Review Article

PAID-IVF — A Quick Reminder for Care Givers of Geriatric Patients

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Due to increase in longevity, the number of people in geriatric age group is increasing day by day. Due to multiple physical and socio-economic problems they have to depend upon care-givers and sometimes circumstances compel them to stay in "old age homes". Addressing their problems, care-givers or support-staffs of these institutions should be trained in user-friendly as well as patient-friendly screening procedures.

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Though medical research often defines person as elderly, when he is of 65 years or above; defining elderly age by chronology alone has its limitations. Although WHO defines persons as elderly, if they are 65 years or older, for monitoring of demographic and socio-economic profile in Africa, a person is defined as elderly, if they are 50 years or older (United Nations 2012)17th September 2015. Again as per OECD (Organization for economic co-operation and development-an organization of 38 countries) data, the elderly population is defined as people aged 65 years and above[1].

As per 2011 census, there are 104 million older people (60+years) in India, constituting 8.6% of total population and among the elderly, females outnumber males[2].

Problems :

Ageing is a natural phenomenon, being governed by theories like defects in mitochondrial DNA repair, Telomere attrition etc and manifested by multiple problems viz, Sarcopenia, Cancer, Dementia, Cataracts, Heart Disease, Arthritis, Osteoporosis, Immuno-senescence, frailty (thus coining terms viz, multimorbidity) and thereby increases the mortality and morbidities of this vulnerable population. This condition of multimorbidities invites another problem ie, polypharmacy, as the effects as well as side-effects of many drugs are potentiated in this old age group.

Though older people are a valuable resource for any society, increase in longevity and decline of joint family and breakdown in social fabric pushes seniors into loneliness and neglect. Here comes the role of "Care-givers" and the concept of "old age homes",

Editor's Comment :

- Support staff play an important role in addressing the multimorbidities of geriatric age group.In fact they being the missing links between the treating physician and elderly persons living in institutions like "Old age home" or in remote places, they should not be overburdened. And as such a simple,user-friendly, ready to use screening tool must be there to address the different problems old age, so that the treating doctor can intervene at the ealiest, according to gravity of the situation.

where these old people can live safely in a community, with availability of nursing home level care, as and when required.

Proposals :

So to maintain a comprehensive care of this vulnerable population, there must be a guideline for the support-staffs of these institutions, like one exists as" 5M's of geriatrics" (mentation, medication, mobility, multicomplexity and matters)[3], meant to optimize utilization of existing resources during hospitalization of older adults,by focusing on key geriatric issues. So, there must be a screening procedure to address the problems of this vulnerable population, which would be comfortable not only to treating doctors, but also to support-staffs of these institutions.

Hence, a quick reminder for Care providers or support staff of elderly is being proposed-its in the form a mnemonic,**"PAID-IVF".**

P — Pain (chronic pain due to any cause viz, Cancer, Arthritis, Osteoporosis etc); Paralysis

A — Anxiety; Altered bowel habits

I — Insomnia

D — Depression; Drugs; Dentures; Difficulties in breathing

I — Incontinence; Impaired hearing

V—Voluntary movements; Vaccination; Visual impairment

F — Falls (due to cardiovascular or neurological or orthopedic causes); Forgetfulness

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Pain & Paralysis :

Degenerative spine and arthritis related disorders of musculoskeletal systems are the most common cause of chronic pain in the elderly. Ischemic pain, neuropathic pain and cancer related pain are other important contributors. Prevalence of vertebral compression fractures is high in geriatric women resulting pain and discomfort. Identification of pain, assessment of intensity using different subjective tools, impact on quality of life, non-pharmacological therapy including physiotherapy, cognitive behavioural therapy and introducing pharmacotherapy following the concept of 'analgesic ladder'' after adequate informed counselling by the prescriber. Analgesic ladder concept includes assessment of intensity followed by specific drugs. For (a) mild pain - the first choice is paracetamol, (b) mild to moderate pain or pain uncontrolled with paracetamol - NSAIDs, (c) Pain refractory to NSAIDs - weaker opioid agonist like tramadol (d) For pain refractory to the previous plan, or severe pain - pure opioid agonist like morphine, pethidine, buprenorphine, trapentadol like adjuvant medication may be added for synergism with the existing medications[4].

Paralysis of limbs needs urgent attention for care givers. Paresis or complete paralysis; flaccidity or spasticity; location of paralysis are different issues which need to be understood by care givers and communicated promptly to physicians for early interventions.

Anxiety & Altered bowel habits :

Anxiety is common in elderly, 10% of adults over the age of 65 estimated to have an anxiety disorder. It includes generalized anxiety disorder, panic disorder and Post-Traumatic Stress Disorder (PTSD). As stressful life events are very common in elderly like experiencing recent losses in the family or suffering from a chronic illness, development of an anxiety disorder is common. Caregivers should be adequately trained to identify these conditions to address promptly to doctors[5].

Altered bowel habits in elderly need vigilant approach. Many cases these are associated with irritable bowel syndrome which requires proper assurance and education. In a few cases they should be counselled for warning signs like frequent alteration of bowel habits, bleeding per rectum, weight loss which requires urgent follow up by physicians. Chronic constipation is a common problem in this age group,which should be initially dealt with life style modification,such as scheduled toileting after meals, increased fluid intake,increased fibre intake; and if not relieved,then with the judicious use of drugs along with necessary investigations (if required).

Insomnia :

Prevalence of insomnia symptoms is very common in geriatric population ranging between 30% to 48%. Complain of difficulty falling or maintaining sleep, or non-restorative sleep, producing significant daytime symptoms including difficulty concentrating and mood disturbances are concerning complications in elderly which affect their quality of life. Clinical diagnosis of insomnia is extremely crucial considering factors like demographic, psychosocial, biologic and behavioural issues. Late-life insomnia results in increasing risk of different medical and psychiatric illnesses. Caregivers should be adequately educated to identify insomnia and for providing non-pharmacological management[6].

Depression, Drugs, Dentures & Difficulties in breathing :

4 'D's including "Depression","Drugs", "Dentures" and"Difficulties in breathing" need special attention while caring elderly population.

Depression in elderly population is a common psychiatric disorder affecting quality of life significantly. Study conducted in USA had suggested that 2% of adults aged 55 years or older are suffering from major depression. With increasing age prevalence rises. Clinically significant depressive symptoms were found in 10% to 15% of older adults. Undetected or inadequately treated depression is common in geriatric population. Antidepressants, psychotherapy, exercise therapy, and in limited cases electroconvulsive therapy have some role. Patients suffering from mild to moderate severity depression require psychotherapy. Same doses of antidepressant medications are required in elderly population like younger adults. It is important to educate care givers to raise awareness regarding adverse effects of antidepressants, interactions with other medical comorbidities and drug-drug interactions. Use of drug therapy for depression in patients with dementia is not beneficial as per high quality evidences[7].

Drugs and related issues like PK-PD changes with ageing, polypharmacy, drug-drug interactions are important concerns in elderly. Medication history and using medicine card (brown bag concept) need to be taken care and treating physician should be explained by care givers about ongoing therapeutics in great details. They should be aware regarding common adverse effects associated with drugs, so that they can presume them early and seek medical care attentions. Adherence is another issue need to be

emphasized while discussing drugs. Screening Tool of Older People's Prescriptions (STOPP) and Screening Tool to Alert to Right Treatment (START) criteria are important tools to prevent inappropriate prescribing in elderly, detailed medication history provided by care givers including history of OTC drug intake, AYUSH drugs are essential to ensure appropriate prescribing[8]. Elderly persons are susceptible for prescribing cascade related atrocities. Early diagnosis and timely deprescribing can prevent this[9]. Caregivers should be adequately trained for providing detailed medication history.

Eating, social interaction and communication difficulties along with compromised quality of life are commonly associated problems with dentures in geriatric population. Information about oral health in geriatric population needs to be generated. To raise the confidence and self-esteem of geriatric population with poor oral health need to establish access of proper therapy, affordable quality artificial dentures and proper counselling is needed. Care givers should be adequately educated to take care of elderly patients with dentures[10].

Difficulties in breathing should be assessed by care givers using pulse oxymeter, respiratory rate counting, blood pressure and pulse measurement. They should be adequately trained to check any bluish discoloration of tongue or any specific part of body. In case of provision of telemedicine, video consultation they should be adequately trained on JVP examination posture and location to focus by camera. In case of increasing pedal swelling they should be counselled to monitor sacral oedema and how to examine it.

Incontinence & Impaired hearing :

Urinary incontinence(accidental or involuntary loss of urine from the bladder) is another important issue in this age group,as urine incontinence makes an individual feel isolated,rejected from the society and make them anxious and dependant on others.Nearly 5 to 15 percent of men with the age of 60yrs, and above suffer from urinary incontinence[11]. Urine incontinence may be broadly classified into stress incontinence,urge incontinence,overflow incontinence etc, and may be due to various reasons, which need special attention by an expert in this field,such as Urologist. Women generally suffer from stress or urge incontinence. There may be embarrassing situations like "Nighttime incontinence" in the elderly, which may be due to diabetes, urinary tract infections, side effects of medications, neurological disorders, anatomical abnormalities, overactive bladder, enlargement of prostate and many other causes (or rarely due to anxiety or emotional problems); which are to be addressed accordingly.

Impaired hearing is another problem,which may cause depression,anxiety,social withdrawal,frustration or decline in cognitive skills in older adults.Hearing loss may be accompanied by tinnitus, another irritating problem. Presbycusis or age related hearing loss may run in families and a person,suffering from this ,cannot tolerate loud sounds or may not understand clearly,what others are saying[12].

Voluntary movements, Vaccination & Visual impairment :

There may be problems with voluntary movements due to neurological, cardiovascular, locomotor (arthritis) or many other causes, which are to be addressed sympathetically both by the treating physician and the support staffs or care givers

Vaccination is a big issue as the vaccines like influenza and pneumococcal vaccines are safe and effective.Decreased immunity along with physiological changes, poor health and multiple co-morbidities make this population vulnerable to various infections. Infections like pnemococcal, influenza, tetanus, zoster and COVID-19 are major causes of morbidity and mortality of this age group, causing large number of deaths and hospitalisations, thus further strengthening the need for a comprehensive immunisation programme of this age group.

As per the LASI (Longitudinal Aging Study In India, Wave 1) data prevalence of blindness is higher among the elderly (60 years and above) residing in rural areas (4.3%) than among those in urban areas (2.7%)[13]. The most common causes of vision loss among the elderly are age related macular degeneration, glaucoma, cataract and diabetic retinopathy[12]. In a further study regarding "Falls and visual impairment among elderly residents in 'homes for the aged ' in India Srinivas Maramula, *et al* showed that the prevalence of falls was higher among those with visual impairment due to uncorrected refractive errors and this was more so in elderly individuals living in ' homes for the aged ' in Hyderabad, India[14]. So addressing impairment of vision may result in fewer falls and thus contribute to healthy ageing in addition to other benefits of correction of vision for this age group.

Falls & Forgetfulness :

Falls in the elderly are a common and serious health problem with devastating consequences, for which various risk factors have been attributed and thus falls can be prevented through several evidence based interventions. So identifying at-risk patients is the most important part of management, as applying various

preventive measures in this vulnerable population can have a profound effect on public health. So treating physicians and accompanying care-givers must be very much vigilant about screening of older patients, who are at risk of falls, so as to apply preventive measures as and when required.

Regarding forgetfulness, this can be stated that age related memory loss and dementia are two different conditions though they may share some overlap in symptoms. Though normal forgetfulness, often caused by lack of focus, never progresses into serious territory, whereas dementia will generally get worse over time[15]. Memory and other thinking problems may be due to depression, infection, injury or side-effects of medication and sometimes cognition improves if the problem can be identified and treated successful. But the course of the problem like a serious brain disorder, such as Alzheimer's disease will go more or less downhill. So a treating physician as well as a care-giver should be vigilant about the fact that, whether the loss of memory is accompanied by warning signs like impairment in reasoning skills, judgement, language or there is personality disorder or not .

However the mnemonic "PAID IVF" is, so as to say, user-friendly, almost self-explanatory, and easy to remember the geriatric problems—which are to be dealt with, according to the importance and gravity of the situation. Obviously, enquiries by the support staffs of "old age homes" or "Health care facilities" (specially designed for elderly people) are to be made in local dialects/vernaculars, so as to make it patient-friendly.

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