ABSTRACT

Introduction: It seems that by determining how able to perform daily life activities and identifying the factors that affect it, it is possible to design appropriate care and rehabilitation programs to return these patients to the community more quickly. Therefore, this study was performed to determine the status of daily activities and tools of life and related factors in overweight and obese patients who have undergone coronary artery bypass graft surgery. Material and Methods: This descriptive cross-sectional study was performed in 2018 with the participation of 84 patients who were candidates for coronary artery bypass graft surgery at Shahid Madani Hospital (Tabriz University of Medical Sciences). The relationship between obesity and overweight after surgery with daily activities in all patients was investigated and the results were reported. Results: LR logistic regression model. In this model, the dependent variable was considered as both independent and dependent (or in need of help) and then this model showed the variables of gender (P=0.004, OR=10.51, 15.41 - 2.15) and carotid artery involvement (P=0.01, OR=1.12, 0.79 - 1.19). Conclusion: The findings of this study showed that in the one-month postoperative phase, the study units, which consisted of obese or overweight people, were independent to carry out their daily activities of life, while they were instrumental in performing activities. In everyday life, most of them need help and dependence.

Keywords: daily activities, overweight, obese, coronary artery bypass graft
**Introduction**

Today, coronary artery disease has become widespread due to changes in lifestyle and people's tendency to inappropriate habits. In addition to spending on care and economic costs, this disease is one of the most important causes of disability [1]. According to the World Health Organization, cardiovascular disease is the leading cause of death worldwide, accounting for 4% of these deaths in developing countries. Unfortunately, due to the increasing prevalence of coronary artery disease, the use of coronary artery bypass graft surgery has also increased; The number of coronary artery bypass graft surgeries in the United States is estimated at 21,300 per year. Statistics also show that the majority of open-heart surgeries in Iran are coronary artery bypass grafts. 16,000 to 18,000 people in Iran are undergoing this surgery, and this number is increasing [2]. There are several underlying factors associated with CAD, one of which is overweight and obesity. The results of various studies show the fact that overweight and obesity lead to CAD. Therefore, many patients who undergo coronary artery bypass graft surgery due to coronary artery disease are obese or overweight. Obesity and overweight can also increase the cost of surgery and damage to the community health system as an independent factor, as well as increase the length of hospital stay in intensive care units and heart surgery [3]. CABG can affect the independence of action of these people, many of whom are active workers in the community, which will ultimately affect the economy and health of the community as a result of this process. Findings from studies on the ability of patients after coronary artery bypass graft surgery show that many patients have difficulty performing daily activities of life after surgery. Returning to normal living conditions before surgery includes the ability to perform instrumental activities and daily living [4]. Everyday life activities refer to the patient's ability to perform activities such as eating, dressing, and using the bathroom and walking. While instrumental activities 4 mostly include those activities that are defined in relation to the patient's presence in society and his return to work. These activities include the use of mobile phones, the use of means of transportation, and the ability to perform financial calculations [5]. According to different studies, different factors can affect the daily functioning of patients after CABG surgery. Age, sex, body mass index, level of education, living status (single, with spouse, with spouse and children), underlying diseases, cognitive status before and after surgery, anxiety and depression, patients’ beliefs about their disease, existence Support system, type of surgery (with and without
pump) and intraoperative risk factors (temperature during pump, aortic clamping time and duration of pump use) are factors that can affect the functional status and in various studies [5]. Obviously, patients' ability to perform care related to daily life activities after heart surgery is reduced and the patient needs time to return to preoperative conditions. Obesity and overweight may add to this time frame and have profound effects on the patient and his family, as well as society, due to labor involvement. It seems that by determining how able to perform daily life activities and identifying the factors that affect it, it is possible to design appropriate care and rehabilitation programs to return these patients to the community more quickly [6]. Therefore, this study was performed to determine the status of daily activities and tools of life and related factors in overweight and obese patients who have undergone coronary artery bypass graft surgery.

Material and Methods

Study design: This research is a cross-sectional study of analytical type. The population of this study includes obese and overweight patients who underwent CABG surgery and are hospitalized in the cardiac surgery wards of Shahid Madani Hospital affiliated to Tabriz University of Medical Sciences, which is the only referral center for these patients. Available sampling was performed during the period of 2018. According to the inclusion criteria, 151 patients were interviewed, of whom 84 were overweight or obese based on body mass index, which was calculated according to height and weight recorded in the medical record. Taking other inclusion criteria entered the research. People with body mass index 25 to 29.9 as overweight patients, 30 to 34.9 as patients with first degree obesity and people with body mass index 35 to 39.9 as patients with second degree obesity and people with Body mass index of 40 and above was considered as patients with grade 3 obesity.

Inclusion and Exclusion criteria: The characteristics of the study units were patients who did not have a history of neurological and cerebrovascular disorders, a history of taking drugs that affect the nervous system, did not undergo emergency surgery and at the same time with coronary artery bypass graft surgery, surgery They also did not have carotid arteries. The absence of any physical-physical problems (movement disorders, speech, hearing and visual disorders) based on the contents of the file and the patient's statements and the signing of
informed consent were other criteria for entering the study. The sample size has not been determined for the present study; Because this study is part of a larger study that was conducted to determine the ability to perform daily activities and tools of life in patients undergoing coronary artery bypass graft surgery in general, about two-thirds of the units in the study, ie 84 people They had a body mass index of more than 25 and were considered obese and overweight in this study.

**Methodology:** In order to collect information in this study, a questionnaire consisting of four sections of demographic and disease-related characteristics, Charlson underlying disease index 5, Katz index 6 and Luton 7 daily life tool scale was used. The first part of the questionnaire had two sections: demographic characteristics and indicators related to the disease; So that the first part contains questions about age, sex, marital status, education, occupation, life status, body mass index and the second part contains questions about smoking and drug use history, patient medications, left ventricular outflow fraction Duration of connection to the pump, duration of aortic clamp, temperature of the pump during operation, duration of intubation and presence in the intensive care unit, arterial blood oxygen saturation at the last ABG in the intensive care unit and carotid artery occlusion. The second part of the questionnaire included the Charlesson Comorbidity Index, which contained 19 questions about the presence of underlying diseases, the scores of which were divided into four categories (0, 2-1, 3-4, 5 and more). The third and fourth sections of the questionnaire contained 3 questions about how to perform daily activities of life using the Katz index tool and the scale of daily activities of Luton's life tools. The Katz questionnaire had seven parts, each of which had three answers, which were divided independently, in need of help and dependency. Scoring was zero to 2; The independent part was awarded 2 points, the need for assistance 1 point and the affiliate zero points. The overall score was zero to 14, which was divided into three categories: zero to 6 completely dependent, 7 to 10 in need of assistance, and 11 to 14 independent. The ability to perform daily instrumental activities was divided through the Lawton scale - which had 9 parts and each part had three answers, independently, in need of help and dependency - and the scoring was as before zero to 2 and the total score between zero and 18 to It was divided into three categories: 0 to 8 dependents, 9 to 13 in need of assistance and 14 to 18 independents. Data collection tools were used in two stages (before and one month after surgery) in Rasht Heart Specialized Educational and Medical
Center, affiliated to Guilan University of Medical Sciences. In this way, after the approval of the ethics committee and the research council of Guilan University of Medical Sciences, the researcher selected the units with inclusion criteria through available sampling and after providing the necessary explanations about the objectives of the research, how to answer the questionnaire and The confidentiality of the information also required their written consent to participate in the investigation. Also, all the steps of data collection were performed by the researcher and in all cases, the expressions of the instruments examined by the researcher were read to the patient.

**Data analysis:** The collected data were analyzed using SPSS software version 19 and using descriptive statistics tests (frequency distribution, mean and standard deviation) and inferential statistics (Chi-square, Fisher test, Spearman correlation coefficient). And logistic regression analysis) were analyzed. P <0.05 was considered as a significant level for all inferential tests. The dependent variable of research, ie the status of daily activities and tools of life, is a qualitative ranking variable that has three categories (independent, needing help, dependent). Due to the fact that the number of completely dependent people was less frequent, for data analysis, two dependent and needy classes were merged and considered as two independent classes, dependent and needy classes.

**Ethical Considerations:** It is worth mentioning that the whole process of the present study was carried out after the approval and approval of the ethics committee of Tabriz University of Medical Sciences(NO: IR.TBZMED.REC.1400.675).

**Results**

Findings of this study showed that most of the units were in the age group of 65 years and below (79.8%), the minimum age was 40 and the maximum was 76 years (59.66 ^ 8.1). Most of the samples were male (59.5%) and married (98.8%) and had primary education (34.5%), had a left ventricular outflow fraction of less than 50% (82.1%), and had more than two children. (76.2%), has more than three vessels (72.6%), no smoking (67.9%) and drugs (78.6%) and no carotid artery occlusion (70.2%) They were. Also, most of the studied units have living conditions with spouse and children (94%), no job (54.8%), have a Charlson index score of 1-2 (51.2%), have
arterial oxygen saturation after surgery 85 ml Meters of mercury and less (92.9%), has less than three days of hospitalization in the intensive care unit (79.8%), has intubation for more than eight hours (65.5%) and has a temperature of 30-30 degrees At the time of being placed on the cardiopulmonary pump (92.9%), the duration of the aortic clamp was less than 60 minutes (92.9%) and the duration of using the pump was less than 90 minutes (91.7%). They also had a history of taking antiplatelet drugs (90.5%), anti-fat drugs (95.2%), angiotensin inhibitors (81%), beta-blockers (81%) and nitrates (69%). According to the research findings, the majority of the studied units were in the category of overweight patients (61.9%) and none of the studied patients were in the category of patients with third degree obesity. Due to the fact that in the preoperative stage, none of the patients studied were in need of help and dependents and all units were independent, it was not possible to perform the test to determine the relationship, but considering that 35.7% of the units In the postoperative stage, they needed help to perform daily life activities. The results showed that there was no statistically significant relationship between body mass index and daily life activities. Also, in determining the relationship between body mass index with the status of instrumental activities of daily life before and one month after surgery, the results showed that there is no statistically significant relationship between body mass index and the status of instrumental activities of daily life. In the relationship between determining individual-social and disease-related factors with the status of daily activities of preoperative life, Chi-square and Fisher tests showed no significant relationship between individual-social and disease-related variables with the status of daily life activities. Did not. Also in the one month postoperative stage, Chi-square and Fisher test showed the level of education (P=0.02), duration of aortic clamp during surgery (P=0.002), duration of use of cardiopulmonary pump. (P=0. 003) and the use of beta-blocker family drugs (P=0.04) had a statistically significant relationship with the daily life activities of obese and overweight people. At one month postoperative stage, chi-square test showed that sex (P=0.04), occupation (P=0.002), level of education (P = 0.04), smoking (P=0.01) And carotid artery involvement (P=0.02) were statistically related to the status of instrumental activities of daily living. Due to the fact that the majority of the studied units were independent in terms of daily life activities in the one-month stage after surgery, it was not possible to use the model to determine the predictors of patient dependence. For everyday life instrumental activities, variables with P <0.25 were entered into the Backward: LR logistic regression model. In this model, the
A dependent variable was considered as both independent and dependent (or in need of help) and then this model showed the variables of gender \((P = 0.004, \text{OR} = 10.51, 15.41 - 2.15)\) and carotid artery involvement \((P = 0.01, \text{OR} = 1.12, 0.79 - 1.19)\). Predictors of daily life instrumental activities in obese and overweight patients were after coronary artery bypass graft surgery; so that men were 1.5 times better able than women to perform the tools of daily life one month after surgery. Also, people with carotid artery involvement showed 1.5 times less ability to perform daily instrumental activities one month after surgery than people without carotid artery involvement.

**Discussion**

The aim of this study was to determine the status of daily activities and life tools in overweight and obese patients after coronary artery bypass graft surgery, and related factors [13-15]. The findings of this study showed that in the one-month postoperative phase, the study units, which consisted of obese or overweight people, were independent to carry out their daily activities of life, while they were instrumental in performing activities [7, 16-18]. In everyday life, most of them need help and dependence. This finding is consistent with the results of several studies in this regard. Also, due to the fact that most of the research units were male and were in the age range of 59 years, and due to the fact, that in the culture of Iran, economic responsibility and family livelihood are the responsibility of men, these people have to return to work. Given that the instrumental activities of life include those activities that are related to work and society, the patient and society may be harmed economically; Therefore, it seems necessary to pay attention to the lifestyle of these people and maintain weight in the normal range [8, 19-21]. Also, the findings of this study showed that most of the units studied in this study had different underlying diseases. This increases the risk of the patient returning to the hospital for readmission and complications after surgery. A combination of these factors may pose a financial and economic problem for the patient, health care systems, and the community. In line with the findings of this study on more complications after surgery, overweight and obese patients usually have more underlying diseases such as diabetes [9, 22-24]. The findings of this study showed that in the one-month postoperative phase, there was a statistically significant relationship between patients' daily life activities and education, duration of aortic cross-clamp, duration of cardiopulmonary pump use and beta-blocker family medications. There was. In this regard, the results of a study conducted by researchers to determine the effect of body mass index on clinical findings after
open heart surgery, showed that the duration of use of the cardiopulmonary pump and the duration of aortic clamp are variables affecting the ability of people with overweight Weight gain or obesity in daily activities of life [10, 25-27]. It seems that the long duration of aortic clamp and the use of cardiopulmonary pump during surgery leads to complications such as neurological complications in the patient that can increase the ability of patients to perform daily activities during the short postoperative period. Affect surgery. Also, many obese or overweight people have fatty plaques on their arterial walls, and this possibility for the cerebral arteries can increase the risk of postoperative cognitive complications, which in turn can affect the patient's ability to perform activity. Be effective in everyday life. Perhaps it can be analyzed that taking a drug from the beta-receptor blocking family lowers blood pressure [11, 26-28]. Decreased blood pressure and decreased oxygen supply to the brain may cause cognitive impairment in individuals, and of course impaired cognitive status can lead to impaired patients' ability to perform daily activities of life. Also, having an education can help in learning post-operative training as soon as possible and using various educational resources to learn care appropriate to the post-surgery conditions and thus accelerate the recovery process [12, 29-31].

**Conclusion**

The findings of this study showed that in the one-month postoperative phase, the study units, which consisted of obese or overweight people, were independent to carry out their daily activities of life, while they were instrumental in performing activities. In everyday life, most of them need help and dependence.

**References**


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