Research Article

iMedPub Journals
http://www.imedpub.com/

Journal of Clinical Cardiology and Research

2018
Vol.1 No.1:1

Quality of Life in Patients after Acute Myocardial Infarction

Andrade AS[1], Menezes YG[1], Silva FA[1], Cordeiro AL[1,2*] and Guimaraes AR[3]

[1]Faculdade Nobre, Feira de Santana, Bahia, Brazil

[2]Bahia School of Medicine and Public Health, Feira de Santana, Bahia

[3]Noble Institute of Cardiology, Feira de Santana, Bahia

***Corresponding author:** André Luiz Cordeiro, Bahia School of Medicine and Public Health, Feira de Santana , Bahia, Tel: 55 75 998226086, E-mail: andrelisboacordeiro@gmail.com

Received date: March 27, 2018; **Accepted date:** August 28, 2018; **Published date:** September 04, 2018

Citation: Andrade AS, Menezes YG, Silva FA, Cordeiro AL, Guimaraes AR (2018) Quality of Life in Patients after Acute Myocardial Infarction. J Clin Cardiol Res Vol No: 1 Iss No:1:1

Abstract

Introduction: It is known that cardiovascular diseases are the main causes of morbidity and mortality in the world today and Acute Myocardial Infarction (AMI) is one of the main causes. The patient with AMI reduces activities of daily living and work and may even impact their quality of life.

Objective: To analyze the quality of life in patients after acute myocardial infarction. Methodology: This is an observational study that was performed with patients admitted to the Noble Institute of Cardiology. After hospital admission, the patients were submitted to an evaluation of the quality of life through the SF-36 and the functionality through the Barthel scale.

Results: During the study period, 22 patients were evaluated: 16 (73%) men, mean age 61 ± 13 years. All SF-36 domains experienced a significant reduction with the exception of pain, limited by physical and emotional aspects. Functional capacity from 100 to 53 ± 18 (p=0.02), Physical aspects limitation from 100 to 61 ± 49 (p 0.10), Pain from 100 to 89 ± 17 (p=0.11), General status (P=0.03), Vitality from 100 to 52 ± 2 (p=0.02), Social aspects from 100 to 63 ± 24 (p=0.02), Emotional Aspects of 100 for 52 ± 30 (0.06), Mental Health from 100 to 77 ± 3 (p003D0.02). In addition, there was a reduction in functionality reducing from 100 to 70 ± 14 (p<0.001). Conclusion: It can be concluded that there is a reduction of quality of life and functionality in patients after AMI.

Keywords: Cardiovascular diseases; Myocardial Infarction; Physiotherapy

Introduction

One of the main cardiovascular diseases is Acute Myocardial Infarction (AMI), which is characterized by the presence of atherosclerosis, which is the accumulation of fat plaques in the arteries over the years that block the passage of blood [1].

After AMI the individual is limited to performing some activities both physical and daily life, as they can harm the heart and cause a new AMI. Because of this, cardiac rehabilitation should be started immediately. In general, 60 days after discharge from the hospital, such activities can be performed, but it is necessary to start gradually and, first of all, to perform exams such as exercise testing and echocardiography [2]. Physical therapy has been considered a fundamental component in the rehabilitation of patients with cardiovascular diseases in order to improve cardiovascular conditioning and prevent thromboembolic events and analgesic postures. It offers greater physical independence and safety for hospital discharge and subsequent recovery of activities of daily living [3]. Because the pathology of AMI causes cell death, the individual must remain in bed for three weeks for myocardial scarring, thereby causing loss of functionality and quality of life such as orthostatism and ambulation [4]. One of the complications related to this bed restriction is immobilism. The persistence of immobility will entail clinical complications such as decreased functional capacity leading to sequelae and physical limitations to the patient if treatment and care are not performed since early and late movements are recommended [5].

Cardiac rehabilitation is a sum of activities performed with cardiopathy patients that aim at improving physical, psychological and social conditions [6]. Being thus the patient after the AMI should perform exercises as early as possible with the improvement of the functionality and quality of life. Exercise generates hemodynamic changes and adjusts autonomic modulation without associated clinical intercurrences [7]. Therefore, the objective of this study was to evaluate the quality of life and functionality in patients who evolved with acute myocardial infarction.

Material and Methods

This is an observational study performed with a group of patients admitted to the Instituto Nobre de Cardiologia (INCARDIO)/Santa Casa de Misericórdia in Feira de Santana, Bahia. The study was approved by the Research Ethics Committee of the Faculdade Nobre, Feira de Santana, with CAAE

59685716.8.0000.5654. The inclusion criteria were: both genders, aged between 30 and 80 years, with medical diagnosis of acute myocardial infarction with Killip I and II, being able to be with or without supra follow-up ST. As exclusion criteria, patients with previous acute myocardial infarction, post-infarction angina, refractory hypertension (levels above 180/110 mmHg), atrial fibrillation, pacemaker implantation, hypotension, heart failure, previous functional limitation, cerebrovascular accident less than 3 years, previous lung disease, and those who do not agree to sign the Free and Informed Consent Form.

After meeting the inclusion criteria, the patients were submitted to a clinical evaluation, anthropometric data were collected and the clinical history. All patients were attended to and observed according to the routine of the unit without interference from the researchers. During the hospital stay the patients were submitted to an evaluation of the quality of life through the SF-36 and the functionality through the Barthel scale, they were questioned about the behavior of these two points after the coronary lesion. The SF-36 is a questionnaire that evaluates the quality of life of the population, for this work will be used the items related to physical activity, cognition and self-perception of health. The Barthel scale is a validated instrument that evaluates self-care, sphincter control, transference, locomotion, communication and social cognition. SPSS 20.0 was used to analyze the data. Values were expressed as mean and standard deviation of the variables analyzed. The Wilcoxon test was used to cross the values of pre-and post-SF-36, and the paired Student's t-test was used for the Barthel test. It was adopted as a statistically significant difference when a $p<0.05$.

Results

During the sampling period, 22 patients who had AMI were evaluated and admitted to the Instituto Nobre de Cardiologia. Of these patients, 16 (73%) were males with a mean age of 61 ± 13 years. It was also noticed that the majority 13 (59%) were overweight. The other characteristics are shown in **Table 1**. Evaluating the behaviour of SF-36 domains, it was found that functional capacity, general health, vitality, social aspects and mental health showed a statistically significant reduction. While, other domains such as pain, limitation by physical aspects and emotional aspects reduced, but without statistical difference. **Table 2** shows the expected values and what was found in this patient profile.

Table 1: Clinical characteristics of patients who suffered acute myocardial infarction.

Clinical Characteristics	Sample size
Variable	n=22 (%)
Genre	
Male	16 (73%)
Female	6 (27%)
Ages (years)	61 ± 13
BMI (kg/m^2)	
Eutrophic	3 (14%)
Overweight	13 (59%)
Obesity	6 (27%)
IAM time (days)	4 ± 2
Comorbidities	
HAS	13 (59%)
DM	3 (14%)

BMI: Body Mass Index; AMI: Acute Myocardial Infarction; SAH: Systemic Arterial Hypertension; DM: Diabetes Mellitus.

Table 2: Quality of life behavior (SF-36) of patients with acute myocardial infarction.

Domain	Expected Value	Result Found	p[a]
Functional Capacity	100	53 ± 18	0.02
Physical Aspects Limitation	100	61 ± 49	0.10
Pain	100	89 ± 17	0.11
General Health Status	100	56 ± 30	0.03
Vitality	100	52 ± 2	0.02
Social Aspects	100	63 ± 24	0.02
Emotional Aspects	100	52 ± 30	0.06
Mental Health	100	77 ± 3	0.02

p[a]: Wilcoxon test.

Table 3 shows the behavior of the pre- and post-AMI functionality. A statistically significant decrease was observed.

Table 3: Functional behavior of patients with acute myocardial infarction

Domain	Pre-AMI	Post-AMI	p[a]
Barthel Scale	100	70 ± 14	<0.001
p[a]: Paired Student T test; AMI: Acute Myocardial Infarction.			

Discussion

Based on the results, it is noted that acute myocardial infarction affects a decrease in the quality of life and functionality and that SF 36 domains such as functional capacity, general health, vitality, social aspects and mental health are the most affected. And although the domains such as pain, limitation by physical aspects and emotional aspects do not represent a statistical difference they still reduced.

In the present study, the predominance of gender was the male, with only 27% of the female gender. Caetano et al. explains in their study that the prevalence for men compared to women is naturally due to hormonal protection due to estrogen levels [8]. Comorbidities such as systemic arterial hypertension and diabetes mellitus are a risk factor in a study by Avezum et al. with 553 subjects, 271 cases and 282 controls [9]. In the study by Manfroi et al. with 104 patients, 51 patients had AMI as a manifestation of ischemic heart disease, and 64.6% had acute myocardial infarction among non-hypertensive patients, as compared to 35, 4% in hypertensive patients (RR=0.55, 95% CI=0.36-0.83) [10]. Stocco et al. evaluated the quality of life of patients one month after suffering the infarction. They found that the quality of life of these individuals was lower than people with the same age group and no infarction. In the present study there was no investigation of the clinical and functional evolution of these patients [11]. Functional capacity is also reduced after AMI, which can be assessed through a submaximal test, which is the six-minute walk test. Benetti et al. applied high-intensity exercise in a post-AMI sample and found an improvement in functional capacity and quality of life [12]. It can be inferred from this that the functionality also shows an improvement following this protocol. In the study by Fuochi et al. the World Health Organization (WHOQOL) instrument for quality of life assessment was applied. They found a reduction in self-perceived health, disease acceptance, and social support. In the present study, it was also noticed a worsening of social aspects in the studied population [13]. Although the general idea is that cardiac rehabilitation promotes an improvement in the quality of life, Kureshi et al. concluded that during one year of rehabilitation quality of life, evaluated through SF-12, was not different when compared to individuals who did not exercise cardiovascular diseases [14].

In the present study a greater limitation was verified for physical aspects, but without statistical significance. In the paper by Shore et al. the physical limitation was found and one of those responsible for the worsening of the quality of life in patients after AMI. An explanation for this worsening of quality of life may be associated with a reduction in the level of physical activity [15]. Lovlien et al. evaluated 142 women after AMI and found that a low level of physical activity was associated with worsening of self-reported quality of life. One of the limitations of the present study was the small sample size, the non-follow-up of these patients after hospital admission and the impossibility of comparing quality of life before and after AMI [16].

Conclusion

The results suggest that patients suffering from acute myocardial infarction had a significant reduction in functional capacity, general health status, vitality, social aspects and mental health.

References

1. Mertins (2016) Prevalence of risk factors in patients with acute myocardial infarction. Av Enferm, Rio Grande do Sul.
2. Siervuli (2014) Myocardial infarction: Morphological changes and brief approach to the influence of physical exercise. Rev Bras Cardiol, Lavras.
3. Leite EM, Bishop FM, Souza TO, Cardoso RF (2009) Physiotherapeutic intervention in cardiac rehabilitation after acute myocardial infarction.
4. Moraes (2005) Cardiac rehabilitation guideline. Arq Bras Cardiol.
5. Braunwald et al. (2003) Treaty of cardiovascular medicine. Rio de Janeiro
6. Riccardo DR, Araujo CGS (2006) Cardiac rehabilitation with emphasis on exercise: A systematic review. Rev Bras Med Esporte 12: 279-285.
7. Hiss MDB, Neves VR, Hiss FC, Silva E, Borghi e Silva A, et al. (2012) Safety of early physiotherapeutic intervention after acute myocardial infarction. Fisioter Mov 25: 153-163
8. Caetano (2007) Quality of life of clients after acute myocardial infarction. Esc Anna Nery R Enferm 11: 30-37.
9. Avezum (2005) Risk factors associated with acute myocardial infarction in the metropolitan region of Sao Paulo. A region developed in a developing country. Arquivos Brasileiros de Cardiologia 84 (3).
10. Manfroi (2002) Acute myocardial infarction. First manifestation of ischemic heart disease and relation with risk factors. Arq Bras Cardiol 78: 388-91.
11. Stocco ML, Castro CM, Sakae TM (2009) Assessment of quality of life one month after acute coronary syndrome. Catarinenses Arch of Med 38: 87-95.
12. Benetti M, Araujo CLP, Santos RZ (2010) Cardiorespiratory fitness and post-infarction quality of life in different exercise intensities. Arq Bras Cardiol 95: 399-404
13. Fuochi G, Foa C (2017) Quality of life, coping strategies, social support and self-efficacy in women after acute myocardial infarction: a mixed methods approach. Scand J Caring Sc.
14. Kureshi F, Kennedy KF, Jones PG (2016) Association between cardiac rehabilitation participation and health status outcomes after acute myocardial infarction. JAMA Cardiol 1: 980-988.

15. Shore S, Smolderen KG, Kennedy KF, Jones PG, Arnold SV, et al. (2016) Health status outcomes in patients with acute myocardial infarction after rehospitalization. Circ Cardiovasc 9: 777-784.

16. Lovlien M, Mundal L, Hall-Lord ML (2016) Health-related quality of life, sense of coherence and leisure-time physical activity in women after an acute myocardial infarction. J Clin Nurs 26: 975-982.