QUALITY OF LIFE AFTER CORONARY INTERVENTION

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Abstract

Coronary artery disease is a major cause of morbidity and mortality, worldwide. Treatment choices include coronary intervention or surgery which influence patients' quality of life.
Purpose : The aim of this study was the assessment of the health-related quality of life of patients after coronary intervention.
Method and material : The methodoly followed included research from both the review and the research literature of Greek and international bibliography which referred to coronary intervention and quality of life.
Results : In the literature is cited that health related quality of life is influenced after coronary intervention in the majority of patients. The artery stents, including drug-eluting stents have lead to a rapid evolution of treatment in the area of coronary artery disease. Despite the fact that coronary intervention and specially stents provide initial relief of symptoms, there is a high rate of restenosis. According to the literature the most important factors influencing quality of life after coronary intervention are demographic such as age, sex, family status and clinical variables such as previous physical state, co-existing disease, depression, and symptoms of angina. Furthermore, both the acceptance of the disease and the compliance of the patients towards required lifestyle modifications as well as the medication are factors that must not be underestimated at the assessment of their quality of life.
Conclusions: As it is supported by published evidence, factors influencing heath related quality of life after coronary intervention should be seriously taken into account in planning a rehabilitation programme suitable to needs of each patient.

Keywords: coronary artery intervention- stents-quality of life-risk factors

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Introduction

Cardiovascular- related diseases (coronary artery disease, CAD) are the primary cause of disability and morbidity in many developed countries around the world.[1,2] The angioplasty of the coronary arteries that is also called PTCA or PCI is the preferred method of treatment of cardiovascular diseases. According to the American Heart Association, about 750,000 PTCA surgeries are carried out in Europe annually, in 610,000 of which intra-court catheters are placed. [2,3]

The angioplasty is performed to treat chronic coronary artery disease in non-emergency basis, and to treat acute myocardial infarction in emergency basis. Specifically, angioplasty is an invasive procedure during which, a narrow or blocked coronary artery is opened, in order regular blood flow to the myocardium to be restored. Angioplasty is not considered open surgery because no incision is performed, except for a small opening in the thigh. The process involves the temporary insertion of a small balloon at the coarctation and is usually combined with placement of stents, which are small metallic spiral devices at the area of coarctation, in order to keep the area open.[1, 3]

The duration of hospitalisation is not more than one day and the patient is often subjected to angioplasty in several arteries. According to the literature, in most countries including Greece, in 70% to 80% of cases, stents are implanted during angioplasty. [1,3]

Angioplasty improves the symptoms caused by clotted arteries, such as angina pectoris and shortness of breath, and therefore the ability to walk and exercise. The most important of all, however, is that the cardiac damage caused by an artery clot is minimized. [1-4]

It should be noted that, although angioplasty is an established method of coronary heart disease treatment, and surgery is becoming routine procedure in the acute phase of infarction, it is not a therapeutic method of choice for patients, but it depends on the stage of the disease.[1, 2]

The development of stents is an important milestone in interventional cardiology. It is widely accepted that the improved new materials used in interventional cardiology have changed significantly the quality of treatment of coronary artery disease. Therefore, angioplasty is now used as an alternative process to the bypass surgery. A better understanding of the effectiveness of stents, as well as improvements in pharmacology have led to the development of specific Stents with drug release (Drug-Eluting Stent).[6-8]

The first stent was placed in 1986 in Toulouse France in human coronary artery, while only in 1994, approval for use of the first stent was given in the United States. However, although the implantation of stents has dramatically positive effects, it is not possible to fully eliminate the possibility of reoccurrence. According to the literature, in 20% -30% of the patients, stenosis might occur again 6 months after angioplasty. In this case, angioplasty needs to be repeated or even conduction of bypass. [6-8]

Quality of life associated with health

Lately, the interest of health professionals has focused on maintaining the quality of life of patients, after myocardial infarction. Quality of life is undoubtedly a multidimensional, subjective, and inconsistent concept, which cannot easily be defined and measured. Platon, who describes that Socrates was debating about quality of life by comparing it with quantity, made the first reports on the quality of life. Today, all researchers are focused on health-related quality of life. [9-12]

The World Health Organization defines quality of life as the subjective feeling of each person for their position in life in relation to culture, the values established in the community, and the personal goals, ambitions, standards and interests. It is a situation with wide variety, which is influenced in a complex way by physical health, psychological state, personal beliefs, social relations and relations with other important persons in the environment. In contrast to the bio-medical measurements, which focus on the change of the objective signs and symptoms, assessment of quality of life probably reflects secondary psycho-emotional benefits for the individual. At present, the measurement of health-related quality of life is an indicator for evaluating the therapeutic effect. [9-13]

Assessment of the quality of life of patients after myocardial infarction is difficult because it includes the subjective reports of patients, mainly for their health and their capacity to manage daily activities. Some other factors that should be

considered when assessing the quality of life is the compliance of the patient to the new situation, the adaptive capacity to it, and the personality of the patient. [9-13]

Factors affecting the quality of life of patients after angioplasty

Although angioplasty is the modern method for treatment of cardiovascular disease, research data related to the quality of life of patients after angioplasty are limited.

It is indicated in the literature that apart from the disease, other co-factors contribute to the state of health of the patient, and affect their quality of life. More specifically, it seems that socio-demographic factors such as gender, age, marital status, and clinical parameters influence the quality of life of the patients. Also, the state of health of the patient before the onset of the disease, depression, persistent symptoms of angina pectoris, non-compliance of the patient to instructions for lifestyle changes, and the modification of risk factors may contribute to assessment of poor quality of life. [14-17]

The results of studies focusing on recognizing differences in sex, that are responsible for shaping the quality of life after myocardial infarction are controversial. Some studies have shown poorer quality of life in women, while others not. [18-21]

According to the study of Brink et al.,[22] where the quality of life for both men and women, one year after myocardial infarction was studied, results showed that lower rates of quality of life were assessed with increasing age, especially in the physical-functioning sub-category.

Findings from the work of Pettersen et al.,[18] which was carried out in Norway and assessed the quality of life of patients 2,5 years after myocardial infarction with the SF36 scale, showed that women had a lower score in the physical-functioning, role-functioning and general emotional sub-categories. Men, on the other hand, had high scores in the category assessing physical pain.

In particular, age, duration of the disease, chronic obstructive pulmonary disease, previous incidents, and stroke were responsible for the rating in the sub-category concerning physical functioning in women. Education, the characteristics of infarction (Q wave, position of the clot, the medication after hospitalisation), the burden of other cardiovascular diseases, and a subsequent myocardial infarction were responsible for the scores for physical function in men. In the same study, data on the smoking habits of the male population showed that those who smoked after myocardial infarction had lower scores of quality of life in the mental health sub-category. Therefore, apart from sex, smoking is another factor responsible for poor quality of life scores. [23]

Several studies have shown that angioplasty influences quality of life of patients in a positive way. However, Spertus et al.,[24] suggest that the improved quality of life, one year after the angioplasty, depends on other prognostic factors, of which more important are the previous physical condition and the incidence of angina pectoris.

According to Murray et al.,[25] it is necessary to obtain information regarding the patient as an entirety before the incident, in order for someone to be able to fully assess the quality of life. That information includes physical, psychological and social characteristics, as well as the general cultural status of the patient and their attitude towards life. These factors often determine the degree of compliance of the patient to medical instructions and to the new way of living. Furthermore, recording and assessment of these factors helps health professionals in designing a customized program of effective intervention.

Apart from the above, another factor that influences in a negative way the quality of life of patients with coronary artery disease despite successful angioplasty is depression, which is difficult to be diagnosed and treated. Previous studies suggest that depression is associated with a statistically significant reduction in quality of life of patients who have had myocardial infraction. [26]

According to the work of Mayou et al.,[27] high levels of anxiety and depression were prognostic indicators for poor quality of life in all categories, and particularly in daily activities and the incidence of pain at 3 and 12 months after the stroke. The study of Fauerbach et al.,[28] gave similar results, showing that depression is an independent factor associated with poor overall quality of life when assessed at 4 months. One possible interpretation of these findings is that people who have had myocardial infarction express high levels of stress, because they are unable to maintain relationships and functional roles as before the onset of the disease. Because of this inability to fulfil their role (social, professional, family), they experience social isolation. The loss of autonomy, self-esteem, the distorted picture of themselves, and the uncertainty and anxiety about the future are the most common risk factors of depression and anxiety after angioplasty. The diversity of physical and emotional symptoms that these individuals experience, force them to readjust their habits. Although the dependence of these individuals from the environment is different in each case, in most cases entails dramatic consequences both for themselves and their environment.[9,28]

Another factor affecting the quality of life of patients after stroke is the degree of educational information. According to the literature, although the training itself is not a cure, information and knowledge acquirement about self-management is the key factor in changing the perception of disease and general behaviour. It is known that none invasive procedure cures coronary heart disease, but they may differentiate the outcome. The most effective intervention though, is achieved by modifying the risk factors that predispose the occurrence of arteriosclerosis and also the recurrence, when it happens. The educational needs of each individual are different in each case and depend on age, educational level, previous experience and the degree of acceptance of the disease. [29, 30]

Also, there are differences in the way of assessment of quality of life worldwide. These may be attributed to the fact that patients evaluate quality of life differently over time, as they get more familiar to the idea of a chronic disease. Therefore, the longer the time since the angioplasty, the higher the diversity of scoring in the measurement of quality of life, as it does not reflect real changes in patient's health or symptoms of the disease. [29, 30]

Finally, these differences may be due to different diagnostic instrumentation. It is considered imperative to create a global instrument for measuring quality of life of patients with coronary artery disease, which has high sensitivity and specificity, and allows the representation of changes in the longitudinal assessment of self-perceived quality of life, in order the benefits of the method to be distinguished.[14]

Conclusions

The results of the studies presented in this article point out the importance of identification of the factors responsible for the quality of life of patients. Full documentation of all these factors would certainly lead to effective solution of the problem and to a greater reduction of the adverse effects in patients' life.

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