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Review Article

Managing patients with multimorbidity in primary care

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ABSTRACT

Multimorbidity is usually described as the co-occurrence of two or more chronic medical conditions in the same individual and is related with a reduced quality of life, functional decline, and raised medical expenditure, along with emergency room visits, and specifically with elevated frequency of coexisting illnesses. Multimorbidity poses many difficulties, that can frequently be overburdening. With rising prevalence of multimorbidity across all age groups, both patients encounter many challenges including a sense of isolation in managing multimorbidity. Multimorbidity leads to fragmented care delivery and poorer perception of overall care coordination among patients. Polypharmacy and risks of adverse drug events; treatment burden on the patient, functional problems, especially in the elderly; reduced quality of life, and increased healthcare utilization. Adoption of a multidisciplinary approach in case management and a prioritization of generic outcomes applicable across comorbidities is recommended to achieve this goal. Management of medicines prescribed for multimorbidity is a significant aspect of improving care in patients with multimorbidity. Optimizing medication regimens is a crucial part of treatment and to acquire this, periodic medication reviews are necessary. Close cooperation among pharmacists and clinicians appears to be the most rational technique for this patient category. Medication reviewal must include "deprescription," which implies cessation of medications which are not required, offer insufficient prognostic advantage, or are resulting in side effects. Comprehensive prescription guidelines may also be beneficial in maximizing the effectiveness of medications. The review also sheds light on the current research on strategies to improve organization and continuity of care, measures to promote patient-centered care, and the role of self-management education programs in multimorbidity.

Keywords: Multimorbidity, Comorbidity, Polypharmacy, Primary care, General practice

INTRODUCTION

Multimorbidity is usually described as the co-occurrence of two or more chronic medical conditions in the same individual and is results in a reduced quality of life, functional decline, and raised medical expenditure, along with emergency room visits, and specifically with elevated frequency of coexisting illnesses.[1,2] The care of multimorbidity with medication is often complicated, leading to multidrug regimens with their accompanying risks.[3] Individuals with multimorbidity bear a significant treatment burden with respect to comprehending and self-managing the diseases, attending numerous appointments, and taking care of complex medication schedules.[4] Qualitative research sheds light on the "never-ending struggle" individuals experiences in attempting to manage their illnesses.[5] Psychological stress is frequently present. In one Australian study of 7620 primary care patients, 23% of individuals with a single chronic condition were diagnosed with depression in comparison to over 40% of patients with five or more diseases.[6] Present-day estimates indicate that one in six patients in the United Kingdom has been diagnosed with two or more diseases listed on the its quality and outcomes framework, and these patients comprise roughly one third of all primary care visits.[7] A recent study from Scotland found that nearly 65% of those over 65 years and roughly 82% of those aged 85 years or more suffered from two or more chronic diseases.[8] A systematic review comprising 11 studies reviewed multimorbidity patterns. The most prevalent disease pair within the literature was osteoarthritis and a cardiometabolic problem like obesity, hypertension, diabetes mellitus, or ischemic heart disease.[9] In four similar studies which utilized factor analysis for identification of common factors within groups of illnesses, three were consistent through all the studies: a cardiometabolic problem factor, a psychological health problem factor, and a painful condition factor.[9]

Multimorbidity poses many difficulties that can frequently be overburdening. Today, multimorbidity is the norm in aging populations across the globe.[9] Further, its incidence is socially patterned, prevailing more commonly and at a younger age in individuals of lower socioeconomic status (SES).[8,9] Therefore, multimorbidity must not be regarded as an exclusive issue of older people, and impacts several individuals of the working age group.[8,10]

The rationale of primary care is management of all health conditions frequently existing in the population by general practitioners, diagnosis and referral for those illnesses requiring specialized care as well as coordination of treatment for cases presenting with complex health issues.[11] With rising prevalence of multimorbidity across age groups, general practitioners encounter many challenges in everyday practice including a sense of professional isolation in managing multimorbidity cases. This literature review highlights common challenges faced by primary care physicians in managing multimorbidity, evidence-informed practice considerations which are reasonable to apply in general practice and suggestions for primary care physicians in structuring care delivery for patients with multimorbidity.

Methodology

No specific criteria were selected beforehand to determine which publications would be incorporated in this review. Google Scholar search engine was utilized to look for scientific publications containing "comorbidity" and "multimorbidity". After a preliminary scanning of abstracts, full-lengths of relevant articles from peer-reviewed journals were acquired. The references sections of these articles were also screened for pertinent citations which were referred to for additional review.

DISCUSSION

Impact of multimorbidity

Patients with multimorbidity face a number of problems affecting their quality of life and treatment satisfaction. Firstly, multimorbidity leads to fragmented care delivery and poorer perception of overall care coordination due to the need for patients to engage with multiple primary and secondary health practitioners.[12,13] Secondly, polypharmacy needed to manage the various conditions predisposes the patient to adverse drug reactions, as well as possible inadvertent prescribing and issues with medication concordance.[3,14] Next, multimorbidity exerts a substantial treatment burden on the patient due to need for understanding and managing drug regimens and lifestyle interventions advised by different professionals and actively seeking care from multiple practitioners.[15] Further, there is a significant impact on the mental health of the individual diagnosed with multiple chronic illnesses. Anxiety and depression are more prevalent in multimorbidity as compared to those suffering from a single long-term illness, and they can exacerbate poor health by posing difficulties to the patient in self-managing their illnesses.[2,6] Further, functional problems increase with rise in the number of illnesses, and in ages above 75 years.[16,17] Next, multimorbidity is associated with reduced overall quality of life due higher frequency of chronic illnesses.[17] Lastly, multimorbidity causes increased healthcare utilization which amounts to increased medical costs, time away from professional and personal activities, and higher risk of emergency hospital admissions.[18,19]

In a recent systematic review, primary care physicians observed four main domains in which they faced challenges in managing patients dealing with multimorbidity: disorganization and fragmentation of healthcare, insufficiency of present disease specific guidelines, difficulties in providing patient-centered care, and hindrances to shared decision making.[12]

Challenges in managing chronic conditions in multimorbidity

Inefficacy of single disease clinical guidelines

Managing multiple chronic diseases with the present single disease-focused clinical guidelines and medical research is a predicament primary care physicians encounter every day. Guidelines scarcely deal with comorbidity, partially due to the fact that they are created to be based on evidence from randomized trials and because trials often exclude the elderly population and individuals with more than one condition.[20] This results in a situation where each recommendation posed by a guideline may be practical and evidence-based, but the cumulative recommendations for an individual are not. One author discussed a scenario regarding the implementation of five United Kingdome clinical guidelines for an imaginary 79-year-old female patient with a history of previous myocardial infarction, type 2 diabetes mellitus, osteoarthritis, chronic obstructive lung disease, and depression.[21] She would be administered at least 11 medications, with possibly over ten additional drugs advised based on her symptomology and disease progression, and she would be recommended to implement a minimum of nine lifestyle alterations. Apart from any unplanned medical visits, she would be required to attend eight to ten routine primary care appointments yearly for her physical illnesses and up to 30 psychosocial therapy visits for depression in addition to several appointments for smoking cessation aid and lung rehabilitation.[21] One possible solution is for future guidelines to address more common clusters of chronic diseases.[22] Although this is an important measure, the probability of guidelines checking all combinations of problems is implausible and so the importance of clinical judgment should be recognized and appreciated.[23] Often, clinical judgment can imply an acceptance that in some situations aiming for stringent disease specific goals is not likely to be advantageous and can probably cause harm. Instead, it can imply prioritizing therapy for depression, that has proven to affect the ability of individuals to self-manage their other chronic illnesses.[24] Policymakers who discern performance related payments on illness specific targets require awareness that such trade-offs founded on clinical judgment can translate to better patient centered care. Additional performance indicators which truly represent quality of care for this patient category must be brought into consideration.

Focusing on function not illness

Research concerning community-based programs to enhance outcomes for individuals with multimorbidity has focused on several aspects of care provision including alterations to the organization of care delivery, often via case management as well as more patient oriented interventions, including aid for self-management.[25] Though these interventions have shown mixed results, interventions targeting specific predisposing factors common across comorbid diseases or general functional challenges faced by patients seem encouraging. One particular randomized controlled trial carried out by occupational therapists and physiotherapists focused on functional problems of 319 patients of ages 70 years or above with multimorbidity and better health outcomes including a statistically significant decrease in mortality two years after the program. This emphasizes the possibilities of a multidisciplinary technique in management and a prioritization of generic outcomes applicable across comorbidities.[26]

Medicines management

One study observing polypharmacy in 180,815 individuals in primary care found that roughly 20% of patients with two comorbidities were administered four to nine medications and 1% were administered ten or more medications.[27] For individuals with six or more illnesses, these quantities increased to 48% and 42%, respectively. Polypharmacy is related with medication related morbidity such as adverse drug reactions, possibly inadvertent prescriptions, and decreased medication adherence.[28] The occurrence of polypharmacy is rising, mainly due to alterations in population demographics and elevated rate of multimorbidity. A significant challenge for primary care physicians is that several prescriptions are originally issued by specialists but repeat prescribing happens through general practitioners.[28] In the absence of direct communication, it can be challenging to gauge the rationale of pharmaceutical therapy. Optimizing medication regimens is a crucial part of treatment, and to acquire this periodic medication reviews are necessary in multimorbidity cases.[28] The findings of pharmacist led medication reviews for complex polypharmacy in the community are mixed.[29-31] Close cooperation among pharmacists and clinicians appears to be the most rational technique for this patient category. Medication reviewal must include "deprescription," which implies cessation of medications which are not required, offer insufficient prognostic advantage, or are resulting in side effects.[32] Elaborate prescription guidelines, like the screening tool of older persons' potentially inappropriate prescriptions (STOPP) in the United Kingdom may be beneficial in reinforcing the effectiveness of medications.[33] STOPP includes of 65 measures of potentially inappropriate prescribing in people over 65 years that have undergone validation in both clinical and community contexts and were found to be related to adverse drug events.[34]

Strategies to improve organization and continuity of care

Individuals with complex multimorbidity are generally seen by several different medical professionals working across multiple sites. Communication among practitioners is commonly below optimal levels, which often has adverse effects on patient outcomes.[12] Alterations in primary care practice has decreased the provision of continuity of care.[35] Patients hold care continuity in high

regard. Nearly 80% of elderly patients (ages 75 years and above) in a recent United Kingdom survey were noted to prefer seeing a specific primary care physician.[36] Continuity of care is also related with improved outcomes, like the provision of preventive care and decreased avoidable hospital admissions.[37] One study in the United States showed that greater amount of continuity is related with lesser percentages of medical visits, lesser complication rates, and low medical expenditure.[38] Primary care physicians are well situated to impart the essential relational, informatory, and executive continuity of care, and the significance of this role must not be undervalued.[23] A major virtue of general practice is the approach it gives patients, and routinely organized reviews can aid in "ordering the chaos" for this population.[39] Another important facet for primary care physicians is to rationalize referrals for specialization and consider the parts of secondary care which will create the largest improvement in patients' health. Clinicians are motivated to detect individuals presenting with complex multimorbidity and establish a practice system for care progression for such patients by allotting them a specific physician. Identification is hardly simple: the commonest definition of multimorbidity (the presence of two or more conditions) will include numerous patients, several of whom will not need specifically complex care. More evidence is required to direct practice in this sector, but populations with multimorbidity and notably greater healthcare demands comprise patients with "complex" multimorbidity, described as three or more chronic problems impacting three or more body systems;[40] individuals suffering from comorbid physical diseases as well as depression;[41] individuals prescribed ten medications or more;[28] and individuals who are homebound or residing in nursing facilities. Policies may also regard operating particular multimorbidity clinics which target common clusters of diseases, since there is proof that addressing predisposing factors common to comorbidities like diabetes mellitus, cardiac conditions, and depression is beneficial,[25] and this can also decrease treatment burden for individuals as they would require lesser appointments.[15] Presently it might not be straightforward for practitioners to recognize these patients, and this is a prime concern for health information systems used in primary care settings.

Measures to promote patient-centered care

Shared decision making is an approach where physicians and patients review together the best available evidence when deciding, and where patients are encouraged to make informed preferences.[42] Studies show that mutually agreed upon decisions improve patients' awareness regarding their disease and therapeutic choices, enhances patient satisfaction with treatment, and elevates patient confidence and self-management capabilities.[43] With regard to multimorbidity, it is a priority to learn what is crucial to the patient. Inquiring at the beginning of consultation helps the remaining consultation to be taken advantage of most efficiently. One model has been produced to aid physicians in making shared medical decisions in healthcare practice.[44] This relates to three main actions: the first step is "choice talk," that implies ensuring that patients are aware rational choices are available, "option talk," that means providing more elaborate details regarding choices, and "decision talk," which means to aid the task of reviewing preferences and making the best decision possible. Many internet-based shared decision making resources are also present to guide this procedure.[45] Another resource "Ariadne principles" particularly facilitates primary care consultations related to multimorbidity.[46] This model positions the establishment of reasonable treatment goals at the core of the multimorbidity consultation by conducting a meticulous interactive evaluation of the patient's illnesses, therapies, consultation, and setting; the prioritization of medical conditions that factor in the patient's choices; and personalized management to decide the most suitable treatments to accomplish these goals.

Self-care in multimorbidity

Few research studies show benefits of lay-led self-management education programs for individual comorbidities in enhancing some outcomes like self-efficacy and self-perception of health.[47] Patient preference should direct the use of lay-led self-management groups. The assessment of one United Kingdom expert patient initiative demonstrated better self-efficacy and energy ratings at six-month follow-up but no decrease in healthcare utilization.[48] One randomized controlled trial in the United Kingdom that conducted training for general practice personnel regarding resources at disposal, involving an evaluation tool for the support requirements of patients, manuals on self-management, and an online registry of local resources. At one-year follow-up, there were no notable breakthroughs in shared decision making, self-efficacy, or general health-related quality of life.[49]

CONCLUSION

Multimorbidity is usually described as the presence of two or more chronic medical problems in a person and it can lead to many difficulties in treatment and management specifically with greater frequency of comorbidities and associated polypharmacy. Practitioners must actively detect individuals with complex multimorbidity and establish a strategy for continuity of care for these persons by allotting them a particular physician. The enactment of a policy for periodic extended consultations should be reflected on specifically for complex cases or the development of occasional "particular extended consultations." designating scheduled time to address challenges faced in managing chronic illnesses.

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