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Burden of Managing Older People with Chronic Ill - Health in Developing Countries: A Case for Pakistan

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Ageing is the most pressing problem of this era[1]. With improved scientific understanding of the ageing process and developments in medical science the dream of longevity is turning into reality. Advent of life enhancing medications and combination of such compounds has opened new frontiers[2]. As a result old age has become an important health and social issue in most countries[3].

Exposure to old age and particularly extreme old age is a new phenomenon for many developing countries including Pakistan. Experience of providing health care to elderly patients particularly those over the age of 80 years with complex interactions of medical, psychological and social problems is limited. Physicians in industrialised nations' particularly United Kingdom trail blaze the frontiers of Geriatric Medicine though the expertise is predominantly in secondary care.

All over the world older population is growing faster than the total population and the difference in growth rates continues to increase. In 1950; 1 in every 12 individuals was 60 years of age but by the year 2050, more than 1 in 5 person will be aged 60 or over[4]. The health needs for this population will be significantly higher. In industrialised countries elderly patients occupy majority of general and acute hospital beds and these countries became affluent before their population aged, hence had resources to manage this change.

In Pakistan elderly population is increasing rapidly but economic stability and health care infrastructure lags behind. Geriatric Medicine as a speciality is not established and rehabilitation services or psychogeriatric medicine is inaccessible in public sector. It is not surprising that Global Age Watch Index 2015 rates Pakistan at the bottom of the league table for the health of older people[5]. There are 12.5 million people over the age of 60 years currently in Pakistan and this figure is likely to double by 2050. Hence, understanding of the demographic changes occurring within Pakistani society and the implications of these changes on health care is essential.

After the age of 60 the spectrum of diseases change and the branch of medicine that deals with middle age and beyond is called Geriatric Medicine. This speciality encompasses not only the clinical or rehabilitative processes but also the preventative and social aspects of illness. There is a close association between ageing and chronic disease and the current trends indicate that chronic disease will form a much higher share of overall disease in Pakistan. Worldwide chronic diseases are the largest cause of death. One in four adults in USA suffer with chronic disease[6]. Hence the health service planners in Pakistan must prepare for adaptations likely to be required in not so distant future.

There is no agreed definition of old age as the elderly are not a uniform group. The spectrum of disease starts to change and disability rises after the age of 60 years. For service development, they could be separated into three main groups and each group has a broad range of needs and requirements. The young elders mainly around 65 years of age comprise of many who have recently retired and are medically stable. The main focus for service development is to extend disease-free active years. Disease prevention and maintaining independence is the key requirement for this group. The transition between active life and frailty occurs between 65 and 80 years. This group is in transition between

healthy active life and frailty. The goal for service provision is to prevent disease, treat existing pathology and reduce the burden of chronic disease and dependency. The frail elderly are generally over 80 years of age with multiple chronic diseases. They merit particular attention as they have a higher level of chronic disease and disability. The challenge is to recognise the complex interactions of physical, mental and social issues and develop services which meets the needs of these patients and their carers. Experience of managing chronic disease in industrialised countries is invaluable for countries such as Pakistan[7].

In old age the combination of multiple chronic pathology makes predicting the course of illness difficult[8]. There is different pattern of disease presentation in old age due to combination of physical, psychiatric and social problems with somewhat altered response to treatment. These patients require comprehensive multidisciplinary assessment and access to rehabilitation services to help restore them to their maximum ability. Essential components of Geriatric Medicine include multidisciplinary and multi-professional approach, early objective setting and rehabilitation as core therapy[9]. In secondary care early discharge planning plus rapid and safe discharge to community is a priority.

There are several models of secondary care service delivery for older people which have developed in relation to the needs of the elderly population in the community. All models share the primary goal to ensure that elderly patients have access to a specialist service. The traditional 'needs-related' model of care is preferred for a service which is based at a non-acute site, whereas the 'age-related' model has been favoured by many acute hospitals. There are several variations of these models which have evolved over the years but the 'integrated model' has been practised in most hospitals in the United Kingdom. With the development of Acute Medicine as a separate speciality, various models of care are being developed with combinations of models where geriatricians have key responsibility in running medical admission wards as well as delivering care for frail elderly patients in primary care. Improving delivery of Geriatric Services in primary care is the key goal in many industrialised countries.

There are some basic principles of managing illness in old age[8,9]. Elderly patients differ from younger patients in many ways. Higher level of pathology, chronic disease and disability is common which makes management of older patients more complex. There are some basic principles of managing illness in old age which need special consideration.

Treating older patients with a holistic approach is the key to medicine of old age. Elderly patients present with a combination of acute and chronic pathologies. Frail elderly patients may present with generalised symptoms not specific for the presenting pathology. With advancing age symptoms become less localised and disease less symptom specific. This is in stark contrast to younger patients where symptoms are more localised. Where disease presents with diffuse symptoms different from its textbook description, it is generally termed 'atypical'.

Late presentation of chronic disease in old age is common and confusion with symptoms of ageing is not uncommon. Patients accept symptoms of disease thinking that they are secondary to old age. Incontinence of urine may be secondary to an infection but may be accepted as part of age related changes by the patient. Atypical presentation of disease along with social isolation and cognitive impairment are just some of the reasons that make it difficult to recognise early symptoms of disease. Poor vision, hearing complications and mobility problems hinder accessibility to health services. Fear of hospitalisation and institutionalisation may well be partly responsible for many to delay seeking help for medical issues.

In some patients disease may be completely devoid of its 'classical' symptoms e.g. patients presenting with painless myocardial infarction. However, true absence of symptoms is uncommon and the patient may present with non-specific symptoms such as lethargy, falls or inability to cope. Myocardial infarction may present without chest pain in many elderly patients particularly those with history of diabetes. However, symptoms such as dyspnea, palpitation or generalized weakness may alert the health professionals of the underlying diagnosis.

The traditional teaching of medicine has been on the unitary disease model where each disease is taught individually. However, in frail elderly patients it is the combination of several pathologies which make the presentation complex and management more challenging. This aspect of dealing with old age makes it essential for the physician dealing with these patients to be a generalist.

Immobility, instability (falls), intellectual impairment (delerium) and incontinence (urinary) are the most common initial mode of presentation in elderly patients. In combination or in isolation, these problems could result from either an acute or chronic pathology. They overlap with symptoms of ageing and thus the initial presentation may mask the underlying pathology. It is essential to note that in many acute cases these 'geriatric giants' are temporary and once the underlying pathology is treated these symptoms disappear. In sub-acute or chronic problems fluctuation in these symptoms could be observed over a period of time.

Infections are common in old age and are a result of physiological changes related to ageing. The presenting symptoms of an infection may be less specific on presentation to hospital. Lack of pyrexial response to infection is well described in elderly patients which along with impaired inflammatory markers can lead to difficulty with diagnosis. Hence, inflammatory markers such as increase in white cell count, ESR and temperature response could not be entirely relied upon to exclude infection when dealing with frail elderly patients. Impaired immune functions may have a bearing in other areas with increase in malignancy and decreased incidence of autoimmune pathologies.

In the United Kingdom over 50% of prescriptions are for patients 65 years and over. Older patients benefit as much as young from secondary and primary prevention. Treatment and medications offer functional independence, improved quality of life and enhanced life expectancy. There are some basic rules of prescribing in old age and non-compliance is the single most important reason for treatment failure. This problem could be attributed to cognitive impairment, poly-pharmacy or poor knowledge of disease and medicine. Side effects of medication *i.e.,* urinary incontinence with diuretics and social isolation may also play an important role in poor drug compliance. On the other hand the ability of the body to handle medicine decreases with age due to change in liver and kidney functions, thus requiring proportional decrease in dosage. The elderly are also more prone to develop side effects from drug therapy as compared to younger patients.

With advancing age there is decrease in lean body mass and increase in fat content which leads to decrease in energy requirements. Age related changes in the gastrointestinal system leads to impaired absorption of micronutrients. Hence it is important that these patients should have increased nutritional density in their diet. Older people are at high risk of malnutrition which generally goes unrecognised in the hospital setting where the emphasis is on treating acute illness. Chronic disease and poor nutrition go hand in hand. Good nutrition is as important for recovery from illness as lifesaving medications. Poor nutrition contributes significantly to impaired immune functions and lack of minerals and vitamins play a part in several pathologies such as osteoporosis and dementia.

Ageing is associated with reduction in total body water. Elderly patients find it difficult to cope with extremes of environmental temperature. Impaired perception to change in the environmental temperature is not uncommon in frail elderly patients. This leads to problems when there is sudden change in temperature and can lead to either hypothermia in cold weather or dehydration in a hot climate. The problem is compounded with medications which may have an effect on the regulation of temperature or the body's homeostasis.

In Pakistan there is a need for the Health Service to set standards and milestones for various aspects of health provision and develop a Service Framework for Older People. Strategies and targets are essential to fulfil the aspirations of the Service Framework for Older People.

For health workers education is required at undergraduate and postgraduate level to improve awareness of the needs of the elderly. The aim is to be aware of the changes in physiology and pathology due to ageing.

The policy makers in Pakistan need to be

aware of the experience of industrialised nations. Frail elderly patients will require high use of medical facilities, high use of diagnostic facilities and longer length of hospital stay. They will need increased use of rehabilitation, psychiatric and social services. A holistic view and use of multiple disciplines are essential for managing older patients in hospitals.

The first step towards improvement in health care of older people in Pakistan is awareness. Education for health professionals should include awareness of the core principles of Geriatric Medicine. Development of Geriatric Medicine is a necessity for frail old patients. Healthy ageing and decreasing premature disability should be the focus for developing a better health service for older patients. A multi-prong strategy is required in dealing with problems of chronic disease in elderly with health care providers joining forces with donor organisations and private sector.

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