

Public health and aging. An introduction to maximizing function and well-being

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The impressive and continuous gain in longevity obtained in the 20th century creates an unprecedented situation for many societies. Living in old age is no longer an exceptional situation but has become the common experience of a large number of individuals. What is more, it will soon be shared by a large number of individuals born during the post-world war II baby-boom.

Some health problems are highly prevalent with aging, including disability and dependence on others, which are frequent outcomes of chronic diseases accumulated in a long life. Owing to the impact of disability on the quality of life of a growing segment of the population and to the economic and social burden it imposes on all generations, understanding the pathways to disability and the needs related to old age has become a public health priority. This concern is the central topic of the book, organised in nine chapters, each of them including a summary.

The purpose of the book is to introduce the reader to the interface between geriatrics and epidemiology of aging that both feed the field of public health and aging. From a presentation of the concepts of normal and pathological aging, frailty, disability and health-related quality of life to an advocacy for prevention, health promotion and support care, the author constantly underscores both the universal changes that occur with senescence and the extremely heterogeneous experience of aging individuals, influenced by genetics and by environmental factors. This book is a very valuable contribution to the diffusion of current knowledge on the aging process, both in terms of concepts and of facts, accessible and of interest for a large public. One of its major strength lies in the coherence of the reasoning of an author who takes responsibility for guiding the reader, across chapters, from biology to geriatrics, demographics and public health, including recommendations for the development of appropriate interventions.

Chapter 1 explains the field of public health and aging and its relation to clinical and epidemiological approaches to old age. After discussing the concept and giving definitions of successful aging, a typology of the old age is presented with reference to robustness and frailty, dementia and the dying process, insisting on the different goals of a medical intervention that must adapt to circumstances. Chapter 2 then presents manifestations of aging and distinguishes between age-related and age-determined outcomes; this chapter includes a discussion of the concept of frailty and proposes a model for approaching relations between senescence, diseases, frailty and disability. It positions the book in a biomedical perspective without denying the importance of a social approach to aging, and concludes on frequent misconceptions about aging originating in a biased view of the old age.

The importance of understanding health problems specific to old age is documented by the demographic evolution described in Chapter 3. The three steps of a demographic transition, marked decreases in mortality demonstrated in successive birth cohorts and the phenomenon of deaths concentration in old age are illustrated in this chapter, ending with facts on the current population of the oldest old in the USA. The next chapter deals with characteristics of mortality in old age, its causes and time trends. The second part of Chapter 4 emphasises different trajectories towards death and the respective healthcare costs they generate. The effects of aging and of dying on healthcare costs are differentiated.

The three following chapters concentrate on major determinants of health-related quality of life in old age. Physical function is first discussed as a key factor for the evolution towards disability and dependence in aging (Chapter 5). After having distinguished impairments from disability and handicap according to the WHO model, the author turns to, and develops, an alternative model of disablement process based on a sequence initiated by pathologies and ending with

self-reported disability by individuals who may have adjusted to functional limitations through compensatory mechanisms. Chapter 5 also discusses the measurement of disability based on the performance of activities of daily living, the hierarchical structure of these activities and the difficulty of their assessment. Current knowledge concerning the link between selected chronic conditions and the prevalence of disability is presented, as well as the relationship between functional limitations measured in performance tests and self-reported disability, which is a key element for designing preventive interventions to restore an autonomy in activities of daily living. Finally, time trends in the prevalence of disability, overall and in population subgroups, are summarized. Chapter 6 focuses on Alzheimer disease, dementia and mild cognitive impairment. Risk factors, prevalence and outcomes are described. Chapter 7 deals with depression and frequent sub-clinical or atypical presentations of mood disorders in old age. This chapter details the close link between depression and chronic diseases as well as the independent effect of depression on adverse health outcomes.

In Chapter 8, health-related quality of life is presented as a unifying, multidimensional concept resulting from research on health status measurement, and as an appropriate outcome for most health interventions in old age. Utilities of subjective health and disability states integrated in life expectancy computations are proposed to evaluate their benefits. The nature of advocated interventions focusing on older persons are specified in Chapter 9. According to the typology of older persons mentioned in the first chapter, these include health promotion actions, interventions to prevent or reduce disability, improvements in chronic diseases management and developments in custodial care.

The book particularly deserves its appellation as an introductory book for the presentation of selected topics (e. g. how to

measure disability? how do we define quality of life? what are the characteristics of epidemiological transition?) and for a transversal integration of basic definitions and explanations regarding health indicators such as life expectancy (Chapter 3), health expectancy (Chapter 5) and years of healthy life (Chapter 8). However, it also goes beyond introduction when discussing concepts that still are, to a large extent, controversial such as the essence of frailty, its relation to normal or pathological aging, and the contributions of physical and mental health conditions to its manifestations. A risk of confusion arises when disability is presented within the chapter on physical function, whilst its determinants are multiple and certainly not limited to somatic diseases or physical impairments. Similarly, the text endorses an operational definition of frailty strongly oriented towards physical manifestations and biomarkers, even though the author recognizes that other dimensions might contribute to the notion. These options reflect the current state of a field of research that will probably further expand in the coming years. They are mitigated by frequent mentions of the importance of environmental factors as effect modifiers in the trajectory from pathology to handicap. Systematic clarification of overlapping concepts is a central task undertaken by the author who successfully identified different needs associated with the variety of stages and pathways in the dynamic process of aging. He also formulated proposals accordingly, in order to adjust responses from the healthcare system to the diversity of questions raised by population aging. This is a very useful book for getting an overview of the current theories on the aging process and understanding their implications for public health.

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