

QUALITY OF LIFE OF DIABETIC PATIENTS WITH CORONARY HEART DISEASE

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Abstract

Health-related quality of life (HRQOL) provides a multidimensional perspective that encompasses a patient's physical, emotional and social functioning. Generally, patients with more than one co-morbid condition report the poorest level of HRQOL, but some chronic conditions, like cancer, cardiovascular and pulmonary diseases and diabetes mellitus, are more strongly associated with poor HRQOL than others. The number of people with diabetes is increasing due to population growth, aging, urbanization, and increasing prevalence of obesity and physical inactivity and diabetes has been estimated to be the fourth leading cause of death in Europe. Coronary heart diseases (CHD) represent the major cause for mortality and morbidity for diabetic patient and increased mortality from CHD in diabetics is generally acknowledged. The physical component of CHD had lower HRQOL scores. The symptoms are strongly related to HRQOL in both physical and psychological components. Myocardial infarction put a substantial burden on affected individuals by influencing physical, psychological, social, economical and practical aspects of HRQOL. The treatment of CHD increase quality of life scores and diabetic patients who received an interventional therapy versus patients with conservative therapy had a significantly better quality of life.

Keywords: diabetes mellitus, cardiovascular diseases, quality of life.

CALITATEA VIEȚII PACIENȚILOR DIABETICI CU BOALĂ CARDIACĂ CORONARIANĂ

Rezumat

Evaluarea calității vieții conferă o perspectivă multidimensională asupra aspectelor fizice, emoționale și sociale ale pacientului. În general, pacienții cu mai multe afecțiuni asociate prezintă cel mai scăzut nivel al calității vieții, însă, anumite afecțiuni cronice cum ar fi neoplaziile, bolile cardiovasculare, pulmonare și diabetul zaharat, sunt mai puternic asociate cu scăderea parametrilor calității vieții decât altele. Numărul pacienților cu diabet este în continuă creștere datorită creșterii și îmbătrânirii populației globale, datorită fenomenului de urbanizare, iar prevalența crescândă a obezității, a sedentarismului și diabetul au fost apreciate ca fiind a patra cauză de deces în Europa. Afecțiunile coronariene reprezintă principala cauză de mortalitate și morbiditate a pacienților diabetici. Componenta fizică a pacientului diabetic cu afecțiunii coronariene conferă un scor redus evaluării calității vieții, în timp ce simptomele sunt puternic corelate cu parametrii evaluați, atât din punct de vedere al componentei fizice, cât și al celei psihologice. Infarctul miocardic reprezintă o povară substanțială suplimentară pentru indivizii afectați, influențând aspectele fizice, psihologice, sociale, economice și practice ale calității vieții. Tratamentul afecțiunilor coronariene determină o creștere a scorurilor de calitate a vieții, pacienții diabetici care au urmat o terapie intervențională având o calitate a vieții net superioară celor care au urmat o terapie conservatoare.

Cuvinte cheie: diabet zaharat, boli cardiovasculare, calitatea vieții.

THE IMPACT OF DIABETES MELLITUS ON HEALTH-RELATED QUALITY OF LIFE

Health-related quality of life (HRQOL) provides a multidimensional perspective that encompasses a patient's physical, emotional and social functioning [1]. Generally, patients with more than one co-morbid condition report the poorest level of HRQOL, but some chronic conditions, like cancer, cardiovascular and pulmonary diseases and, not at least, diabetes mellitus, are more strongly associated with poor HRQOL than others [2-5]. Measures of QOL in chronically ill patients provide an important source of medical information in addition to laboratory or diagnostic tests [2] and are becoming increasingly relevant to controlled clinical trials [4]. One goal of the measurement of QOL is to have objective evaluations of how and how much the disease influences patient's life and how patients cope with it. These evaluations may be useful as a baseline and outcome measures and should provide the framework to determine the impact of any change on patient's QOL [5].

The number of people with diabetes is increasing due to population growth, aging, urbanization, and increasing prevalence of obesity and physical inactivity. Prevalence of diabetes in adults worldwide was estimated to be 4.0% in 1995 and to rise to 5.4% by the year 2025. It is higher in developed than in developing countries. The number of adults with diabetes in the world will rise from 135 million in 1995 to 300 million in the year 2025. The major part of this numerical increase will occur in developing countries. There will be a 42% increase, from 51 to 72 million, in the developed countries and a 170% increase, from 84 to 228 million, in the developing countries. In developing countries, the majority of people with diabetes are in the age range of 45-64 years. In the developed countries, the majority of people with diabetes are 65 years old and older. This pattern will be accentuated by the year 2025. There are more women than men with diabetes, especially in developed countries [6].

Four million Europeans die from cardiovascular diseases (CVD) every year. Cardiovascular disease is the primary cause of mortality in Romania, Bulgaria, Lithuania, Estonia and Hungary, which is extremely increased in comparison with other EU countries [7]. The role of diabetes as a contributor to cardiovascular disease (CVD) has been evaluated in many studies, and now have prospective population data become available. Diabetes has been reported to be a precursor of cardiovascular morbidity and mortality in general and of ischemic heart disease and congestive heart failure in particular in the Framingham study [8-9].

Diabetes has been estimated to be the fourth leading

cause of death in Europe. In developing and developed countries the insulin-dependent diabetes mellitus (IDDM) patients die early of infections and acute metabolic complications, they do not live enough to develop vascular complications. Cardiovascular diseases contributing for only 10% of deaths among this patients. In developing countries non-insulin-dependent diabetes mellitus (NIDDM) patients die of stroke as a complication of hypertension. Also a major causes of death is gangrene, infections and metabolic complications. In developed countries cardiovascular diseases are the leading cause of death for NIDDM patients. Coronary heart disease accounts for 50% of deaths, stroke for 15% and other cardiovascular conditions for 10% [10]. An increased mortality from coronary heart disease (CHD) in diabetics is generally acknowledged. A higher proportion of diabetics than non-diabetics might die of CHD. Although reports are inconsistent, reports from coronary care units have shown a higher proportion of in-hospital mortality among diabetics than among non-diabetics who have CHD [11]. The INTERHEART study estimated that 15% of hearth attacks in western Europe and 9% of heart attacks in CEE countries were due to diabetes [12].

ASSESSMENT OF QUALITY OF LIFE IN DIABETIC PATIENTS WITH CORONARY HEART DISEASE

Chronic diseases often have a relapsing and remitting course with substantial impact on function and QOL. For chronic illnesses where there is no cure, it is important to establish that therapy really makes people feel better. Thus, survival per se is no longer perceived to be the only end point; the goal is to improve, restore, or preserve QOL. Goals of caring for patients with a chronic condition are to enhance their functional status, minimize symptoms, control pain, reduce disability, and prolong life through secondary prevention [13]. Quality of life has become an accepted end point in clinical research trials in recent years, as interest in patient's experiences and preferences has grown [14].

Diabetes mellitus permanently changes a patient's life. Patient's self care, consisting of daily insulin injections or oral anti-diabetic agents, self monitoring of blood glucose and diabetic diet has an impact on QOL. Moreover, the acute and long-term complications which might develop will also affect a person's HRQOL.

Coronary heart disease remains the leading cause of mortality and morbidity in developed countries, with approximately 30% dying of their first CHD event, and this conclusions lead to aggressive preventive strategies [15]. Recent data indicate that individuals with diabetes (but without established CHD) have as high a risk for fatal CHD as persons with established CHD (but without diabetes) [16].

Guidelines from national organizations such as the American Diabetes Association recommend aggressive

management of other CHD risk factors in patients with diabetes [17].

Ischemic heart disease (IHD) has been strongly associated with increased morbidity and mortality among populations [18]. All so cardiovascular disease is the main cause of activity limitation for 11.5% of the population, ranking behind only orthopedic impairments and arthritis [19]. Some studies have been conducted of the determinants of disability in patients with IHD. Recent studies have shown a relation between angiographic measures of coronary arterial disease severity and functional capacity as measured by the Duke Activity Status Index [19]. In other study, the relation between the number of occluded coronaries and self-reported physical functional capacity was no stronger than the relation between social class and physical functional capacity. When this sample was observed after cardiac catheterization, anxiety and depression at initial assessment were shown to predict physical function, activity interference, and role function in social and family domains up to 1 year later.

Coronary heart disease (CHD), in particular acute myocardial infarction (MI), is the major cause of morbidity and mortality in adults in the United States and in other industrialized countries [20]. After an MI, the risk of mortality is still high, with more than half a million deaths in the United States [21]. Even if the patient survives the hospital stay, there is a 10% to 30% chance that he or she will die in the next 2 years; the death rate shows a high correlation with age [22]. Myocardial infarction has been reported to put a substantial burden on affected individuals by influencing physical, psychological, social, economical, and practical aspects of life [23].

In the year 2020, the top two contributors to the worldwide burden of disease are predicted to be ischemic heart diseases and major depression [24]. Psychological aspects related to quality of life and risk factor for CHD was very well examined by National Epidemiologic Survey on Alcohol Abuse and Related Conditions (NESARC) study [25]. The purpose of this study was to examine the relationship between psychiatric disorders and CHD and the results shows that any lifetime mood disorder approximately doubles the risk for CHD in both men and women. Recent evidence suggests that depression is a significant and independent risk factor for CHD in both healthy and CAD populations, with a relative risk of about 2.0 [26]. In contrast, the anxiety disorders assessed in this study were not significantly associated with CHD, although other studies suggested a possible association [27].

The role of interventional cardiology in improvement of the symptoms and survival of diabetic patients with CHD was well studied and documented until now. In the third randomized intervention trial of unstable angina (RITA-3), patients who received an interventional therapy versus patients with conservative therapy had a significantly better QOL [28]. **Cost and QOL data were collected prospectively**

from 934 patients who were randomized in the Bypass Angioplasty Revascularization Investigation (BARI) and followed up for 10 to 12 years [29]. Coronary bypass surgery (CABG) and angioplasty (PTCA) have been compared. In the 5-year follow-up of this randomized trial, CABG patients experienced significantly greater improvements in physical function and better relief from angina, whereas PTCA patients returned to work earlier. In this extended follow-up study, 10 years after randomization, the differences between PTCA and CABG in the economic and QOL outcomes was no longer significant. However, quality of life in this cohort of patients generally declined during the 10 years of follow-up. Physical function was gradually reduced, and fewer patients rated their health as excellent or very good at later follow-up intervals. Although there are available many therapeutic surgical interventions, CHD remains a major determiner of QOL in diabetic patients.

The quality of life of diabetic patients with CHD may be assessed with a variety of validated instruments. Some of these instruments, such as the Seattle angina questionnaire and the physical activity score, are specific for coronary disease. Others, such as the Medical Outcomes Study Short Form 36, the Nottingham health profile (NHP), and the Swedish quality of life survey (SWED-QUAL), provide a more generic assessment and allow comparisons with normal populations.

CONCLUSIONS

From a clinical perspective, QOL requires a better monitoring of patients with diabetes mellitus, as it cannot be extrapolated from routine clinical variables. The treatment of non-physical aspects of chronic disease should be considered as part of the management of diabetes. Patients with diabetes mellitus have statistically significant impairment of all aspects of QOL, not simply physical functioning. The combination of diabetes and a second chronic medical condition or diabetes complications may adversely affect the mental domains of QOL as measured by the vitality, social functioning and mental health scales.

Diabetes is an important cause of death in Europe and world wide. Coronary heart diseases represent the major cause for mortality and morbidity for diabetic patient and increased mortality from coronary heart disease in diabetics is generally acknowledged.

The physical component of diabetic patient with coronary heart disease had lower QOL scores. The symptoms are strongly related to QOL in both physical and psychological components. Recent evidence suggests that depression is a significant and independent risk factor for coronary artery disease in both healthy and diabetic populations. Myocardial infarction put a substantial burden on affected individuals by influencing physical, psychological, social, economical, and practical aspects of QOL. **The treatment of coronary artery disease increase quality of life scores and diabetic patients who received an**

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