

Home-based cardiac rehabilitation during COVID-19 pandemic: effectiveness of an educational intervention

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Introduction: Patient education is considered a core component of cardiac rehabilitation (CR) and nowadays, particularly during the COVID-19 pandemic, online education programs are critical. However, the best strategy for implementing these digital programs to increase patients' adherence and learning is not fully established.

Purpose: To assess the uptake and effectiveness of an educational intervention transmitted through video sessions integrated into a home-based CR program (CR-HB).

Methods: Prospective cohort study including patients (pts) who were participating in a centre-based CR program and accepted to participate in a CR-HB program during COVID-19 pandemic. The CR-HB program consisted of a multidisciplinary online program with educational videos for pts and family members / caregivers, that aimed to educate on necessary behavioural and lifestyle changes. Weekly, a 15-minute video was uploaded and lectured by the correspondent health professional from the CR team. The educational sessions covered the following topics: COVID-19 and cardiovascular (CV) disease, coronary artery disease, hypertension, dyslipidemia, smoking cessation, diabetes, medical therapy and adherence, healthy diet, exercise and physical activity, sedentary behaviour and sexual dysfunction and CV disease.

At the end of the program we applied a 10 questions questionnaire to evaluate the knowledge of pts about the topics of educational sessions. All the pts answered the questionnaire and results were compared between the pts who attended the educational sessions and the ones who didn't.

Results:

116 pts with CV disease were included in the CR-HB program (62.6 ± 8.9 years, 95 males). Almost 90% ($n = 103$) of the participants had coronary artery disease and the mean LVEF was $52 \pm 11\%$. Obesity was the most common risk factor (75%) followed by hypertension (60%), family history of CV disease (42%), dyslipidemia (38%), diabetes (18%), and smoking (13%).

The pts participated, on average, in 1.45 ± 2.6 education sessions (rate participation of 13.2%). About half of the pts (49%) attended, at least, one session and these pts attended, on average, 3 sessions (2.96 ± 3.0). The questionnaire results were better in pts who attended at least 1 educational session than in those who did not attend any (7.4 ± 1.9 vs 7.1 ± 1.7), however this difference was not statistically significant.

Regarding education status, 33 pts (45.2%) had a bachelor degree and this group of pts had a significant higher result in questionnaire (7.8 ± 1.9 vs 6.7 ± 1.8 ; $p = 0.015$) and tended to participate more often in education sessions (2.13 vs 1.6 , $p = 0.06$).

Conclusions: Our study showed a low rate of participation in sessions, highlighting the importance of developing strategies to increase motivation and adherence to online educational programs. Also, more literate patients had significantly greater health knowledge and adherence to educational sessions, suggesting that this population could benefit more from this type of programs.