

11516**Nutrition guidelines compliance in cardiovascular disease patients attending a long-term exercise-based cardiac rehabilitation program during COVID-19 era**

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Introduction: Dietary habits influence cardiovascular disease (CVD) risk, mainly through risk factors such as lipids, blood pressure, body weight and diabetes. Therefore, a healthy diet is recommended as a cornerstone of CVD prevention in all individuals and in reducing risk of recurrent disease, yet few studies have examined diet quality in cardiac-rehabilitation patients on a long-term basis.

Purpose: To evaluate the compliance with dietary guidelines in patients who attend a long-term cardiac rehabilitation program (phase III) during COVID-19 era.

Methods: The study was developed between October 2020 and October 2021 in a phase III centre-based cardiac rehabilitation program. To evaluate dietary intake a 24hour recall questionnaire was used. Diet composition was analysed using ESHA's Food Processor® software. Cunningham equation was used to evaluate resting energy expenditure and physical activity expenditure measured by accelerometry was added to calculate daily energetic requirements. The nutrients and cut-offs considered for the analysis were saturated fat (<10%), sodium (<2g), potassium (≥ 3.5 g), fibre (≥ 30 g), and alcohol (<100g/week), considering the 2021 ESC Guidelines on CVD Prevention in Clinical Practice or the World Health Organization guidelines for a healthy diet. To evaluate weight and height a digital scale SECA 799 and a stadiometer SECA 220 were used, respectively.

Results: A total of 57 patients (78.9% men) with a mean age of 63.8 ± 8.5 were evaluated. Mean body mass index (BMI) was 28.4 ± 3.8 kg/m², being most patients overweight or obese (61.7%). A higher caloric consumption, compared to the individual energy requirements, was found in 26.3% of patients. No statistical differences were found between mean saturated fat intake ($10.1 \pm 3.6\%$) and the recommended intake ($p=0.85$). Mean sodium consumption was 3.42 ± 1.46 grams and mean potassium intake was 3.0 ± 1.0 grams. Sodium intake was significantly higher ($p<0.001$), and potassium intake significantly lower ($p<0.001$) than the recommendation. Fibre intake was also significantly lower than the recommendation (median intake was 21.1 ± 12.2 grams, $p<0.001$). Among patients who drank alcoholic beverages ($n=28$), the median alcohol intake per day was 17.4 ± 26.3 grams which was significantly higher than the limit recommended ($p=0.043$).

Conclusion: Our findings showed that these patients deviated from the recommendations in some key nutrients. The intake of sodium and alcohol was higher than the recommendations, and the intake of potassium and fibre were lower than the recommendations. Moreover, most patients were overweight or obese. This study highlights the need for individual nutritional counselling sessions as a reinforcement of a standard educational program, to effectively promote an adequate diet, which may reduce the risk of recurrent disease. Further research about nutritional intervention in patients undergoing on a long-term basis cardiac rehabilitation is warranted.