

Cardiogeriatric, the Future's Cardiology?

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The aging process and survival of living organisms vary among animal and plant species as well as within the same species. The aging process is partially determined by genetic factors and mutations that can prolong the life of many organisms, including worms, flies, and mice, by delaying this process¹. Considering that most biological processes are conserved through evolution, genes that are identical or similar to those found in other species can regulate factors associated with survival in humans.

In addition to genetic factors, environmental factors, lifestyle, and disease are also associated with longevity.

What are the limits for the health care of octogenarian or centenarian patients? This practice should be guided by several parameters, including the objective assessment of the risk-benefit, cost-benefit, and the quality of life of these patients, in addition to the evaluation of cultural, ethical, philosophical, and religious aspects.

In 1997, William Parmley, in the President's Page of the Journal of the American College of Cardiology (ACC)² asked "Are we practicing cardiogeriatrics?" and concluded that on one hand yes, we are doing so because we care for this population group, and on the other hand no, because we are not adequately prepared to care for the elderly. Ten years later, James T. Dove insists that we are still unprepared to care for the elderly because of the lack of training of medical specialists³.

The increase in population longevity requires doctors to be trained to provide medical assistance to this emerging patient category. Considering the epidemiology of cardiovascular diseases, cardiologists are the obvious responsible physicians for the health care of the elderly. The increased prevalence of elderly patients with cardiovascular disease in emergency rooms, clinics, and hospital wards is significant to the point that many healthcare service providers have created specific clinics for cardiogeriatric care. Moreover, these patients frequently present with heart disease with associated complications.

Geriatric care should be differentiated and effective. However, clinical cardiologists are usually unprepared to

care for the elderly, thus reinforcing the need for adequate training of medical students, for this purpose, from as early as undergraduate level.

On June 3, 1992, a group of doctors met at the Santa Casa de São Paulo and created the Brazilian Study Group in Cardiogeriatrics of the Brazilian Cardiology Society (BSCG-BCS) with the aim to disseminate and promote the study of geriatric cardiology. In this instance, Dr. Mauricio Wajgarten was elected as the first president of the group.

In 2002, we held a conference entitled "Why cardiogeriatrics?" at the BCS Congress, and emphasized the need for training in cardiogeriatrics, considering the growth of the elderly population. We indicated that the focus should not be specialization but rather differentiation via which doctors gain knowledge and practice different aspects of cardiovascular disease in the elderly. Moreover, this study group was encouraged to create a department, which occurred in 2005 during the administration of Dr. Claudia Gravina, when the Cardiogeriatrics Department of the Brazilian Cardiology Society (CD-BCS) was established. Since then, other research groups interested in this topic have been established in Brazil and have promoted local courses and regional and national meetings, many of them in partnership with the Geriatrics Societies, which has greatly enriched the debates.

In 2002 and 2010, the first⁴ and second⁵ Guidelines in Cardiogeriatrics were published. The second guideline included the participation of ACC members. Moreover, CD-BCS members participated in the publication of books⁶ and treatises on geriatrics and gerontology⁷.

In 2006, the CD-BCS had the opportunity to give a course during the ACC Congress, in conjunction with the Society of Geriatric Cardiology, and the high-standard lectures resulted in the publication of two scientific papers^{8,9}. The CD-BCS members met again in 2014 at the ACC Congress to specifically discuss the guidelines on cardiogeriatrics.

The goals of the CD-BCS include:

1. To train doctors and other health care professionals to adequately care for the elderly patients with cardiac diseases;
2. To promote continuing education;
3. To conduct research and multicenter studies⁸;
4. To disseminate cardiogeriatrics-related topics among health care professionals and the general population, as occurred in the 2012 CD-BCS Congress held in Gramado, state of Rio Grande do Sul, Brazil.

The technological and therapeutic advances of the past 20 years have led to the successful treatment of cardiac diseases in adults, with a consequent increase in patient survival rate. Natural evolution creates new diseases and pre-existing diseases can reappear at an older age.

Keywords

Demographic Aging; Geriatrics / trends; Cardiovascular Diseases; Aged, 80 and Over; Survivorship.

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The treatment approach for the elderly is still generally based on medical evidence regarding the elderly population. In addition, studies that specifically involve the elderly population are of limited value because they select particular study groups and exclude those with severe comorbidities or frailties, thus limiting our understanding of the elderly heart patients¹⁰.

The elderly should be evaluated on the basis of the concept of a comprehensive clinical approach. The medical specialties indicate the limits of our competence. Because of the ever-expanding medical knowledge, we are unable to fully comprehend all areas of expertise; therefore, each medical field is divided into specialties and subspecialties. However, this system is of limited applicability when caring for the elderly. These individuals should be viewed as patients who have various conditions, who are often frail, and who also suffer from heart disease.

The elderly population exhibit three characteristics that must be addressed: frailty, disability, and comorbidity¹¹.

Furthermore, the quality of communication with older people is limited, because of deficits of hearing, vision, attention, memory, understanding, and even the lack of sufficient literacy proficiency¹².

Geriatric health generally receives little attention. However, we believe that the benefits of the medical advancements should also be applied to this age group. Despite the increased risk of the medical procedures performed on this age group, the benefits are also greater. Furthermore, we should avoid what we call omission iatrogeny^{13,14}, which is the failure to perform a certain treatment whose benefits have been demonstrated.

Geriatric care should be differentiated and free of any generalization, stereotype, and prejudice¹⁵. Physicians should be trained to view the patient as a whole, with limitations and clinical complications potentially associated with heart disease¹⁶.

In 2012, the BCS published the First Guideline on Procedures and Competence in Cardiology Training in Brazil¹⁷. The document comprises guidelines for the training of cardiologists and for the obtaining of the degree of specialist. One of the issues discussed in the document is related to cardiovascular diseases among the elderly. In this context, the departments and study groups should provide the pedagogical resources for each item described in the guideline.

A training program for the comprehensive geriatric care should include:

1. A comprehensive geriatric assessment, including physical, functional, and psychosocial evaluation, as well as understanding the family dynamics of the elderly patients;
2. The ageing and physiological processes of the elderly patients;
3. Job training and coordination of the participants with a multidisciplinary team;
4. Discussion of the ethical and legal aspects related to geriatric care;

5. Discussion of death with dignity and respect for the choices of the patient with regards to longevity and quality of life;
6. Economic aspects and institutionalization;
7. Pharmacokinetics and pharmacodynamics of the drugs administered to these patients, polypharmacy, and drug interactions;
8. Nutrition for the elderly;
9. General and specific prevention of cardiovascular diseases;
10. Application of evidence-based medicine in geriatric care;
11. Communication training;
12. Prevention of omission iatrogeny;
13. Perform the activities of clinicians along the lines of classical medicine.

The training components should include:

1. Specific geriatric care clinics;
2. Availability of hospital beds in clinical and surgical wards;
3. Liaison with other geriatric care segments;
4. Geriatric care in the emergency room and ICU;
5. Seminars by experts (forensic specialists, economists, lawyers, etc.) in different health care segments;
6. Discussion of study results with elderly patients;
7. Development of studies involving elderly patients.

To accomplish these steps, cardiologists should be trained and well prepared¹⁸.

Ageing involves continuous changes over a large time span. Furthermore, its progression depends on the individual and on multiple factors. Therefore, geriatric care should also be provided at individual level; therefore, clinicians should be adequately trained to identify the consequences and vulnerabilities of ageing, particularly when considering that some of these patients may exceed 100 years with an improved quality of life.

Contribution of authors

Conception and design of the research, Acquisition of data, Analysis and interpretation of the data, Writing of the manuscript and Critical revision of the manuscript for intellectual content: Franken RA, Rosa RF.

Potential Conflict of Interest

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Study Association

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