Multimorbidity in the elderly: Are we prepared for it!

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Globally, more so in developing countries, the elderly population is rising. The increasing elderly population is posing its own challenges. One of the major challenges is multimorbidity. Multimorbidity is defined as “existence of multiple medical conditions in a single individual.”[1] Others have tried to define multimorbidity as an accumulation of two or more chronic diseases, whereas others have considered it to be the accumulation of three or more diseases.[2,3] In terms of chronicity, various diseases which have been included in the definition of multimorbidity include those which are considered to have permanence, are associated with disability, are associated with irreversible pathological changes in the body’s system, require long-term supervision, observation, and care and are associated with special training needs for the patient’s rehabilitation.[2] Other authors have used the term long-term conditions instead of chronic and defined the long-term conditions like those, which cannot be cured but can be controlled by the use of medications or other treatments.[4] It is suggested that compared to those without multimorbidity, those with multimorbidity have a higher chance of functional decline, poorer quality of life, and more often use of health-care services.[4] Some of the authors also suggest that there is a significant overlap between multimorbidity and frailty.[4] There are also some data to suggest that multimorbidity is associated with increased mortality.[5] Accordingly, those with multimorbidity are considered to be patients with complex healthcare needs, who have significantly higher healthcare needs, and pose a significant burden on the available health-care services.[6]

In high-income countries (HIC), multimorbidity is considered as a norm rather than the exception. It is also suggested that multimorbidity is increasing in low- and middle-income countries (LMIC) too.[1] A recent review which reported the prevalence of multimorbidity among the elderly from 7 studies reported it to vary from 30.7% to 57%.[2] Another review of 70 community-based studies, with sample size varying from 264 to 162,464 elderly patients, reported a pooled prevalence rate of 33.1%, with significantly higher prevalence in HIC (37.9%), when compared to LMIC (29.7%).[3] One study from India evaluated the multimorbidity among the elderly from seven states of India (Kerala, Tamil Nadu, Punjab, Himachal Pradesh, Maharashtra, Orissa, and West Bengal) and reported a prevalence rate of 30.7% among 9852 elderly.[7]

In terms of the incidence of multimorbidity, one study evaluated the 3-year incidence of multimorbidity (defined as the development of ≥2 chronic diseases) in persons, who were free from the same and reported incidence rate of 33.6% in those without any disease and 66.4% in those with one disease at the baseline, which amounted to an incidence rate of 12.6 and 32.9/100 person-years, respectively.[8] A study from the United Kingdom evaluated multimorbidity for the year 2015 and projected that by 2035, the prevalence of multimorbidity is going to increase significantly, with the percentage of patients with 4 or more diseases going to double from 9.8% in 2015 to 17% in 2035. It was further suggested in this study that the prevalence of multimorbidity in those aged 65–74 years will increase from 45.7% in 2015 to 52.8% in 2035. Further, this study showed that two-thirds of those with 4 or more diseases would have mental illnesses in the form of depression, dementia, and cognitive impairment not amounting to dementia.[9]

Different studies have evaluated the factors associated with multimorbidity and data from cross-sectional studies suggest that smoking, alcohol consumption, living in rural locality, poor education, female gender, low income, older age, living away from children, use of health services in the preceding week, polypharmacy, and negative self-perception of health are associated with the development of multimorbidity.[10] In contrast, studies from India suggest that older age, high socio-economic status, female gender, and ever use of alcohol and tobacco.

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are associated with the development of multimorbidity.[7]
In the incidence study of multimorbidity, after adjusting
for various confounders, poorer cognitive functioning
at the baseline was associated with a higher risk of the
development of multimorbidity in those who were free
from any disease at the baseline.[8] However, in those with
at least one disease at the baseline, older age was the only
predictor of the development of multimorbidity.[8]

Based on these findings, it can be concluded that
multimorbidity is a reality in the geriatric practice
and psychiatric issues contribute significantly to the
development of multimorbidity either in the form of risk
factors or a component of multimorbidity.

In terms of etiology, it is suggested that multimorbidity is an
outcome of progressive loss of resilience and dysfunction
of the multisystem homeostatic regulatory system with
progressive age. In fact, it is suggested that multimorbidity is an
outcome of the dysfunction of the same mechanisms
which are associated with aging. Accordingly, it is suggested
that improving the understanding of the processes associated
with multimorbidity will actually help in understanding
the mechanisms associated with aging.[10]

WHY IT IS IMPORTANT TO BOTHER ABOUT
MULTIMORBIDITY AMONG THE ELDERLY?

At present, although there are multiple guidelines for
the management of different chronic conditions, most
of these guidelines, focus on single morbidity. Further,
these guidelines are often formulated by keeping the
adult patients in mind, who have a single disorder with
a good physiological reserve. If different specialists attempt
to manage single morbidity on their own, it invariably
leads to polypharmacy and high chances of drug-drug
interactions and its consequences (in the form of reduction
in efficacy or increase in the cumulative side effects).[11]
These can have serious implications for the elderly who
are frail and have cognitive impairment.[12] One of the
authors estimated that if the guidelines as formulated for
single diseases by the National Institute for Health and
Care Excellence (NICE) are applied to an elderly with
five conditions (type 2 diabetes, history of myocardial
infarction, osteoarthritis, chronic obstructive pulmonary
disease, and depression), it will result in prescription of at
least 11 medications (with up to 10 other drugs routinely
recommended), 8–10 routine primary care appointments
and 4–6 general practitioner appointments, as well as
multiple self-care/lifestyle modifications.[11]

WHAT IS BEING DONE TO ADDRESS
MULTIMORBIDITY?

Taking note of the impact of multimorbidity, Academy of
Medical Sciences, United Kingdom, concluded that there
is an urgent need to understand the challenges being
posed by multimorbidity. It is recommended that there
is a need to carry out more research on multimorbidity.
Some of the areas identified include to assess the rates
and understand the nature of multimorbidity and how
it is changing over time, which cluster of morbidities
have biggest problems for patients, factors associated
with multimorbidity, approaches required to prevention,
how to increase the beneficial effects of treatments and
reduce the risks of treatments for patients experiencing
multimorbidity, reorganization of services to address
the need of the elderly with multimorbidity, and how to
use technology to improve care of patients experiencing
multimorbidity.[11] Further, taking note of the implications
of multimorbidity, NICE has issued guidelines on the
assessment and management of multimorbidity defined
as the presence of ≥2 long-term health conditions.[12]
The guidelines also make recommendations to improve
awareness.[10]

It is, in general, suggested that the management of
multimorbidity should include a proactive assessment,
which should be individualized and deciding about the
plan of care, which can enhance the quality of life of the
person by minimizing the treatment burden, adverse
events, and unplanned or uncoordinated care.[4]

INDIAN SCENARIO

Like other developing countries, India is also aging and the
elderly population is increasing at a faster pace compared
to other age groups. According to the United Nations,
India is among the five countries which accounted for
half of the elderly population in the year 2015, and
India alone accounted for the world’s 13% of the elderly
population. It is projected that in India, from 2015 to
2030, the elderly population will increase by 64%. It
is projected that the proportion of elderly persons in
India is going to increase from 8.9% in 2015 to 19.4% by
2050, which in absolute terms will mean increase from
116.5 million to 330 million.[13] If one goes by the Indian
study which evaluated multimorbidity in seven states,[7]
with the prevalence of 30.7%, the older persons with
multimorbidity by the year 2050 will be 101.3 million.

In India, at present, geriatric care is limited to a handful of
geriatricians and most of the care provided to the elderly is
fragmented and patients with multimorbidity are expected
to visit different specialists, who in their busy clinics have
no time to review the ongoing prescriptions of patients
with multimorbidity and this often leads to polypharmacy
and prescription of 2–3 medications of the same class.
This problem is further compounded by over the counter
medications. Hence, multimorbidity among the elderly is
associated with increased number of hospital visits,
over-prescription of medications, increase treatment cost
and increased burden on the families. Accordingly, it can
be said that at present, the health-care services are not
elderly friendly. Hence, there is an urgent need to focus
on multimorbidity among the elderly and reorganize
the services to provide holistic care to the elderly under
one roof. In terms of training of doctors, there is a need
to develop more training programs for providing good
health-care services to the elderly. In terms of the policy,
there is an urgent need at the level of the government to
develop policies to reorganize health-care services for the
elderly. Various professional organizations working in the
area of geriatric healthcare should join hands to develop
guidelines to manage multimorbidity, in Indian setup, which can be translated into practice. The government also need to fund more research in the area of geriatrics, especially, multimorbidity, to understand the impact of multimorbidity on the health-care services, develop service models, understand the impact of multimorbidity on the family, training of health professionals, and impact of multimorbidity on the outcome of the elderly.

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