

## World Cardiology Summit 2020: Study on Quality of Life in Patients after Acute Myocardial Infarction

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### 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.

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. 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. 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. 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.

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 interferences [7]. Therefore, the objective of this study was to evaluate the quality of life and functionality in patients who evolved with acute myocardial infarction.

**Objectives:** 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.

**Material and Methods:** This is an observational study performed with a group of patients who were 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  $61 \pm 13$  years. It was also noticed that the majority 13 (59%) were overweight. 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. During the study period, 22 patients were evaluated: 16 (73%) men, mean age  $61 \pm 13$  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  $53 \pm 18$  ( $p=0.02$ ), Physical aspects limitation from 100 to  $61 \pm 49$  ( $p=0.10$ ), Pain from 100 to  $89 \pm 17$  ( $p=0.11$ ), General status ( $P=0.03$ ), Vitality from 100 to  $52 \pm 2$  ( $p=0.02$ ), Social aspects from 100 to  $63 \pm 24$  ( $p=0.02$ ), Emotional Aspects of 100 for  $52 \pm 30$  ( $p=0.06$ ), Mental Health from 100 to  $77 \pm 3$  ( $p=0.003$ ). In addition, there was a reduction in functionality reducing from 100 to  $70 \pm 14$  ( $p<0.001$ ).

**Conclusions:** There is significant evidence that parents concerns are real and we, as health care professionals, must address these concerns and take measures to improve them. We believe that if parents are convinced that state vaccines have good quality, they will be more prone to immunize their children in time and ultimately decrease Measles and other infectious diseases outbreaks in our region. We can address the issue of “Too many vaccines given at the same time” by creating a new immunization schedule that requires fewer vaccines to be given at one time. This approach will help parents to willfully immunize their children, not because they are “mandatory by law”. It is important to invest in giving them more information about vaccines quality and safety, so parents will understand why MMR does not cause Autism. Most of all it is crucial to resolve their trust issues and safety concerns. This task will require more research and collaboration between healthcare professionals and pharmaceutical companies to improve the quality of vaccines.