Kathmandu University Medical Journal (2008), Vol. 6, No. 1, Issue 21, 135-140

Invited Article

Introducing geriatric medicine to Nepal: An outline of a training programme and a model for the delivery of service

Gautam PC
Former Medical Lead, Department of Medicine for the Elderly and Senior Clinical Lecturer, Medical school and University Hospitals, Aberdeen, United Kingdom and International advisor, KUMJ

There are many misconceptions regarding this specialty. Many general physicians do not appreciate the concept of a Comprehensive Geriatric Assessment and are inclined to believe that geriatric medicine is no different from the practice of general medicine. It is not considered relevant to teach geriatric medicine to the undergraduates in medical schools in many developing countries with low life expectancy which have a small proportion of senior citizens in their population. More ever, geriatric medicine is perceived to be somehow connected to geriatric, i.e. senile patients, with unfortunate implications. It is essential to dispel these erroneous notions.

This paper aims to introduce the philosophy of geriatric medicine and its relevance to the developing nations. An outline curriculum for training in geriatric medicine is also presented. It is a discussion paper to provide a framework for the establishment of this specialty in any medical college where this is either non-existent or receiving very little recognition. Discussion includes the use of resources, cost implications of starting a department, the construction of a purpose-built unit for teaching purposes and revenue considerations.

Principles of geriatric medicine

Geriatric Medicine is that branch of General (Internal) Medicine which deals with the clinical, psychological, preventive and social aspects of elderly people. This is based on the fundamental principles that an elderly person also deserves accurate diagnosis, treatment and support like any other member in a community. Its aims are to reduce morbidity, improve longevity and help in achieving a good quality of life. Taking a purely academic view, many specialists prefer to replace 'geriatric medicine' with Gerontology or Geratology.

The specialty provides expertise in the holistic management of a patient by means of a Comprehensive Geriatric Assessment (CGA). The CGA consists of a detailed list of problems affecting the individual patient and prioritisation for the necessary remedial action. A geriatrician is a physician who has the special expertise that is necessary to conduct a CGA, produce an effective management strategy in a multidisciplinary setting and take leadership in providing this care to an individual elderly patient who is suffering from complex and multiple pathology.

There are age related changes in human body that affect how an older person reacts to diseases, stressful situations such as trauma and surgery, drug therapy and their outcome. This is due to changed proportion of body lipids and water, altered cellular physiology and immune mechanisms. The propensity to multiple pathology and degenerative conditions in advanced age may lead to polypharmacy. This needs to be carefully managed because altered pharmacokinetics and pharmacodynamics result in adverse drug reactions and interactions. Iatrogenic disorders become very common.

Contrary to popular belief, older persons make good recovery from an acute illness and can be successfully rehabilitated. A carefully planned elective surgery in an elderly patient can be very rewarding and does not result in additional complications or mortality, unlike emergency surgery which carries greater risks than in younger adults. The elderly people respond to preventive measures if provided timely and with expertise. Keeping these people in the community in an active and productive manner becomes cost effective in terms of health economics.

Correspondence
Dr PC Gautam,
13 Westholme Avenue, Aberdeen, AB15 6AA, United Kingdom.
Email: tangal@btinternet.com

The concepts of a multidisciplinary rehabilitation do not differ greatly in a young or a frail old patient. Hence many geriatricians are able to offer rehabilitation services to the younger disabled patients also who suffer from complex congenital syndromes, head injuries and other debilitating neurological disorders such as demylination. Many institutions in the United Kingdom have the departments for the care of elderly and rehabilitation as one service entity.

Demographic considerations:

There has been a global rise in the population of elderly people over the past 20 years. The developed countries are now having 16 to 20 percent of their population above the age of 65 years. Some of these countries, although having no significant growth in their overall population, are showing trends of relative increase in the proportion of people between 75 and 85 years of age. Unfortunately, this group has the most morbidity and disability requiring great resources for the delivery of health services and social support. Learning from the unplanned growth of population of the elderly in the developed countries and the resulting consequences of huge financial and social burden, the developing nations need to start early to prepare its adult population for healthy and productive ageing.

With the advent of easier access to antibiotics, improved vaccination against communicable diseases and some improvement in the maternal and child health, even the developing countries are beginning to see improved life expectancy and increased numbers of frail older persons in their communities. It is well recognised that life expectancy is much higher than average among the affluent socio-economic groups, irrespective of the Gross Domestic Product (GDP) in any nation.

In Nepal, the life expectancy at birth is now 58.95 years and an annual population growth rate is 2.27 percent. The population above 60 years is 6.5 percent. (Ref 1) It is predictable therefore that it will take less than a decade for this group to reach 10% of the total population. India has nearly 11 percent of its population above the age of 60 years but it was only 7.4% in the year 2000. In absolute numbers, this is a huge figure.

Health and Support Services in Nepal

The state pension in Nepal for old people is insufficient for survival even for a week. The elderly are traditionally looked after by the sons and daughters in a joint family. This way of life is getting significantly threatened by the break up of the joint family due to many socio economic factors which are producing high levels of destitution, homelessness and ill health among the elderly population. Detailed information on the scale of this trend is not available. It is believed to be quite alarming.

With over 40% unemployment rate and more than 40% of its population living below the poverty line, there is indeed no significant social support to look after the disabled and the elderly in the community as a whole (Ref 2). It is estimated that Nepal spends less than 5.4% of her GDP on health service. There are estimated 7000 hospital beds in the country. The Primary Care and Out Patients facilities are insufficient for the population which has less than 1500 doctors practising in the country. It is not surprising therefore to speculate that the elderly are often neglected in the community.

Training of Geriatric medicine

All developing nations must provide specific health services for their senior citizens also. The role of civic, religious and political leaders as partners in this collaboration is essential. ‘Help the aged’ and ‘The Age Concern’ are two powerful national voluntary organisations in the United Kingdom who have been successfully campaigning for the relative welfare of their senior citizens across the country. Most developed nations have similar organisations who lobby the politicians to make appropriate laws, emphasise the need to alleviate poverty, improve quality of living of its senior citizens and enhance the society in general.

Geriatric medicine deals with complex issues of health and social care of the elderly people. Medical institutions need to take leadership to inform and educate the community in the concepts of healthy and productive ageing. An early and timely establishment of a model training programme will help a nation by the production of trained manpower. Geriatric Medicine is taught in medical schools in all the developed countries of the world. The curriculum varies to suit the overall design of the training and the locally available health and social infrastructure.

An outline curriculum to be incorporated within the existing system of teaching general medicine is presented. This is designed to stimulate interest in the philosophy of Geriatric Medicine and to provide a basic introduction of this specialty to the undergraduates. Appropriate modifications will be necessary with time.

Courses of study in Geriatric Medicine for medical undergraduates

It is expected that by the time of graduation, the student would have developed a positive attitude towards ageing, be aware of age related changes in the human body and be able to understand the complexity arising due to coexisting multiple pathology and morbidity in older patients. He will also have understood the purpose and value of a Comprehensive Geriatric Assessment and the concepts of rehabilitation of the elderly people.

1. A***t basic sciences level: (towards the end of the first two years).***

Theme: Age related changes

Topics to be included are:

Vision, Hearing, Balance,
Cellular metabolism
Cardiovascular system,
Autonomic nervous system,
Respiratory system,
Gastro intestinal system,
Immune system.

Method of teaching:

Illustrated lectures x 2 of one hour each

Material:

Students to be given hand outs and suggest reading from selected books.

Assessments:

Four multiple choice questions at the end of the year.

2. A*t the start of the clinical year*

Theme: Communication skills

Topics to be included are:

Learning to communicate with patients with deafness, dysphasia, blindness and chronic confusional states.

Method of teaching:

Ward based demonstration and practice on actual patients while learning to take a clinical history.

Materials:

Hand outs, actual patients

Assessments*:*

No formal assessments of acquired skills but group discussions, role play and peer comments.

3. Third year

Theme: (a) the ageing process

Topics to be included are:

Theories of ageing, demography of ageing and related social effects and service implications.
Preventive aspects of health care for the elderly

***Method* of teaching**

Lectures x 2, one hour each

Material

Hand outs, reading suggestions

Assessments

2 Multiple choice questions

(b) Medications in the elderly

Topics to be included are:

Altered pharmacokinetics and pharmacodynamics,
Polypharmacy,
Adverse incidents,
Drug interactions,
Drug compliance,

Method of teaching

Lectures x 2, one hour each

Materials

Hand outs, suggest reading materials

Assessments

2 multiple choice questions

4. *4th year*

Theme: Clinical Geriatric Medicine

Topics to be included are:

Unusual presentation of illnesses in the elderly:

The Geriatric Giants (*The 4* ***I***s):

Impaired cognition, (Dementia syndromes)
Instability, (impaired balance, falls)
Incontinence (urinary and faecal)
Immobility, (pressure sores, gravitational ulcers)
Stroke, Parkinson's disease, Dementias
Comprehensive Geriatric Assessment (CGA).
Assessment scales, activities of daily living (ADL),
Care issues at home, in the community, hospital and Care Homes
Rehabilitation: the concepts of impairment, disability and handicap;

Use of aids and appliances; environmental control equipments

Multidisciplinary working.
Ethical issues

Method

Small groups of students, ward based and tutorials,
Tutorials, students' projects, case studies
Two weeks, devoted within General Medicine block

Materials

Patients in the wards and outpatients
Hand outs, suggested reading materials

Assessments

Based on case studies; project presentations; assignments and attendance record.

5. Fifth year

Theme: Elective study

The student is encouraged to take any one of the above topics and produce an essay of a minimum of 3000 words.

Method

Problem solving; a named supervisor will be assigned.

Material

Medline search, textbooks,

Assessment

Based on the quality of written work. A special prize should be awarded to the best work. A small award like this will encourage students to take this up with interest.

Establishment of a sub-department of geriatric medicine

A sub- department of Geriatric Medicine within the department of General Medicine will be an effective and cost efficient way of introducing this specialty in the curriculum. An experienced general physician with interest in geriatric medicine could be nominated as an Associate Professor in Geriatric Medicine. He/she will need training and support to form a core faculty.

a) Development of the faculty and leadership

A small team with strong leadership will be necessary. There are many expatriate experienced consultants and academics who are willing to provide this service at no significant cost and who could be invited as a Visiting Professor in Geriatric Medicine. Working closely with the Associate professor and the department of medicine, this person will train a core group of personnel and help to develop leadership skills.

Physicians, Nurses, Physiotherapists, Occupational therapists and Care workers need to be trained. All will need basic training in the concept of Geriatric Medicine. The first three years will be utilised to produce a core of workers with special skills who in course of time will develop the service further and become trainers and leaders themselves. Training modules in the form of workshops, symposia, demonstrations and attachments to centres abroad will be organised.

The Associate Professor should be supported by a Lecturer. The lecturer post should be offered to someone with a postgraduate qualification in medicine such as MD. There should be an understanding among the medical faculty for this person to be promoted automatically to the post of Associate Professor after successfully completing an internal training programme including the special study or research leading to a thesis in a relevant topic. This training will be specifically designed for the individual by the Visiting Professor and the Head of the Department of Medicine. It is expected that by this time the Associate Professor would have been promoted to full professorship and the need for the Visiting Professor will cease to exist.

b) Physical requisites

The existing medical wards and the local old people's homes e.g. residential care homes, retirement homes, nursing home etc. can be effectively used. The existing physiotherapy and occupational therapy units can be modified without much additional expense to adapt for use by the elderly patients. There will be no need to construct special wards and other facilities at the beginning.

The service aspects

The practice of geriatric medicine is grouped into three sectors- acute care, intermediate care and long term care including terminal care.

Acute care

An elderly patient can become acutely ill due to a variety of causes; the presentations being of unusual nature in many instances. Accurate diagnosis often becomes difficult due to this unusual presentation along with other coexisting chronic conditions. These patients may be managed in any acute medical ward or specialised critical care units as necessary. However, they need to be assessed frequently by a geriatrician as rapid changes are likely to occur and many ethical issues may become apparent. There should be a consultation service at all times from Geriatric Medicine for all elderly patients admitted with an acute illness who also have multiple pathologies and disabilities. The post acute care for appropriate patients may need transfer to the 'intermediate care' facility.

Intermediate care

An audit of patients in the medical and surgical wards will reveal that there are patients who do not really need the services of an acute ward. Grouping these patients in a few wards will set up an 'intermediate care' facility. An 'intermediate care facility' is meant for a variety of purposes including general rehabilitation. This type of set up is suitable for the patients who are inappropriate for high technology acute care and for those waiting to return to their homes or care homes.

In addition, there is a group of elderly patients who may need prolonged periods of specialised rehabilitation. The patients who will benefit from this type of setting include post- acute stroke, fracture of neck of femur, leg amputation etc. Depending upon improvement or deterioration, they could be discharged or transferred to long term care. Majority of these patients can be discharged to their homes or to a residential care facility such as a retirement home or a care home and a small percentage will need continuing nursing and medical care.

Long term care:

Those patients who are so disabled that they need significant nursing care should be admitted to this facility. In addition, care for terminally ill patients and those needing palliative care should be provided here. This set up will thus support the patient, the spouse and the family and a comprehensive service across all range of needs will become available.

Resources

This specialty does not need additional costs at the outset. The existing facilities can be utilised to a very large extent. However, a purpose built facility will be considered desirable in the fullness of time. The probable requirement can only be estimated for each location. The broad considerations are as follows:

1. The costs for providing lectures and consultancy for the first three years will be covered in the cost of paying for the travelling and subsistence of a Visiting Professor from the United Kingdom. This should be minimal.

2. No significant additional costs are expected to run small workshops, symposia and lectures to train the interested personnel locally. The existing departmental stationary, teaching aides, computers etc. could be utilised. Some routine clinical services may be affected during the in-service staff training. This needs to be acknowledged.

3. A four week long clinical attachment for a core team of four persons, i.e. one Physician (the Associate Professor), one Senior nurse, one Physiotherapist and one Occupational therapist, will be necessary in an established department of Geriatric Medicine in the United Kingdom. The Visiting Professor may be able to facilitate this programme. It may be possible to get this training attachment for free but the costs of travelling, subsistence and related expenses need to be resourced. This team will become the main faculty for teaching geriatric medicine as well as delivering expert service to the elderly patients in that institution in due course.

Revenue considerations

Fee for health service in public sector amongst the developing nations contributes little but are lucrative source of revenue in the private sector. Hence it may be easy to introduce this specialty in private medical colleges although one or two government run institutions should take the lead for this essential development. A very small percentage of the annual budget (<0.5%) will go a long way to support this development initially.

Purpose built premises

A purpose built facility will need to be constructed eventually. This will improve the teaching environment and become a prototype of a care facility for the elderly. This development should provide a continuum of health and social care to its residents across all types of needs. This uniqueness will be reflected by the establishment of retirement home, intermediate care and rehabilitation, long term care including palliative and terminal care in a seamless manner. The premises need to be in close proximity to the main hospital where all investigation and treatment facilities are located. The residents and their relatives will feel reassured that there is easy access to all the necessary facilities at all times of need. The following paragraphs outline this vision.

It is suggested that the building(s) to be constructed for this purpose should have three levels of accommodation. Applied gerontology should be utilised in the design of the accommodation, fixtures and fittings, access and adaptability.

Level 1 is for residents who are retired, who have no significant problems with disease or disability and who are independent in self care. This level will provide psychological and social support to the residents. This will be a voluntary retirement home. This group can be the index group for preventive work and be a model for productive and satisfying old age. Sport, leisure, transport, entertainment, and other facilities to pursue personal hobby and interests of the residents should be made available.

Level 2 is for residents who are a little disabled, who need a safe environment and some support for ADL and leisure. This is similar to a Sheltered Housing Schemes in the UK and elsewhere.

Level 3 is for residents who are medically stable but who need substantial support for ADL. They need the assistance of a carer several times in a day as well as some nursing and medical supervision. This level should incorporate many aspects of the Intermediate Care as described earlier. Well trained

physiotherapists and occupational therapists will be providing rehabilitation in the purpose built gymnasium, swimming pool (hydrotherapy pool) and a stimulating environment. Depending upon the wishes of the residents, a small palliative care or terminal care unit could also be incorporated into this level.

The experience in the UK by the private sector indicates that a thirty bedded institution providing care for the old persons becomes cost neutral in five years, assuming full occupancy. It is therefore recommended that a hundred bedded unit with a third of the beds being located at each level is constructed. This will generate substantial income, recovering the capital costs within five years. A comprehensive service as outlined above should be provided which will assure funds for other developments in future.
Additional revenue may be generated by providing training in Geriatric Medicine to post graduate doctors and other personnel in due course. This will be a good model to adopt across the country in fullness of time.

Conclusion

This is a small introduction to a most fascinating speciality in medicine which challenges an internist at every stage and against many odds. The specialty of geriatric medicine is essential in developing nations to safeguard its elderly population from exploitation, neglect, destitution and poor health. The rewards for effective care of an elderly person are immense in terms of personal satisfaction to the carer, professional kudos to the team providing this care and socioeconomic benefit to the nation.

The resources needed to establish a sub-department in a teaching hospital run by the government requires commitment, a vision for the future and little else at the beginning. In medical colleges run by the private sector, the service can be developed more easily and the investments will be financially rewarding. The provision of a modern scientific health and social service to the elderly is a necessary acknowledgement of the contribution made by the senior citizens in any society.

References

1. The World Health Organisation country profile www.whosea.org/EN/Index.html
2. The world fact book, www.cia.gov/ciapublications/factbook/geos/np.html#People