Housing for elderly need provisions for sunlight, adequate ventilation, water, sewage, and non-skid flooring.

The transport system should be elderly friendly.

People should be educated about the misuse of over the counter drugs like analgesics, painkillers, and antibiotics. The polypharmacy should be minimized/avoided in elderly as it causes increased incidents of drug interactions.

The use of vaccines like hepatitis B, typhoid, meningococcal, influenza, pneumococcal, T-dap and zoster which are advised in elderly should be encouraged.[8]

We have to have need-based strategies, increase the awareness by mass movements, promote indigenous system, make own implants/prosthesis, by models through people public partnership. We must extend support through health insurance system and by giving income tax rebate to the caregivers of dependent elderly.

CONCLUSION

We must utilize the multiple systems of medical therapies available in India as different people opt for them as per their choices. We must utilize properly the provisions of corporate-social responsibilities. The preventive strategies, improvements in food and environment, preventing adverse drug reactions and promoting vaccination should be considered in geriatric practice. A holistic approach needs to be applied in geriatric care keeping economic and cultural factors in consideration. The whole thing should be without any western support. This needs a strong movement from masses and a strong political will.

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Disease Pattern

The occurrence of 10 common diseases[6] (diabetes, hypertension, pneumonia, cad, prostate cancer, colorectal carcinoma, osteoporosis, cervical cancer, breast cancer and depression) in elderly from rural as well as urban area is more or less the same.

The longevity differs between Indians and Americans; however, the disease pattern is more or less the same. What differs is the age at which the changes are manifest and become clinically important between Americans and Indians. The age at which osteoarthritis, Alzheimer, menopause, andropause, osteoporosis, ischemic heart disease, diabetes appears in Americans is higher than Indian elderly. Not only the age differs the involvement of organs differs as well because of different social setups and living habits. The use of commode chair in Americans makes osteoarthritis of hip joints more common among them while the habit of using Indian toilets and squatting makes osteoarthritis of knee joints more common among Indians.

Health Care Seeking Behavior

Most elderly people think that it is absolutely normal to be in a condition of ill health. This further determines that the health services even if available are unutilized by them. Health care seeking, however depends on many things which include availability of the facilities, knowledge about their availability and location, transportation facilities, family/social support system, etc.

Infrastructure[1]

As on today medical infrastructure in the government sector comprises of 29,000 primary health centers, 900 district health centers, we have 4,256 rural hospitals, 3,300 urban hospitals including those attached to 460 medical colleges. Under AYUSH (Ayurveda, Yoga, Naturopathy, Unani, Siddha and Homeopathy) we have 2,394 Ayurvedic hospitals, 13,887 dispensaries, 261 Unani hospitals and 1010 dispensaries, 280 Siddha hospitals and 463 dispensaries, 7 Yoga hospitals and 71 dispensaries, 21 Naturopathy hospitals and 56 dispensaries, 228 Homeopathy hospitals and 5,803 dispensaries in the country under central government, state governments and other bodies like railways, ESI, etc. We have now equally strong corporate and private setup in the form of hospitals as well as clinics of nearly two lakhs doctors throughout length and breadth of country.

All these facilities grossly fall short to cater the medical and health needs of mammoth population of 1.33 billion people. Out of this, the number of elderly is around 112 million. In the country we have five medical colleges with specialization in Geriatric medicine (Amrita University, Kochi, AIIMS, Delhi, CMC Vellore, Madras Medical College, Chennai, MGM, Mumbai, Kavery Medical Centre and Hospital (KMCH), Chennai, India) and about 25 hospitals with geriatrics wards/clinics. Diploma in geriatric care only at St. Joseph's College (SJC), Bengaluru and Sanjeevni Institute of Paramedical Sciences (SIPS), Chandigarh. Indira Gandhi National Open University also offer PGDGM (Post Graduate Diploma in Geriatric Medicine) degree of 1 year with contact programs in all state capitals.

The modern medicine system is however unfriendly, as one has to go to hospital/health care center repeatedly for consultation, getting investigations done, collecting the reports, meeting the doctor again and then getting prescription for the same and finally getting medications. There is an urgent need to streamline this process of medical check-up to dispensing be under one roof and facilitated/assisted.

Government Initiatives[7]

The government has created National Policy for the Older Persons, National Council and Directorate for Older Persons and Autonomous National Association of Older Persons. These bodies have been constituted to identify the needs of elderly and explore the possible solutions for them.

National Programme for the Health Care of the Elderly (NPHCE) conceptualized in 11th 5-year plan, had the provision of two National Centres of Aging at Madras Medical College, Chennai and All India Institute of Medical Sciences, New Delhi. Regional Geriatric Centres (RGC) in 20 Regional Medical Institutions with a dedicated deriatric OPD and 30 bedded geriatric wards for management of diseases of the elderly, training of health personnel in geriatric health care and conducting researches. Post-graduate courses in geriatric medicine for 40 postgraduate students per year from 20 regional geriatric centers and various courses related to geriatric medicine. District geriatric units with dedicated geriatric OPD and 10 bedded geriatric wards in 325 district hospitals. Geriatric clinics/rehabilitation units set up for domiciliary visits in community/primary health centers in the selected districts. It has provision for sub-centers provided with equipment for community outreach services, training of human resources in the public health care system in geriatric care, special services for 75 years plus population such as earmarking 50% of hospital beds created under the scheme, development of home healthcare manpower, the focused screening for common health conditions, special IEC activities and vaccination on pilot basis. Geriatric clinics on fixed days at Community Health Care Centers and Primary Health Care Center and home-based care at sub-center level and the National programme for Cancer Diabetes Cardiovascular Diseases and Stroke (NPCDCS).

During the 12th 5-year plan, the remaining districts to be covered in a phased manner at the rate of hundred districts per year. The government of India will facilitate implementation of the programme in selected districts and states for NPHCE. The key activities coordinated by the National NCD cell in the Directorate General of Health Services, Ministry of Health and Family Welfare will do selection of states and districts and provide them information, education and communication, support to regional geriatric centers for training, monitoring, evaluation and research.

The similar pattern will follow at state and district level and facilitate social welfare schemes (OASIS—old age social and income security), identity card for senior citizens, transportation allowance at major transport ways like road, railways, civil aviation, telecommunication, consumer affairs, food and public distribution, health and family welfare, income tax, employment through the Aadhaar.

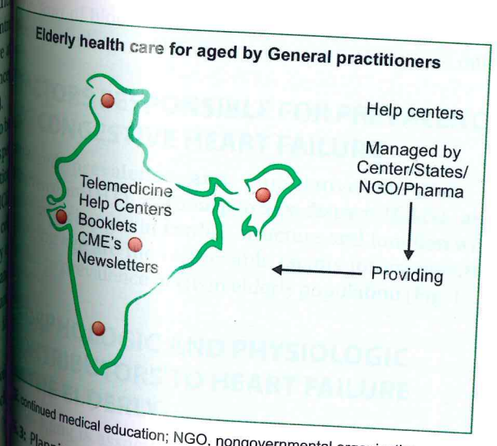
The other programmes under this scheme are maintenance of old age homes, maintenance of respite care homes and continuous care homes, mobile medicare units, running of day care centers for patient with Alzheimer's disease/dementia, physiotherapy clinics for older patients, disability and hearing aids for older persons, mental health care and specialized care for older persons, helplines and counseling centers for older persons, training of care givers of older persons, multi-facility care center for destitute older widow women and Indira Gandhi old age pension scheme.

There are various schemes working through NGO's for the elderly. There is also a separate bureau for older persons in the ministry of Social Justice and empowerment.

Planning for the Elderly

From health care point of view this group can be divided in three subgroups. Young old (60 to 74 years) which are independent and gainfully employed. Their medical and health needs are like young people and they maybe looked after by physicians/geriatricians. Old (75–84 years) need more of assistance and nursing care rather than medical help. Very old (>85 years) and above are mostly dependent requiring domiciliary care or hospital care.

All the above three categories may be managed by a good general practitioner with an extra briefing on aging, the clinical differences between adults and elderly, geriatric syndromes, gerio-pharmacy and drug interaction, physiotherapy, diet, preventive aspects and social issues like elder abuse needs to be carried out. Figure 3 describes that the briefing can be by short courses, telemedicine, bulletins, and mass mailing service in regional languages. Help centers established in five areas of the country managed by central government/state government/NGOs/pharma industry.



ntinued medical education; NGO, nongovernmental organizations.

3: Planning for the aged.

FOR THE POPULATION WHO IS APPROACHING 60 YEARS

Regarding second category i.e., the people who are approaching old age; one can attempt to herald the process of aging and prevent the diseases by:

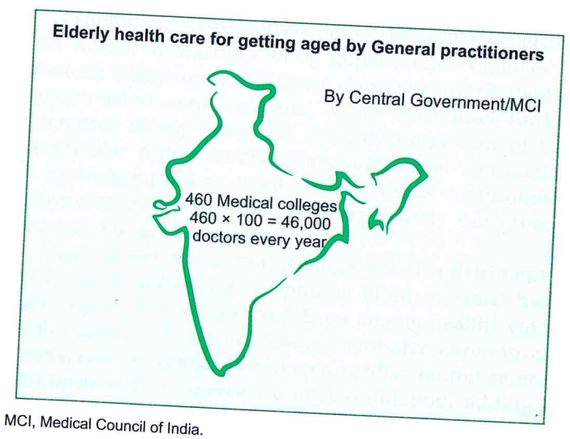
- Lifestyle changes which include; a healthy lifestyle comprising of nutritious food (containing appropriate percentage of proteins, carbohydrates, fats, vitamins, and minerals and water), restrictions of calories to maintain proper body weight, regular exercises, adequate sleep, avoidance of alcohol, tobacco and other narcotics and positive thinking. Intake of antioxidants and nutritional supplements are also part of it
- Proper management of comorbidities like diabetes, hypertension, etc
- Prevention of diseases by medicines (lipid lowering, antiplatelet drugs, etc.) and vaccinations.

For those who are getting aged, the planning may be done by adding geriatrics in the medical curriculum as shown in Figure 4. We may sensitize budding doctors about special aspects of geriatrics in their teaching and training. For this we may add aging, immunity, gerio-pharmacy, geriatric syndromes, dementia, frailty, andropause, menopause, osteoporosis, nutrition and physiotherapy in their under graduate curriculum.

GENERAL MEASURES

Aging will continue and number of elderlies will rise. Number of comorbidities (diabetes, COPD, hypertension and heart failure) will rise, because of changes in lifestyle. Accidents and falls will also increase. Due to change in social setups and migrations, the family support will dip and the cost of living as well as treatment will continue to rise.

We have to have improvements in nutrition by making diet a balanced one, improving cooking, minimizing the effects of insecticides and pesticides, check the adulteration and improve the process of storage.



MCI, Medical Council of India.

FIG. 4: Planning for the healthcare of getting aged.

241 CHAPTER

Geriatric Care: Can We Follow Western Pattern or Indianize?

OP Sharma, Ambali AP

INTRODUCTION

Aging is progressive, generalized impairment of function resulting in loss of adaptive response to stress and in increasing risk of age-related diseases.[1] The elderly (>60 years) population in the world has been rising rapidly and the longevity is due to many factors which include increasing health awareness and developments in medical field. In the year 1980, elderly population was 382 million which by the year 2017 became 962 million and it is expected to be 2.1 billion by the year 2050. The 320 million people aged 60 years or over in upper-middle-income countries in 2015 represented a 64% increase over 2,000 when older persons in those countries numbered 195 million. Between 2015 and 2030, upper-middle-income countries are anticipated to continue to experience rapid growth in the number of older persons—the projected 545 million people aged 60 years or over in 2030 marks a 70 percent increase over the number in 2015.[2] (Figure 1)

DEVELOPMENT OF GERIATRICS

The branch of medicine related to elderly is called Geriatric Medicine. The term Geriatrics was coined by an Austrian Physician Dr Ignatz Nascher, while working in United States in the year 1909. He suggested that aging affects physiological functions of organ systems in body which leads to certain clinical implications. He also suggested that in dealing with elderly, one has to have a modified approach in diagnosis as well as management.

In the year 1936, Dr Marjory Warren gave the concept of Geriatrics in UK and headed the biggest ever ward of elderly patients. She also suggested different approaches in the management of elderly people. Her work aroused the interest of the Ministry of Health and during the year 1950 geriatric medicine became a recognized medical specialty within the National Health Service.

In Asia, one of the first few geriatric clinics came in Singapore in the year 1988 and a clinician Dr FJ Jayaratnam made a key role in that. In India Dr VS Natarajan was first to start first geriatric ward and first department of geriatric medicine in Madras medical college with MD course in geriatrics. Gradually with the increasing longevity and increasing number of elderlies, the number of senior citizens rose everywhere and so came the need of Geriatrics which kept changing its name from geriatric wards to senior citizens ward.[3]

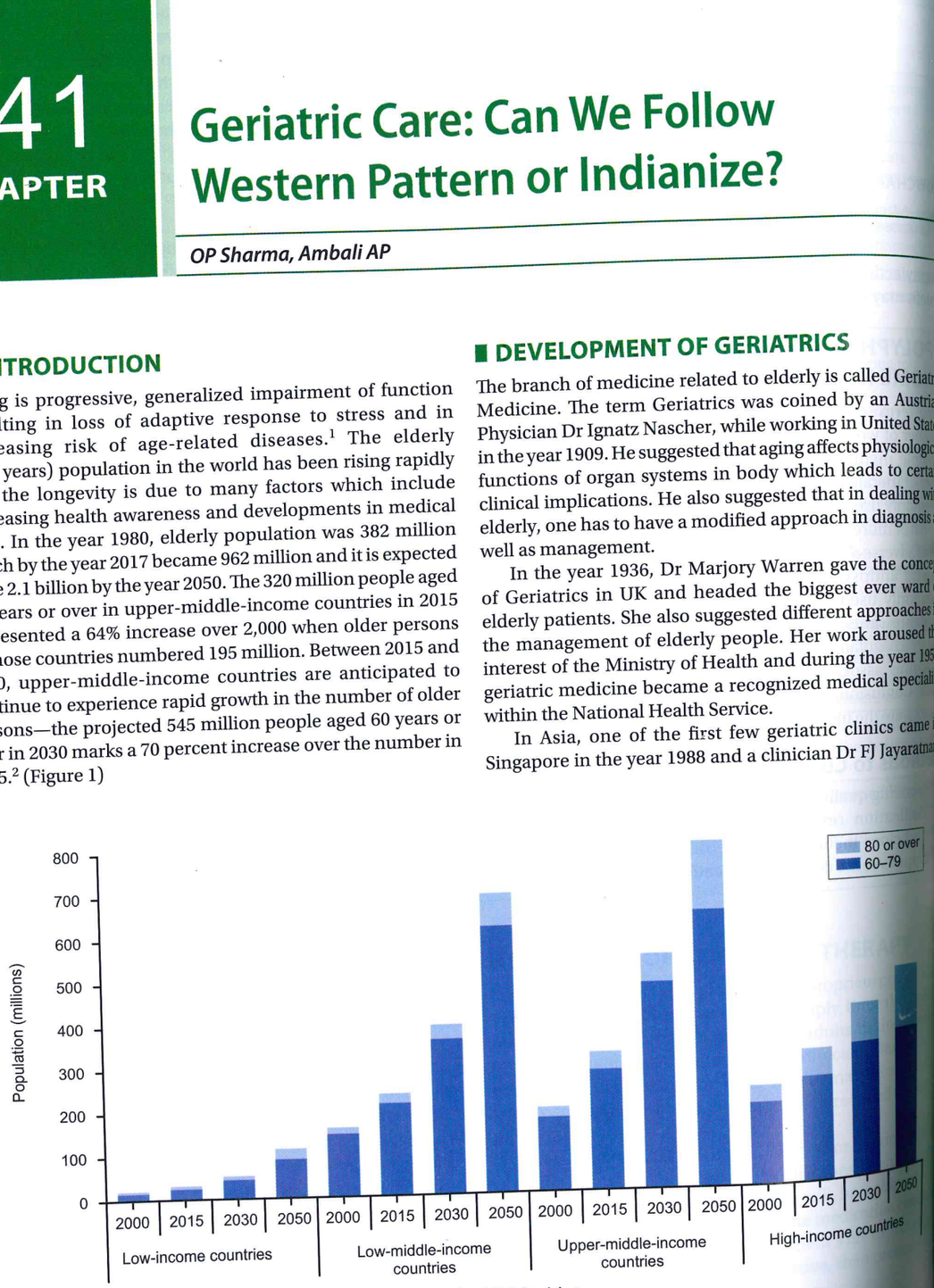


FIG. 1: United Nations (2015). World Population Prospects. The 2015 Revision.

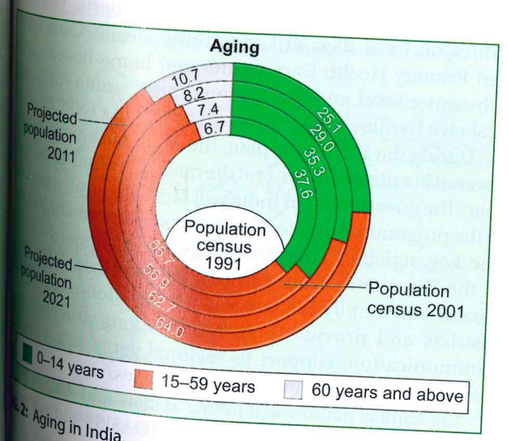
INDIAN SCENARIO

Aging in India

The majority of developed countries became developed first and then face the problem of aging while the situation is reverse in India where we have a huge elderly population and we are still a developing nation. The social transition in the form of breaking up of age old joint family system, due to migrations and economic compulsions has led to medical and health problems for elderly, besides socioeconomic issues. A vast majority of elderly still live in rural areas also. In India, the life expectancy was 34 years in 1947, which has jumped to 68 years by the year 2017. Figure 2 shows that by the year 2021 the population of elderly is likely to be 10.7% of the total population.

Morbidity Pattern

An Indian Council of Medical Research (ICMR)[4] report on the chronic morbidity profile in the elderly states that hearing impairment is the most common morbidity followed by visual impairment. However, different studies show varied results in the morbidity pattern. A study conducted in the rural area of Puducherry reported decreased visual acuity due to cataract and refractive errors in 57% of the elderly followed by pain in the joints and joint stiffness in 43.4%, dental and chewing complaints in 42%, and hearing impairment in 15.4%. Other morbidities were hypertension 14%, diarrhea 12%, chronic cough 12%, skin diseases 12%, heart disease 9%, diabetes 8.1%, asthma 6%, and urinary complaints 5.6%.



2: Aging in India.

A similar study that had been conducted among 200 elderly people in rural and urban areas of Chandigarh in Haryana observed that as many as 87.5% had minimal to severe disabilities. The most prevalent morbidity was anemia, followed by dental problems, hypertension, chronic obstructive airway disease (COAD), cataract, and osteoarthritis. A study on ocular morbidities among the elderly population in the district of Wardha found that refractive errors accounted for the highest number 40.8% of ocular morbidities, closely followed by cataract 40.4% while other morbidities included aphakia 11.1%, pterygium 5.2%, and glaucoma 3.1%.

In a community-based study conducted in Delhi among 10,000 elderly people, it was found that problems related to vision and hearing topped the list, closely followed by backache and arthritis.

Social Pattern Affecting Health

The 60th National Sample Survey[5] (January–June 2004) collected data on the old age dependency ratio. It was found to be higher in rural areas (125) than in urban areas (103). With regard to the state of economic development, a higher number of males in rural areas, 313 per 1,000, were fully dependent as compared with 297 per 1000 males in urban areas. For the aged female, an opposite trend was observed (706 per 1,000 for females in rural areas compared with 757 for females in urban areas). Overall 75% of the economically dependent elderly are supported by their children and grandchildren. Despite this, the elderly still tend to suffer from psychological stress as was found in a survey conducted for a middle class locality in New Delhi. Over 81% of the elderly confessed to having increasing stress and psychological problems in modern society, while 77.6% complained about mother-in-law/daughter-in-law conflicts being on the increase.

The elderly are also prone for being abused in their families or in the institutional settings. This includes physical abuse (infliction of pain or injury), psychological or emotional abuse (infliction of mental anguish and illegal exploitation), and sexual abuse. A study that examined the extent and correlation of elder mistreatment among 400 community-dwelling older adults aged 65 years and above in Chennai found the prevalence rate of mistreatment to be 14%. Chronic verbal abuse was the most common followed by financial abuse, physical abuse, and neglect. A significantly higher number of women faced abuse as compared with men; adult children, daughter-in-law, spouse, and son-in-law were the prominent perpetrators.

The central and state governments have already made efforts to tackle the problem of economic insecurity by launching policies such as the National Policy on Older Persons, National Old Age Pension Program, Annapurna Program, etc. However, the benefits of these programs have been questioned several times in terms of the meagre budget, improper identification of beneficiaries, lengthy procedures, and irregular payment.