(REVIEW ARTICLE)

Non-communicable disease multimorbidity: Challenges and solutions

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Abstract

The fast-developing multimorbidity is often a negative prognostic factor for disability, particularly among older populations, and is associated with intellectual, psychological, and social adverse outcomes. Practices must target patients with complex multimorbidity and adopt the principle of continuity of care through routine extended consultations allowing protected time to manage problems encountered in chronic diseases. This brief communication presents some challenges and solutions for non-communicable disease multimorbidity. Accordingly, research funders must call for multimorbidity-focused investigations to mitigate the impact of multimorbidity on patients.

Keywords: Multimorbidity; Non-Communicable Diseases; Challenges; Solutions

1. Introduction

Non-communicable diseases are associated with health inequalities and disabilities within and across countries [1]. Recent reports found increased trends in mortality associated with chronic diseases [2]. These trends are substantially higher among patients with several medical conditions or multimorbidity, accounting for a prevalence of 36.4% [3]. Among others, the high cost of care and lack of access to medications were found to negatively influence patients' health-related quality of life and the associated long-term health cost [4]. Health stakeholders tried to invest in preventing and controlling non-communicable diseases through several measures, such as smoking cessation campaigns, early detection, and lifestyle interventions [5]. To improve medication access and decrease health inequalities, governments encouraged generic drug prescription [6], substitution [7], and clarification of misconceptions to increase their acceptance and use [8]. This brief communication summarizes the challenges associated with non-communicable disease multimorbidity and suggests solutions to overcome these challenges.

2. Non-communicable diseases multimorbidity

Multimorbidity represents a growing public health concern and poses a major challenge to healthcare systems [9]. Any person with more than two chronic health conditions suffers from multimorbidity [10]. The fast-developing multimorbidity is often a negative prognostic factor for disability, particularly among the elderly, and is associated with unfavorable intellectual, psychological, and social outcomes [11, 12]. The prevalence estimates worldwide ranged from 12.9% in the general population to 95.1% among people older than 65 [13]. In 2022, a systematic review showed that the pooled prevalence of multimorbidity globally was 42.4%, significantly higher among the older population [14].

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2.1. Challenges and solutions

In 2016, the World Health Organization published a report outlining the knowledge gaps, particularly in terms of increased burdens of multimorbidity worldwide, lack of sufficient epidemiological research, management of multimorbidity, and the inexistence of system-based approach while identifying people in need of extra support [15]. For instance, the risks of developing multimorbidity are associated with aging, lower socioeconomic status, obesity, and lack of physical activity [16]. With the increased life expectancy worldwide, focusing on these predictors to target high-risk populations and tackling modifiable risk factors can help reduce the burden of multimorbidity and its associated disabilities [17, 18]. Previous research reported a high prevalence of multimorbidity, namely in low-middle-income countries, despite the limited amount of studies or the concentration of the research as mentioned above in a few countries [13]. Moreover, significantly large differences in the prevalence of multimorbidity were noted in studies conducted in primary care (3.5%-98.5%) and the general population (13.1%-71.8%) [19]. As regards the management of multimorbidity, clinical guidelines provide recommendations for specific single conditions such as diabetes, asthma, and stroke and rarely take into consideration multimorbidity [20]. Nevertheless, if physicians follow single disease guidelines, duplication of unnecessary services to multiple problems can occur, leading to a significant loss of resources and a higher risk of drug interactions [21].

Non-communicable diseases form a substantial proportion of the multimorbidity burden, which can provide opportunities for developing individualized health prevention strategies [22]. First, precise methods for multimorbidity measurement should be adapted mainly by creating a weighted index to prioritize the management of the different health conditions [23]. Accordingly, practices can target patients with complex multimorbidity and adopt the principle of continuity of care through routine extended consultations allowing protected time to manage problems encountered in chronic diseases [24]. Moreover, since multimorbidity can lead to an increased likelihood of referrals between different healthcare providers, system-based approaches can effectively reduce health costs and fragmentation of treatments while maintaining patient safety [15, 25]. Therefore, future priorities should focus on the economic evaluation of interventions and services that can remediate the burden of multimorbidity in non-communicable diseases in safe and cost-effective ways [26].

Based on the above, policymakers can foster both integrated and patient-centered care through individualized care planning, investing in continuing education programs, training, and promoting the inter-collaboration between patient organizations, health care professionals, and social workers [27]. In addition, network analytical-based approaches and artificial intelligence have become increasingly employed to predict major chronic diseases, comorbidity, and multimorbidity [28], which can help identify at-risk populations and develop strategies accordingly.

Healthcare professionals previously reported several challenges limiting the effective management of multimorbidity in non-communicable diseases. Among others, miscommunication problems and disputes, coordination problems, and unclear protocols represent the main modifiable external risk factors that can be targeted [29]. Such challenges can be overcome by targeting the determinants of miscommunication in primary healthcare previously reported in the literature, including organizational and professional-specific factors [30]. Training programs targeting different healthcare professionals (nurses, physicians, and pharmacists) should address these factors and other barriers to accessing these programs by stimulating the implementation of shared care plans, contact, and uniform reporting language to improve the quality of care [31, 32]. Other factors related to patients themselves, such as the language barrier, particularly in migrants, self-medication, and polypharmacy, can also influence the management of multiple non-communicable chronic diseases [33]. Interpreter services to address the overlapping of treatments and the integration of clinical pharmacists to evaluate disease-drug and drug-drug adverse events can minimize the negative impact of these factors. Moreover, educational campaigns targeting the general population can increase awareness of the possible effect of self-medication on managing chronic conditions. Promising research on geroprotectors presents new opportunities for managing multimorbidity due to the fact that they can target mechanisms of aging relatively common to multiple age-related diseases [34].

Most recently, the emergence of the COVID-19 pandemic has imposed a new challenge on the management of multiple diseases due to the unpreparedness of the health infrastructure, exhaustion of healthcare workers, and prioritization of critical cases over those with controlled conditions leading to delay in diagnosis, treatment, and follow-up [35, 36]. Research showed that multimorbidity could also exacerbate the evolution of COVID-19 and is associated with higher mortality risk in infected patients, especially those with socioeconomic deprivation and obesity [37]. In order to facilitate access to healthcare services and to ensure adequate management of patients with multimorbidity, telemedicine and home services must be more employed while taking into consideration the psychological status of patients and the different mental health determinants such as stress, loneliness, frailty, and depression. Consequently, psychological and social support can help reintegrate patients as active members of society. Furthermore, the pandemic

has shed light on underfunding, neglect, and indifference to health and healthcare [38]; therefore, reassessment of how healthcare workers are treated and the value placed on health can help reduce the burden of multimorbidity.

The gaps in research, policy, and practice relating to multimorbidity still exist. Research funders must call for multimorbidity-focused investigations to mitigate the impact of multimorbidity on patients. Cohorts and life-course studies can also provide supporting information on the risk factors and the predictors of multimorbidity to help identify people at risk. Public health and policy advice should also define and classify the greater risk for those suffering from multimorbidity through integrated clinical guidelines.

3. Conclusion

Multimorbidity of non-communicable diseases represents a significant challenge for healthcare systems worldwide, with increasing trends. Multimorbidity requires patient-centered care, behavioral changes, and healthcare training by integrating the different health stakeholders. Targeted campaigns and up-to-date interventions can minimize the associated adverse health outcomes and long-term health costs. Investments in multimorbidity research can facilitate the management of patients and improve their quality of life.

Compliance with ethical standards

Disclosure of conflict of interest

The Authors declare that there is no conflict of interest.

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