
Dr. Anitha Basavaraj –
Osteoporosis

Guest lecture –
Dr. Nutan Agarwal –
Menopause- not a pause in women's life.


Sri Tirupati Balaji Oration - Dr. P.S.Shankar- Frailty, a geriatric syndrome.

Dr.B.C.Bansal and Dr.C.Prakash Oration- Dr.Garima Handa- "ASHA" : Resource in elderly care

Dr. J.J.Rao Oration- Dr. Nagineni Bhaskar Rao – CKD stage V patients on MHD with south Indian data

Dr. B.N.Srivastava and Saral Dulari Oration – Dr.J.K.Sharma- Indian perspective of elderly diabetics

Symposium- Dr. Lochana Shrestha- Longterm care of elderly people in developing countries

Symposium on Pneumonia in Elderly – Dr. Anil Ambali – Clinical features & Investigations

Symposium on Pneumonia in Elderly – Dr. Nikhil Sarangadhar – Epidemiology & Etiology;

Symposium on Ageing Influence and Health – Dr. H.K.Rao – CVS

Symposium on Ageing Dr. M.E.Yeolekar – Brain

Guest Lecture – Dr. Kausar Usman – malnutrition in elderly a challenge

State of art lecture – Dr. Puneet Khanna– Preventive vaccine in old age

Dr.Subramanyam Reddy oration – Dr. K. Narasimha Reddy – Prevention of coronary heart disease among elderly

Dr. K.C. Mohanthy Oration – Dr.Agam vora – Bronchial asthma, does it exist in elderly

Symposium – Dr. Sachin Desai – Adverse drug reactions following poly pharmacy among elderly

Symposium – Dr.Sanjay Bajaj – Falls in elderly

Guest lecture – Justice Durga Prasad – Legal rights of Elderly

Dr. A. Keerthi - Neurological problems and care after fall

Dr. Puneet Khanna – COPD in elderly, unmet needs

Dr. Prabha Adhikari MR – Total pain management in geriatric population

Dr. Racchana Fadia – Poisons in skin care and cosmetics

Symposium on Pneumonia in Elderly – Dr. Sandeep Tamane – Treatment & Prevention

Symposium on malignancies in elderly – Dr.Sushila Narayan – CA breast, Dr. GRV Prasad – Gynacological malignancies, Dr. Vijaykumar Srinivas – Does the age matterin management decision making among the elderly cancer patients ?

Symposium – Dr. M.V.Jali – Long-term care of elderly diabetics;

Chief Guest His Lordship Justice Sri N. Ramesh Ranganathan, CJ, High court of combined states of Telengana & Andhra Pradesh

VALEDICTORY FUNCTION

Dr. MS.Sridhar, Dr. OP .Sharma, Dr. PS. Shankar

Prize distribution to winners of free paper and poster sessions


Dr. Krishnanjan Chakraborty

FIRST ANNOUNCEMENT


Dr. Kaushik Ranjan Das

National Midterm conference of Geriatric Society of India

Organized by Geriatric Society of India West Bengal Branch
In association with Medica Superspecialty Hospital, Kolkata

Date: Sunday 18th March 2018, Venue: Hotel Hyatt Regency, Kolkata

Respected colleagues,
We are passing an era where there is a global increase in elderly population, age related diseases, disabilities, socio-economic & environmental issues related to senior citizens. The same problems are in India.
Since medical management of elderly is different from their adult counterpart, Geriatric Medicine has emerged internationally as a separate medical specialty.
Looking at this, Geriatric Society of India West Bengal branch is organizing "National Mid Term Conference" of Geriatric Society of India on Sunday 18th March 2018 at Hotel Hyatt Regency in the City of Joy Kolkata, which is also famous for Dakshineswar Kali Temple, Kali Ghat Temple, Victoria Memorial and Rosogoollah.
We invite your active participation as esteemed delegates.

With warm regards

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