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ICF CORE SETS FOR CHRONIC ISCHAEMIC HEART DISEASE

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Objective: **To report on the results of the consensus process integrating evidence from preliminary studies to develop the first version of a Comprehensive ICF Core Set, and a Brief ICF Core Set for chronic ischaemic heart disease.**

Methods: **A formal decision-making and consensus process integrating evidence gathered from preliminary studies was followed. Preliminary studies included a Delphi exercise, a systematic review and an empirical data collection. After training in the ICF and based on these preliminary studies relevant ICF categories were identified in a formal consensus process by international experts from different backgrounds.**

Results: **The preliminary studies identified a set of 253 ICF categories at the second, third and fourth ICF levels with 89 categories on *body functions*, 25 on *body structures*, 82 on *activities and participation* and 57 on *environmental factors*. Sixteen experts attended the consensus conference on CIHD (11 physicians with various sub-specializations and 3 physical therapists). Altogether 61 second-level categories were included in the Comprehensive ICF Core Set with 14 categories from the component *body functions*, one from *body structures*, 17 from *activities and participation* and 29 from *environmental factors*. The Brief ICF Core Set included a total of 36 second-level categories with 10 on *body functions*, one on *body structures*, 13 on *activities and participation* and 12 on *environmental factors*.**

Conclusion: **A formal consensus process integrating evidence and expert opinion based on the ICF framework and classification led to the definition of ICF Core Sets for CIHD. Both the Comprehensive ICF Core Set and the Brief ICF Core Set were defined.**

Key words: myocardial ischaemia, ischaemic heart disease, coronary artery disease, angina pectoris, consensus development conferences, outcome assessment, quality of life, ICF.

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INTRODUCTION

Ischaemic heart disease (IHD) is the leading cause of death in the USA (1) and worldwide (2). In 1990 IHD accounted for 626 million deaths worldwide (3) and was the fifth most important specific cause of global disability-adjusted life years (DALYs) (4). IHD is predicted to become the leading cause of DALYs and the major contributor to the burden of disease worldwide in the year 2020 (2).

IHD, which most commonly refers to coronary artery disease, may present either as an acute syndrome, such as unstable angina and acute myocardial infarction or chronic stable angina. Chronic stable angina is the initial manifestation of chronic IHD in approximately one-half of the patients (5, 6).

The most typical and common symptoms and limitations of functioning in patients with chronic stable angina are substernal/chest discomfort, which occurs predictably and reproducibly at a certain level of exertion and is relieved by rest or nitroglycerine (7, 8) and "exercise intolerance" – activity-limitations, such as reduced walking distances. However, there are atypical symptoms, such as shortness of breath (dyspnoea), (left) arm pain on exertion and worsening heart failure, also referred to as "ischaemic or anginal equivalent" (9–12). Silent (asymptomatic) ischaemia is, however, the most common manifestation of chronic IHD (13, 14).

Psychological problems are well known and common in chronic IHD patients, including depression, anxiety, irritability, sexual difficulties and problems within the family (15–17). From a psychosocial perspective, IHD is associated with a decreased quality of life (18) and increased healthcare costs (19).

Current recommendations for the treatment of chronic IHD focus on 2 major goals: first, to increase the "quantity" of life (prevent myocardial infarction and death) and second, to improve the quality of life (by reducing symptoms related to angina/ischaemia) (9, 10, 20). The recognition of the importance of systematically assessing symptoms and functional limitations to optimize the management of chronic IHD has led to the development and use of a number of condition-specific health-status measures. Recently the American College of Cardiology and the American Heart Association reviewed the use and the properties of currently available health-status measures for patients with chronic IHD (9, 10). However, none of these

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Table I. *International Classification of Functioning, Disability and Health (ICF) – categories of the component body functions included in the Comprehensive ICF Core Set for chronic ischaemic heart disease*

ICF code	ICF category title
b130	Energy and drive functions
b134	Sleep functions
b152	Emotional functions
b280	Sensation of pain
b410	Heart functions
b415	Blood vessel functions
b420	Blood pressure functions
b440	Respiration functions
b455	Exercise tolerance functions
b460	Sensations associated with cardiovascular and respiratory functions
b530	Weight maintenance functions
b640	Sexual functions
b730	Muscle power functions
b740	Muscle endurance functions

organizations has made recommendations regarding the use of specific health-status measures or a systematic framework to cover the spectrum of symptoms and limitations in functioning of patients with chronic IHD.

With the approval of the new International Classification of Functioning, Disability and Health (ICF, formerly ICIDH-2 http://www.who.int/classification/icf), we can now rely on a globally-agreed-upon framework and classification to define the typical spectrum of problems in functioning of patients with chronic IHD. For practical purposes and in line with the concept of condition-specific health-status measures, it would thus seem most helpful to link specific conditions or diseases to salient ICF categories of functioning (21). Such generally-agreed-upon lists of ICF categories can serve as Brief ICF Core Set to be rated in all patients included in a clinical study with chronic IHD or as Comprehensive ICF Core Set to guide multidisciplinary assessments of patients with chronic IHD.

The objective of this paper is to report on the results of the consensus process integrating evidence from preliminary studies to develop the first version of the ICF Core Sets for chronic IHD, the Comprehensive ICF Core Set and the Brief ICF Core Set.

METHODS

The development of the ICF Core Sets for chronic IHD involved a formal decision-making and consensus process integrating evidence gathered from preliminary studies including a Delphi exercise (22), a systematic review (23) and an empirical data collection using the ICF checklist (24). After training in the ICF and based on these preliminary studies, relevant ICF categories were identified in a formal consensus process by international experts from different backgrounds.

Sixteen experts (11 physicians with various sub-specializations, 3 physical therapists and 2 epidemiologists) from 7 different countries attended the consensus process for chronic IHD. The decision-making process for chronic IHD involved 3 working groups, 2 with 5 and 1 with 6 experts, respectively. The process was facilitated by the condition co-ordinator for chronic IHD (NW) and the 3 working-group leaders (MB, MQ, AS).

Table II. *International Classification of Functioning, Disability and Health (ICF) – categories of the component body structures included in the Comprehensive ICF Core Set for chronic ischaemic heart disease*

ICF code	ICF category title
s410	Structure of cardiovascular system

The tables on the preliminary studies presented to the participants included 253 ICF categories at the second, third and fourth levels (89 *body functions*, 25 *body structures*, 82 *activities and participation* and 57 *environmental factors*).

RESULTS

Tables I–IV show the second-level ICF categories included in the Comprehensive ICF Core Set. Table V shows the second-level ICF categories included in the Brief ICF Core Set, as well as the percentage of experts willing to include the named category in the Brief ICF Core Set.

The total number of categories in the Comprehensive ICF Core Set is 61, and the total number of categories included in the Brief ICF Core Set is 36. No categories at the third and fourth levels were included in the Comprehensive ICF Core Set or the Brief ICF Core Set.

The 61 categories of the Comprehensive ICF Core Set are made up of 14 (23%) categories from the component *body functions*, one (2%) category from the component *body structures*, 17 (28%) categories from the component *activities and participation* and 29 (48%) categories from the component *environmental factors*.

The 14 categories of the component *body functions* represent 12% of the total number of ICF categories at the second level in this component. Most of the *body functions* categories belong to

Table III. *International Classification of Functioning, Disability and Health (ICF) – categories of the component activities and participation included in the Comprehensive ICF Core Set for chronic ischaemic heart disease*

ICF code	ICF category title
d230	Carrying out daily routine
d240	Handling stress and other psychological demands
d430	Lifting and carrying objects
d450	Walking
d455	Moving around
d460	Moving around in different locations
d470	Using transportation
d475	Driving
d480	Riding animals for transportation
d570	Looking after ones health
d620	Acquisition of goods and services
d630	Preparing meals
d640	Doing housework
d760	Family relationships
d770	Intimate relationships
d850	Remunerative employment
d920	Recreation and leisure

Table IV. *International Classification of Functioning, Disability and Health (ICF) – categories of the component environmental factors included in the Comprehensive ICF Core Set for chronic ischaemic heart disease*

ICF code	ICF category title
e110	Products or substances for personal consumption
e115	Products and technology for personal use in daily living
e125	Products and technology for communication
e135	Products and technology for employment
e140	Products and technology for culture, recreation and sport
e150	Design, construction and building products and technology of buildings for public use
e155	Design, construction and building products and technology of buildings for private use
e225	Climate
e260	Air quality
e310	Immediate family
e315	Extended family
e320	Friends
e325	Acquaintances, peers, colleagues, neighbours and community members
e330	People in positions of authority
e340	Personal care providers and personal assistants
e355	Health professionals
e360	Health-related professionals
e410	Individual attitudes of immediate family members
e415	Individual attitudes of extended family members
e420	Individual attitudes of friends
e425	Individual attitudes of acquaintances, peers, colleagues, neighbours and community members
e430	Individual attitudes of people in positions of authority
e440	Individual attitudes of personal care providers and personal assistants
e450	Individual attitudes of health professionals
e455	Individual attitudes of health-related professionals
e460	Societal attitudes
e570	Social security services, systems and policies
e580	Health services, systems and policies
e590	Labour and employment services, systems and policies

chapter 4 *functions of the cardiovascular, haematological, immunological and respiratory systems* (6 categories). Chapter 1 *mental functions* is represented by 3 categories, and chapter 7 *neuromusculoskeletal and movement-related functions* by 2 categories. Chapter 2 *sensory functions and pain*, chapter 5 *functions of the digestive, metabolic and endocrine systems* and chapter 6 *genitourinary and reproductive functions* are each represented by one category.

The component *body structures* is exclusively represented by the category s410 *structure of cardiovascular system*.

The 17 categories of the component *activities and participation* represent 14% of the total number of ICF categories at the second level in this component. Most of the *activities and participation* categories belong to chapter 4 *mobility* (7 categories). Chapter 6 *domestic life* is represented by 3 categories. Chapter 2 *general tasks and demands* and chapter 7 *interpersonal interactions and relationships* are represented by 2 categories, respectively. Chapter 5 *self-care*, chapter 8 *major life areas* and chapter 9 *community, social and civic life* are each represented by one category.

The 29 categories of the component *environmental factors* represent 39% of the total number of ICF categories at the second level in this component. Most of the *environmental factors* categories belong to chapter 4 *attitudes* (9 categories), chapter 3 *support and relationships* (8 categories), and chapter 1 *products and technology* (7 categories). However, all 5 chapters of this component are represented in the Comprehensive ICF Core Set. Chapter 5 *services, systems and policies* is represented by 3 categories and chapter 2 *natural environment and human-made changes to the environment* by 2 categories.

With respect to the Comprehensive ICF Core Set, the Brief ICF Core Set includes 10 (71%) categories from the component *body functions*, 1 (100%) from *body structures*, 13 (76%) from *activities and participation* and 12 (41%) from *environmental factors*.

The 10 categories of the component *body functions* represent 9%, the 13 categories of the component *activities and participation* 11%, and the 12 categories of the component *environmental factors* 16% of the total number of ICF categories at the second level in their respective components.

All ICF categories taken into account in the final decision process are presented in Table V. However, a preliminary cut-off was established at 50% to reflect majority opinion.

DISCUSSION

The formal consensus process integrating evidence from preliminary studies and expert knowledge at the third ICF Core Sets Conference led to the definition of the Brief ICF Core Set and the Comprehensive ICF Core Set for multidisciplinary assessment.

A discussion point was raised by the cardiologists at the beginning of the consensus process regarding the definition of the term “chronic ischaemic heart disease” since patients may

Table V. *International Classification of Functioning, Disability and Health (ICF) – categories included in the Brief ICF Core Set for chronic ischaemic heart disease and percentage of experts willing to include the named category in the Brief ICF Core Set. 50% represent a preliminary cut-off. >50% is bold*

ICF component	%	ICF code	ICF category title
Body functions	**100**	**b410**	**Heart functions**
	100	**b455**	**Exercise tolerance functions**
	100	**b420**	**Blood pressure functions**
	100	**b280**	**Sensation of pain**
	100	**b460**	**Sensations associated with cardiovascular and respiratory functions**
	62	**b415**	**Blood vessel functions**
	92	**b152**	**Emotional functions**
	54	**b130**	**Energy and drive functions**
	54	**b740**	**Muscle endurance functions**
	15	b730	Muscle power functions
Body structures	**92**	**s410**	**Structure of cardiovascular system**
Activities and participation	**100**	**d230**	**Carrying out daily routine**
	100	**d570**	**Looking after ones health**
	100	**d450**	**Walking**
	100	**d240**	**Handling stress and other psychological demands**
	100	**d770**	**Intimate relationships**
	92	**d850**	**Remunerative employment**
	85	**d760**	**Family relationships**
	69	**d455**	**Moving around**
	54	**d620**	**Acquisition of goods and services**
	46	d920	Recreation and leisure
	23	d430	Lifting and carrying objects
	15	d630	Preparing meals
	8	d640	Doing housework
Environmental factors	**100**	**e310**	**Immediate family**
	100	**e355**	**Health professionals**
	100	**e410**	**Individual attitudes of immediate family members**
	100	**e320**	**Friends**
	100	**e570**	**Social security services, systems and policies**
	100	**e110**	**Products or substances for personal consumption**
	46	e315	Extended family
	62	**e325**	**Acquaintances, peers, colleagues, neighbours and community members**
	31	e260	Air quality
	15	e125	Products and technology for communication
	8	e415	Individual attitudes of extended family members
	8	e330	People in positions of authority

present with a variety of syndromes. The focus was on chronic conditions, including chronic stable angina, as well as on patients in a stable condition at least 6 months after myocardial infarction or coronary-bypass surgery. The complex clinical syndrome "heart failure" (HF), representing the end stage of a number of different cardiac diseases was excluded.

One of the main challenges during the decision-making and consensus process on the ICF Core Sets for chronic IHD was comprehensively to cover the spectrum of chronic IHD-related changes in *body functions*, as well as of *activity limitations* and *restrictions in participation*, while constantly keeping the focus on chronic IHD. Attention was not focused on dreaded health consequences of chronic IHD, such as heart failure and myocardial infarction, or other health conditions that may worsen angina pectoris. The co-morbidities are subject to separate ICF Core Sets.

Another general discussion point raised during the consensus process was the time sequence of functional limitations and disability in chronic IHD. As supported by the high rates of asymptomatic chronic IHD patients (14, 25, 26), chronic IHD might present with very few symptoms at the onset of the disease. In contrast, at more severe disease stages, patients experience a variety of functional limitations and restrictions of activity and participation. Thus, the Comprehensive ICF Core Set may contain functioning and disability categories related to the health condition chronic IHD that are not necessarily relevant to all patients.

With respect to the 4 main components of the ICF, the following issues were raised. The selection on *body functions* included in the Comprehensive ICF Core Set showed results consistent with the organ functions usually involved in chronic IHD and with the evidence from the preliminary studies. Especially the categories of the cardiovascular and respiratory system are covered in great depth. With regard to *dyspnoea* (b460), some condition-group members considered this symptom to be mainly relevant as a consequence of fluid retention in heart failure. However, it was included in both ICF Core Sets since an increased percentage of older vs younger patients have atypical manifestations of myocardial ischaemia, including dyspnoea as "anginal equivalent" (27). There was a discussion point about the inclusion of both categories, *exercise tolerance functions* (b455) and *muscle endurance functions* (b740). Both

categories were included, as the well-known deconditioning problem in patients with chronic IHD is related to cardiovascular, as well as muscular functions. The inclusion of *emotional functions* (b152) is consistent with the association between psychological factors, such as anxiety, increased irritability, and depressive symptoms and chronic IHD that have been found in several studies (15–17). Especially depressive symptoms have been found to increase the risk of acute myocardial infarction and recurrent angina (28, 29). *Sleep functions* (b134) was considered important and was included in the Comprehensive ICF Core Set, but was finally excluded from the Brief ICF Core Set since sleep apnoea and or Cheyne-Stokes respiration becomes evident mainly in patients with cardiac failure (30). The category *structures of the cardiovascular system* was the only category included in the component *body structures* in both ICF Core Sets.

The areas that are covered by the *activities and participation* component represent key issues for patients with chronic IHD, including *mobility* and *domestic life*. This is supported by an in-depth representation of these chapters in the Comprehensive ICF Core Set as well as in the Brief ICF Core Set. There was considerable agreement about the selection of the majority of categories in this component. The discussion regarding the inclusion of *riding animals for transportation* (d480) reflects the global perspective and the effects of cultural differences of the internationally selected experts. With regard to interpersonal relationships, there was uncertainty whether *basic interpersonal interactions* (d710) should be included, since the third-level categories within this second-level category may represent prognostic factors. The experts decided not to include this category, since *family and intimate relationships* (d760, d770) are part of the Comprehensive ICF Core Set.

The broad representation of the component *environmental factors* is remarkable. It is significant that 29 categories representing 48% of the categories of the Comprehensive ICF Core Set belong to the component *environmental factors*.

The majority of categories in this component belong to the chapter *attitudes, support and relationships* and *products and technology*. The inclusion of the chapters *support and relationships* and *attitudes* is much in line with current guidelines (9, 10, 31) in cardiac rehabilitation and secondary prevention programs (20), which emphasizes the importance of assessing social support in patients with chronic IHD.

There was general agreement that the *climate* (e225) and *air quality* (e260), as well as *products or substances for personal consumption* (e110, including drugs), affect the clinical course in chronic IHD. The last 2 named categories are included in both ICF Core Sets.

After having decided on the *environmental-factors* categories to be included in the Comprehensive ICF Core Set, the condition group considered all selected categories highly relevant, but felt somewhat uncomfortable with the high number of categories. It was noticed that, for example, for the multidisciplinary assessment in rehabilitation, this level of differentiation may be adequate, but excessive and too detailed for other clinical settings.

The aim to create a mandatory Brief ICF Core Set short enough to be practical in clinical studies resulted in a noticeable reduction to 35 categories. The Brief ICF Core Set still contains most of the chapters represented in the Comprehensive ICF Core Set.

The breadth of ICF chapters contained in the Comprehensive ICF Core Set reflects the important and complex impairments, activity limitations, and participation restrictions in patients with chronic IHD, as well as numerous interactions with environmental factors. Regarding the comprehensiveness of the ICF, it is interesting to note that the condition group did not identify problems of patients not contained in the ICF. This emphasizes the validity of the ICF classification, which was based on an international development process.

Although the participants were provided with the option to define the categories not only by the second, but possibly also by the third or fourth levels of the classification, it was decided to keep all items at the second level. This reflects the need to create a user-friendly tool for clinical practice and research.

The organizers of the consensus process took great care in the selection of the experts and were successful in recruiting 16 experts with different professional backgrounds from 7 different countries. It should be borne in mind that the results of any consensus process may differ with different groups of experts. This emphasizes the importance of the extensive validation of this first version of the ICF Core Sets from the perspectives of different professions and in different countries. The first version of the ICF Core Sets will also be tested from the patients points of view and in different clinical settings. The length of the ICF Core Sets may be reduced based on the results of the test and validation studies. Thus, it is important to note that this first version of the ICF Core Sets is only recommended for validation or pilot studies.

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REFERENCES

1. The American Heart Association. Biostatistical Fact Sheets. Dallas, TX: American Heart Association; 1997, p. 1–29.
2. Murray C, Lopez A. The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Cambridge, MA: Harvard University Press; 1997.
3. Murray CJ, Lopez AD. Mortality by cause for eight regions of the world: Global Burden of Disease Study. Lancet 1997; 349: 1269–1276.
4. Murray CJ, Lopez AD. Global mortality, disability, and the contribution of risk factors: Global Burden of Disease Study. Lancet 1997; 349: 1436–1442.
5. Elveback LR, Connolly DC, Melton LJ 3rd. Coronary heart disease in residents of Rochester, Minnesota. VII. Incidence, 1950 through 1982. Mayo Clin Proc 1986; 61: 896–900.

6. Kannel WB, Feinleib M. Natural history of angina pectoris in the Framingham study. Prognosis and survival. Am J Cardiol 1972; 29: 154–163.
7. Kannam J. Overview of the management of stable angina pectoris. In: Rose B, ed. UpToDate. Wellesley, MA: UpToDate Inc; 2003.
8. Podrid P. Pathophysiology and diagnosis of ischemic chest pain. In: Rose B, ed. UpToDate. Wellesley, MA: UpToDate Inc; 2003.
9. Gibbons RJ, Abrams J, Chatterjee K, Daley J, Deedwania PC, Douglas JS, et al. ACC/AHA 2002 guideline update for the management of patients with chronic stable angina – summary article: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on the Management of Patients With Chronic Stable Angina). Circulation 2003; 107: 149–158.
10. Gibbons RJ, Abrams J, Chatterjee K, Daley J, Deedwania PC, Douglas JS, et al. ACC/AHA 2002 guideline update for the management of patients with chronic stable angina – summary article: a report of the American College of Cardiology/American Heart Association Task Force on practice guidelines (Committee on the Management of Patients With Chronic Stable Angina). J Am Coll Cardiol 2003; 41: 159–168.
11. Lernfelt B, Wikstrand J, Svanborg A, Landahl S. Aging and left ventricular function in elderly healthy people. Am J Cardiol 1991; 68: 547–549.
12. Stone GW, Griffin B, Shah PK, Berman DS, Siegel RJ, Cook SL, et al. Prevalence of unsuspected mitral regurgitation and left ventricular diastolic dysfunction in patients with coronary artery disease and acute pulmonary edema associated with normal or depressed left ventricular systolic function. Am J Cardiol 1991; 67: 37–41.
13. Prakash C. Silent myocardial ischemia: epidemiology and pathogenesis. In: Rose B, ed. UpToDate. Wellesley, MA: UpToDate Inc; 2003.
14. Deedwania PC, Carbajal EV. Silent myocardial ischemia. A clinical perspective. Arch Intern Med 1991; 151: 2373–2382.
15. Eaker ED. Use of questionnaires, interviews, and psychological tests in epidemiological studies of coronary heart disease. Eur Heart J 1988; 9: 698–704.
16. Orth-Gomer K, Horsten M, Wamala SP, Mittleman MA, Kirkeeide R, Svane B, et al. Social relations and extent and severity of coronary artery disease. The Stockholm Female Coronary Risk Study. Eur Heart J 1998; 19: 1648–1656.
17. Orth-Gomer K, Wamala SP, Horsten M, Schenck-Gustafsson K, Schneiderman N, Mittleman MA. Marital stress worsens prognosis in women with coronary heart disease: The Stockholm Female Coronary Risk Study. JAMA 2000; 284: 3008–3014.
18. Westin L, Carlsson R, Israelsson B, Willenheimer R, Cline C, McNeil TF. Quality of life in patients with ischaemic heart disease: a prospective controlled study. J Intern Med 1997; 242: 239–247.
19. Druss BG, Marcus SC, Olfson M, Pincus HA. The most expensive medical conditions in America. Health Aff (Millwood) 2002; 21: 105–111.
20. Balady GJ, Ades PA, Comoss P, Limacher M, Pina IL, Southard D, et al. Core components of cardiac rehabilitation/secondary prevention programs: a statement for healthcare professionals from the American Heart Association and the American Association of Cardiovascular and Pulmonary Rehabilitation Writing Group. Circulation 2000; 102: 1069–1073.
21. Stucki G, Cieza A, Ewert T, Kostanjsek N, Chatterji S, Ustun TB. Application of the International Classification of Functioning, Disability and Health (ICF) in clinical practice. Disabil Rehabil 2002; 24: 281–282.
22. Weigl M, Cieza A, Andersen A, Kollerits B, Amann E, Füssl M, et al. Identification of the most relevant ICF categories in patients with chronic health conditions: a Delphi exercise. J Rehabil Med 2004; 36: Suppl 44: 12–21.
23. Wolff B, Cieza A, Paremtin A, Rauch A, Sigl T, Brockow T, et al. Identifying the concepts contained in the outcome measures of clinical trials on four internal disorders using the International Classification of Functioning, Disability and health as a reference. J Rehabil Med 2004; 36: Suppl 44: 37–42.
24. Ewert T, Fuessl M, Cieza A, Andersen A, Chatterji S, Kostanjsek N, et al. Identification of the most common patient problems in patients with chronic conditions using the ICF checklist. J Rehabil Med 2004; 36: Suppl 44: 22–29.
25. Gottlieb SO, Gottlieb SH, Achuff SC, Baumgardner R, Mellits ED, Weisfeldt ML, et al. Silent ischemia on Holter monitoring predicts mortality in high-risk postinfarction patients. JAMA 1988; 259: 1030–1035.
26. Gottlieb SO, Weisfeldt ML, Ouyang P, Mellits ED, Gerstenblith G. Silent ischemia as a marker for early unfavorable outcomes in patients with unstable angina. N Engl J Med 1986; 314: 1214–1219.
27. Graham SP, Vetrovec GW. Comparison of angiographic findings and demographic variables in patients with coronary artery disease presenting with acute pulmonary edema versus those presenting with chest pain. AM J Cardiol 1991; 68: 1614–1648.
28. Connerney I, Shapiro PA, McLaughlin JS, Bagiella E, Sloan RP. Relation between depression after coronary artery bypass surgery and 12-month outcome: a prospective study. Lancet 2001; 358: 1766–1771.
29. Enhancing recovery in coronary heart disease patients (ENRICHD): study design and methods. The ENRICHD investigators. Am Heart J 2000; 139: 1–9.
30. Javaheri S, Parker TJ, Liming JD, Corbett WS, Nishiyama H, Wexler L, et al. Sleep apnea in 81 ambulatory male patients with stable heart failure. Types and their prevalences, consequences, and presentations. Circulation 1998; 97: 2154–2159.