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MULTIMORBIDITY: A GLOBAL BURDEN AND EFFECTIVE STRATEGIES FOR MANAGEMENT

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ABSTRACT:

Multimorbidity is the coexistence of multiple chronic conditions, posing a significant challenge to healthcare systems worldwide. This article gives information of the intricate landscape of multimorbidity, emphasizing the importance of tailored strategies for effective management. Focusing on the it's prevalence in India, this article explores the multidimensional nature of multimorbidity, considering factors such as financial burden and healthcare utilization. The article highlights on key components of successful multimorbidity management, including comprehensive assessments, individualized treatment plans, regular medication reviews, patient-centered innovations, and patient education. These components are pivotal in addressing the diverse needs of patients living with multimorbidity, ensuring personalized and holistic care. Looking to the future, this article discusses emerging trends like Online Patient Education (OPE) programs, medication simplification, increased involvement of physician as well as clinical pharmacists, and patient-centered outcomes. These innovative approaches hold promise in improving the quality of life for individuals grappling with multimorbidity. In conclusion, this article underscores the urgency for healthcare systems to adopt patient-centric approaches in managing multimorbidity. By embracing personalized care, empowering patients, and by using new technological advancements, healthcare providers can navigate the challenges that posed by multimorbidity and improve quality of life of individuals living with this complex health condition.

KEY WORDS: Multimorbidity, Chronic Conditions, Prevalence, Multiple treatment therapy, Strategies.

INTRODUCTION:

One of the most alerting challenges faced by health care system is how to prevent and manage multiple chronic conditions (MCC) effectively and efficiently. MCC are defined as the co-occurrence of two or more chronic physical or mental health conditions. Some use the word multimorbidity as synonymous with MCC, while others define MCC as including additional factors that contribute to the burden of illness, including disease severity, functional impairments and disabilities, syndromes such as frailty(1).

Multimorbidity can cause many challenges in aging populations (2). At the biological level, aging can result in accumulation of molecular and cellular damages over time which lead to gradual decreases in physical and mental abilities and an increased susceptibility towards chronic diseases(3,4). In addition to age, chronic diseases have other risk factors, including smoking, alcohol consumption, and increased body mass index (BMI)(5).

Complications of one initial disease can cause other chronic diseases, ultimately leading to MCC. Multimorbidity is associated with subjective cognitive impairment, functional decline, altered health-related quality of life and an increased risk of mortality in older adults(4).

Also being a personal burden, chronic conditions represent a complex, long-term challenge for healthcare systems and healthcare providers(6).

MULTIMORBIDITY IN INDIAN SETTINGS

Multimorbidity in India is of global health importance as India's population size accounts for more than one sixth of the world's population and because India has experienced an especially rapid epidemiological transition from acute infectious diseases to one predominated by chronic non-communicable conditions (7).

Near about one-third of older population had single morbidity, and another one-third of them had multimorbidity in India. Some leading morbidities among Indian include diabetes, chronic lung diseases, arthritis, and hypertension(8).

PREVALENCE:

The age group was significantly associated with increasing prevalence of multimorbidity.

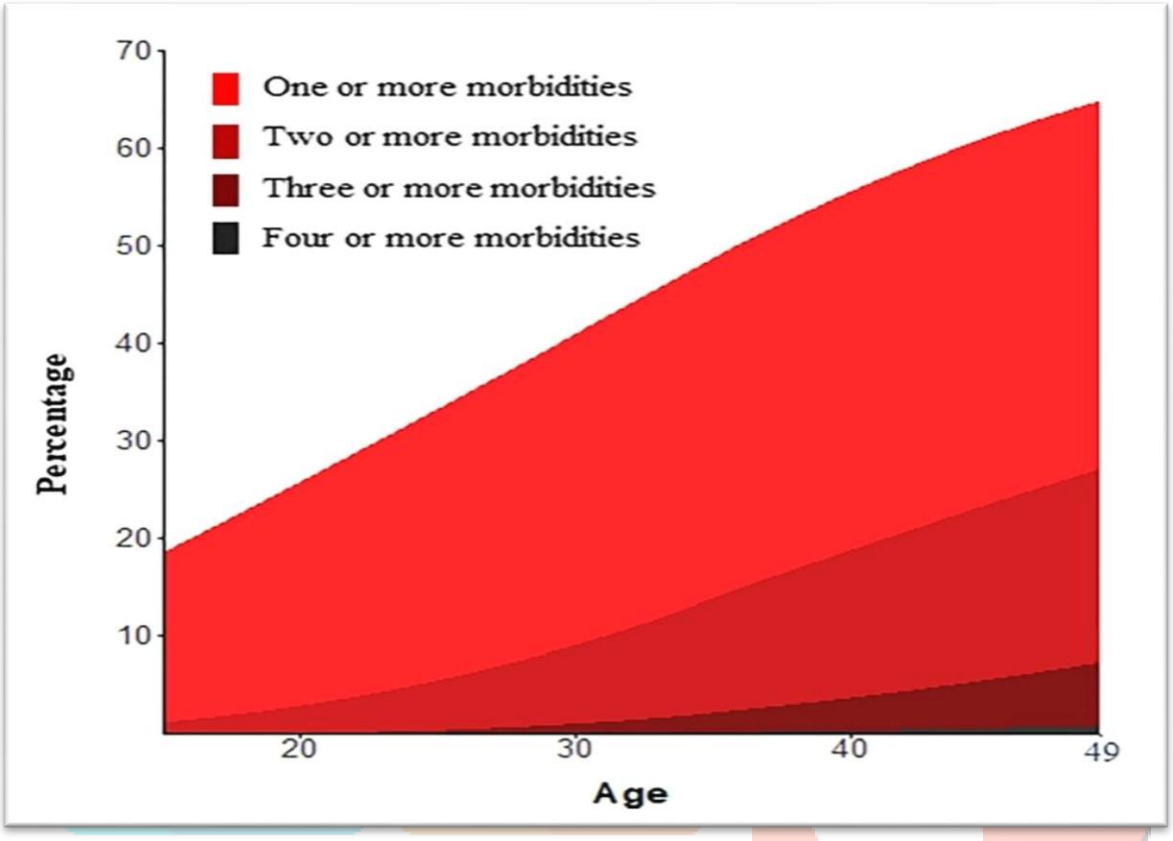

Fig.2 Prevalence of multimorbidity by Age (9)

About 35 % multimorbidity prevalence has been observed in India, where Kerala showed the highest prevalence of multimorbidity with 42%, followed by Punjab (36%), Maharashtra (24%) & West Bengal (23%). A recent study conducted in the district of Kerala showed 45.4% multimorbidity prevalence. Around 44% multimorbidity prevalence was found in West Bengal. A Recent study conducted in the Allahabad district of Uttar Pradesh showed a 31% prevalence of multimorbidity. A study conducted in Odisha has shown that multimorbidity prevalence was higher among women than men, and similar results Have also been found in West Bengal. Prevalence of multimorbidity differed by population subgroups. Prevalence was higher among women (28.4%) than men (25.9%) (10–14)

OTHER COUNTRIES:

The overall global prevalence of multimorbidity was 37.2%. South America (45.7%) had the highest prevalence of multimorbidity, followed by North America (43.1%), Europe (39.2%). The subgroup study highlights that multimorbidity is more prevalent in females (39.4%) than males (32.8%). More than half of the adult population worldwide above 60 years of age had multimorbid conditions (51.0%)(15)

RISK FACTOR:

The risk factor that developing multiple chronic conditions discussed Table 1

Table 1: Risk factor for multimorbidity (16)

Biomedical and individual factors	Socioeconomic characteristics	Social and environment factors	Health behaviours
• Aging • Women • High number of previous disease • Negative life events • External health locus of control • Mental disorders	• Lower social economic status • High income Group (LMICs) • Lower education • Less social networks • Fully dependent • Unemployed/retired	• Living in urban (LMICs)	• Tobacco • Overweight and obese • high risk waist hip ration Inactive physical actives

FINANCIAL BURDEN OF MULTIMORBIDITY:

Multimorbidity was associated with higher out-of-pocket (OOP) costs compared with 'non-multimorbidity. It has been found to be associated with between five to ten times higher OOP costs for medications than non-chronic conditions. These high costs affect people from lower socioeconomic groups(17–19)

MCC is associated with substantial increases in healthcare costs and Resource utilization attributable to elevated use of primary care and specialist physician services, greater medication use, emergency department presentations and hospital admissions (both frequency of admissions and bed days). The cost drivers of excess utilization, patterns of usage, physician access, medication use, bed utilization.

MCC has been associated with higher levels of health resource utilization, including medications, primary care and outpatient specialist services and emergency department. Older adults with MCC utilize between 2-5 times more physician appointments than peers without chronic diseases. People with MCC are also more likely to see a specialist physician for a CCs, that would fall within the scope of primary care service patients with three or more CCs had prescription medication costs that were near about 7 times greater than peers without CCs, and doubles in the peers with one or two co-morbidities. In addition, MCC patients use significantly more prescription. Older patients with three or more CCs utilized 25 times more hospital bed-days than peers without any CCs as well as 15 times more admission of patients than without CCs(20)

The financial burden associated with multimorbidity may also influence health care utilization and contribute to the higher levels of mortality (21)

ROLE OF MTT IN MULTIMORBIDITY:

Multiple treatment therapies (MTT), also known as polypharmacy, are common in the management of chronic conditions. This approach involves the use of multiple medications to treat and control various aspects of a patient's health.

Multimorbidity defines to the coexistence of multiple chronic conditions in an individual. Each condition may require different treatments and interventions. Multiple treatment therapies allow healthcare providers to address the complex health needs arising from these conditions effectively.

Different chronic conditions affect various organs and systems in the body. Multiple treatment therapies can target specific aspects of each condition, addressing the underlying causes and symptoms. This tailored approach improves the overall management of each condition(22)

Multimorbidity often increases the risk of complications and disease progression. Using multiple treatment therapies can help prevent the worsening of individual conditions, reducing the likelihood of complications and improving long-term outcomes.

Patients with multimorbidity may experience a wide range of symptoms related to different conditions. Multiple treatment therapies can be used to manage these symptoms effectively, enhancing the patient's quality of life and overall well-being (8).

EFFECTIVE STRATEGIES FOR THE MANAGEMENT OF MCC:

1.COMPREHENSIVE ASSESSMENT:

A comprehensive assessment in the context of healthcare involves a thorough and systematic evaluation of an individual's overall health status, medical history, physical and mental health, lifestyle factors, and social support systems. Whenever treating a patient, information gathered by any means can crucially guide and direct care. In general, a medical history includes an inquiry into the patient's medical history, past medical history, family history, social history, allergies, and medications the patient is taking or may have recently stopped taking.

Family history is another and important aspect of the patient's medical history with potential indicators of genetic predisposition to disease. Social history is a broad category of the patient's medical history but may involve patients smoking or other tobacco use, alcohol and drug history and should also include other aspects of the patient's health including mental, relationship status, occupation, hobbies, and sexual activity. Medication history is also important as patients take more and more medications and avoided possible drug -drug interaction. Identify common risk factors and lifestyle behaviors that contribute to the development or worsening of MCC (23,24).

2.INDIVIDUALIZED TREATMENT PLAN:

Individualized care planning is a collaborative process used in chronic condition management in which patients and clinicians identify and discuss problems caused by or related to the patient's condition and develop a plan for tackling these (25).

MTM strategies prioritize the creation of individualized medication plans, recognizing the uniqueness of each patient's MCCs.An individualized approach tailors the medication regimen to address the specific combination of chronic conditions and the patient's health goals and preferences. For example, a patient with both COPD and hypertension may require distinct medication adjustments and regimens compared to a patient with only one of these conditions.

This Individualization ensures that the treatment plan aligns with the patient's lifestyle. Values, and healthcare objectives. It aims to minimize the burden of managing multiple medications while optimizing therapeutic outcomes and reducing potential conflicts between medications (26).

Evidence Based Medicine Is particularly true in patients with multimorbidity where the potential for medication interactions, unwanted or unanticipated effects or contraindications to interventions are greatly increased. But multimorbidity become arising challenge for EBM because patient with multimorbidity not a part of clinical trials (27).

3.REGULAR MEDICATION REVIEWS:

Regular medication reviews are integrated into MTM protocols to provide ongoing evaluation of the patient's medication regimen. These reviews consider changes in the patient's health status, such as new diagnoses, worsening or improving chronic conditions, or the introduction of new medications. The goal is to make necessary adjustments to the medication plan in response to these changes(28).The process of medication review (29).

- All patients should have a chance to raise their questions and highlight problems about their medicines.
- Medication review seeks to improve impact of treatment for an individual patient.
- Review is undertaken in a systematic way, by a Clinical (competent)person.
- Any changes resulting from review are agreed with the patient.
- The review is documented in the patient's clinical notes.
- The impact of any changes in review is monitored.

4.PATIENT CARE CENTRED INNOVATIONS:

The main goal of patient care centered in multimorbidity was to reorient care from a single-disease focus to a multimorbidity focus.

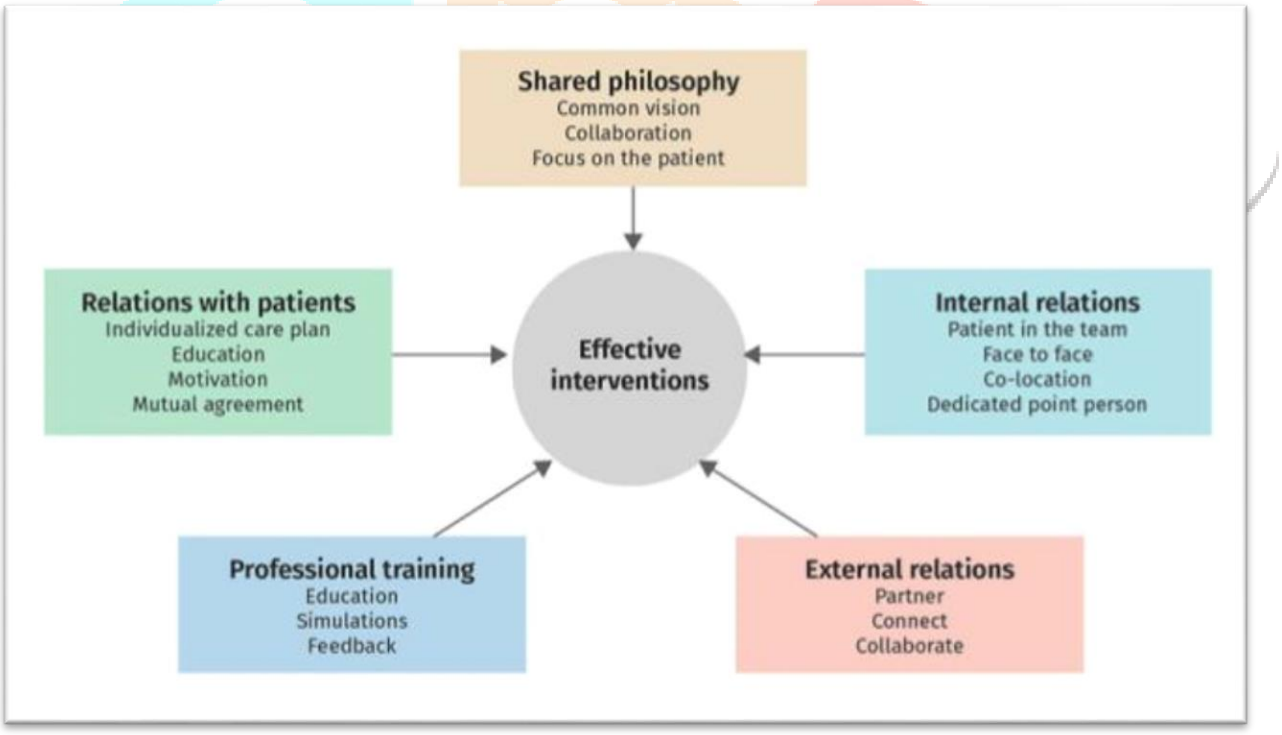

Fig .1 The Patient-Centred Innovations for Persons with Multimorbidity framework for effective integrated care. 31

Shared philosophy component refers to the team's shared vision of the program or intervention. Team members need to have a common vision to provide integrated chronic care, and this need is even greater when treating patients having multimorbidity.

Internal relations refer to how the different team members cooperate and communicate with patient. Relations with patients is a very important component of integrated care. Providing a unique and individualized care plan for each

patient in response to the patient's own objectives is respectful of patient values. Healthcare providers acknowledge the emotional aspects of illness, offering reassurance and addressing patients' fears and anxieties(30).

5. PATIENT EDUCATION:

Patient education delivered by healthcare professionals aims to empower patients to understand, be involved in the clinical decision-making process, and effectively manage their conditions(31).

Patient education provided to consumers has had a long history of improving health outcomes, particularly for patients who suffer from chronic diseases Chronic diseases are life long, and improving health literacy and Health efficacy is important for better disease management as patients who understand their disease condition will be more involved in their healthcare. Patient education has been an integral part of healthcare management as this will enhance patient's health literacy(32).

Patient education has a Health Benefits as well as social benefits for managing multimorbidity. Health Benefits: Improved health outcomes, Improved health education, Increased patient confidence towards treatment, Improved Self-care behavior and self-care management, Reduced hospitalizations, Adherence to MTT Social Benefits: Improved quality of interaction with physician, Time Effectiveness, Cost Effectiveness, Improved patient emotional state and satisfaction(33).

FUTURE PROSPECTIVE:

MTM for patients with MCC involve Online Patient Education (OPE) program about diseases, treatment. OPE improves health outcomes as well as increases the social support for patients. Also involved medication simplification and Electronic Health Records (EHR). Increased Clinical pharmacist involvement and focus on patient centered outcome to enhance patient quality of life.

CONCLUSION:

In conclusion, a holistic and individualized approach is needed in addressing the complex multimorbidity issue. The challenges posed by coexisting chronic conditions require innovative approaches, effective management strategies, and patient-centeredness. This article sheds light on the global burden of many diseases, especially in some countries like India, where the prevalence is high.

By adopting comprehensive assessments and patient-centered innovations, health care providers can meet the challenges posed by many diseases. In addition, patient empowerment through education, emotional support, and shared decision-making is paramount to successful implementation. Looking ahead, integration of online patient education (OPE) programs, streamlining of medication management, increased physician engagement, and patient-centered outcomes attendance so emphasis promises to improve the lives of individuals living with multiple diseases as health care and providers move forward Adaptations, innovation and collaboration are needed to overcome challenges the rise of the solution. By doing so, we can pave the way for an effective, patient-centered, and sustainable approach to this healthcare challenge.

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