Magnitude and Impact of Multimorbidity on Clinical Outcomes in Older Adults with Cardiovascular Disease

A Literature Review

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KEYWORDS

• Multimorbidity • Elderly • Clinical outcomes • Cardiovascular disease

KEY POINTS

- Multimorbidity is highly prevalent in older adults with cardiovascular disease and is related to higher levels of health care use and mortality.
- There are inconsistencies in the manner in which multimorbidity has been characterized in older adults presenting with cardiovascular disease.
- Limited data exist on the impact of multimorbidity on universal health outcomes (eg, health-related quality of life, symptom burden, and function) in older adults with cardiovascular disease.

INTRODUCTION

Approximately two-thirds of American men and women 65 years of age and older have been diagnosed with cardiovascular disease (CVD).[1] CVD in older men and women adversely impacts quality of life, and it is the leading cause of death in older

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Americans. As the US population has aged, the prevalence of CVD has increased dramatically, together with other chronic conditions.[2–4] There is increasing awareness that older individuals with CVD and multiple chronic conditions experience higher levels of health care use and poorer outcomes.[4–10] Moreover, the clinical management of persons with CVD with multiple chronic conditions can be especially challenging due to complex therapeutic regimens, the involvement of multiple health care providers, and competing priorities impacting decision-making in the care of these patients.[11]

Despite the high prevalence of CVD and multimorbidity in the elderly, there remains a lack of consensus regarding how best to assess and measure multimorbidity and to determine how the presence of multiple chronic conditions impacts clinical outcomes.[11] The aim of this article is to review the current literature on the magnitude and impact of multimorbidity on clinical outcomes in older adults with CVD.

METHODS

Search Strategy and Information Sources

The available published literature was reviewed by searching the electronic databases Medline, PubMed, Medline Plus, and Embase, for the time period January 2005 through August 2015. The authors used the following search terms: *cardiovascular disease*, *myocardial infarction*, *heart failure*; *comorbidities*, *multimorbidity*, *multiple chronic conditions*; *clinical outcomes*, *mortality*, *hospital readmission*, *rehospitalization.* Search limits were used in each database to restrict the search to clinical studies, articles in the English language, and studies in the last 10 years (excluding animal studies) (Appendix 1).

In addition to the electronic search of these databases, the authors hand-searched the references of original articles. All references identified by the above searches were merged into a single bibliographic database.

After compiling the search results of the databases, the yield obtained by hand-searching, and removing duplicate articles, the studies were reviewed by the coauthors. One of the reviewers independently examined the titles and abstracts to determine eligibility for inclusion. If the title and abstract appeared to be potentially relevant by one of the raters, the article was marked for a full text review. Any article that was marked as unsure by the rater was also marked for full text review.

The studies reviewed in the report included patients 18 years or older with confirmed CVD cared for in the hospital and clinic setting. Excluded were case reports, letters to the editors, or situations where only an abstract was provided. (See PRISMA [Preferred Reporting Items for Systematic Reviews and Meta-Analyses] checklist for details.)

PRISMA 2009 checklist

Section/Topic	#	Checklist Item	Reported on Page #
Title			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
Abstract			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4

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