

Effect of cardiac rehabilitation program on obese and non-obese women with coronary heart disease

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Introduction: Obesity is strongly associated with coronary heart disease and it is known as an independent risk factor. So, the aim of this study was to investigate the effects of phase II comprehensive cardiac rehabilitation program on functional capacity, lipid profiles and fasting blood glucose in obese and non-obese women patients with coronary heart disease and to compare these groups.

Methods: 205 women with coronary heart disease participated to our study. At the beginning of study, body indexes, functional capacity and lipid profiles and fasting blood sugar were evaluated; then, these patients were divided into two groups, patients who had BMI \geq 30 was known as obese and who had BMI $<$ 30 was known as non-obese patients. All of them completed the period of cardiac rehabilitation program and two months later; all risk factors were examined for the second time in each group. Data were analyzed with SPSS software version 15. For comparing the mean of outcomes independent t-tests and paired t-tests were used.

Results: Data revealed that unless in weight ($p=0.00$) and functional capacity ($p= 0.001$), there were no significant differences in obese and non-obese women patients, at baseline. As a result of cardiac rehabilitation program, both groups had significant improvement in functional capacity ($p= 0.00$), weight reduction ($p= 0.00$), triglyceride ($p= 0.01$ and $p= 0.02$, respectively), low-density lipoprotein cholesterol ($p= 0.01$) and low-density lipoprotein cholesterol/ high-density lipoprotein cholesterol ratio ($p= 0.00$ and $p= 0.003$, respectively). As well, we observed positive improvement in high-density lipoprotein ($p= 0.01$) only in obese women, and non-obese women had significant differences in total cholesterol ($p= 0.003$). Although there were not significant changes in total cholesterol ($p= 0.05$) and fasting blood sugar ($p= 0.09$) in obese women. Also, non-obese women didn't have favorable differences in high-density lipoprotein cholesterol ($p= 0.23$) and fasting blood sugar ($p= 0.13$). In addition, comparing two groups didn't show any significant differences in each risk factors except BMI ($p= 0.03$).

Conclusion: Our study revealed that comprehensive cardiac rehabilitation program results in significant improvement in cardiovascular risk factors and functional capacity at all levels of BMI in women with coronary heart disease.

Key words: Cardiac Heart Disease, Obesity, Risk Factor