Preventive Cardiology – Rehabilitation and Sports Cardiology, Cardiovascular Rehabilitation

Optimizing cardiac rehabilitation adherence: unveiling the potential of remote cardiac telerehabilitation

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Introduction: Participation in Cardiac Rehabilitation (CR) has shown to enhance both morbidity and mortality outcomes in patients (pts) with cardiovascular disease (CV). The socio-demographic (SD) analysis is a crucial part of pt evaluation process to optimize CR adherence.

Purpose: Analyze the influence of SD status on CR adherence and CV risk factors control.

Methods: A single-center prospective cohort study was conducted, involving consecutive pts enrolled in a phase 2 CR program, from 2015 to 2023. SD variables were defined as education level (raging from completion of middle-school to doctorate), marital and employment status. Clinical, laboratory and cardiopulmonary exercise testing (CPET) data, program participation and progression to phase 3 program (CR center, local gym, home gym or no exercise during follow-up) were examined.

Results: A total of 446 pts were included (80% male; mean age 60.5±11.5 years). Overall pts completed on average 14 CR sessions, which corresponds to 92% of scheduled sessions. Among the SD variables, 71% of pts were married, 58% completed their education up to high-school, 42% held at least a Bachelor's degree and 52.1% were employed. Regarding clinical data, 72.1% of pts had arterial hypertension, 72.2% had dyslipidemia, 26.6% were diabetic and 62.9% were active or past smokers. Regarding exercise program methodologies, 59.5% of pts were enrolled in a CR center and 24.5% of pts were not involved in any physical program. Subgroup analyses revealed that married pts were more likely to complete phase 2 (p=0.031) with a tendency to proceed to a phase 3 program in a CR Center (p=0.056). Similarly, the subgroup of pts with an education up to high-school had a higher % of adherence to phase 2 sessions (p=0.014) and a propensity to CR Center adhesion (p=0.06) and CR Center/Local gym at FUP (p=0.028). Retired/unemployed pts were more likely to complete phase 2 compared to employed pts (p=0.06). Finally, CV risk factor control and improvement in CPET parameters were independent of SD status.

Conclusion: Our study demonstrated a high adherence rate to phase 2 CR program, especially in patients with lower levels of education, likely associated with a less demanding work schedule and in married patients. This work highlights the importance of developing strategies, particularly cardiac telerehabilitation, for certain patient subgroups to optimize adherence.