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Introduction

Sedentary behavior and physical inactivity are among the leading modifiable risk factors worldwide for cardiovascular disease and all-cause mortality (1). Many patients in contemporary cardiac rehabilitation programs are quite deconditioned at admission. Cardiac Rehabilitation Program (CRP) provides a cost-effective therapy that aims to accelerate recovery following an acute event and reduce the risk of recurrent events through structured exercise prescription, education, and risk factor modification (2). The positive effect of CRP on functional capacity has been known some years ago (3).

Purpose: To assess the relationship between health-related quality of life (HRQoL), Metabolic Equivalents (METs) spend on exercise stress test, body mass index and waist circumference in patients with cardiovascular disease before beginning a cardiac rehabilitation program.

Materials and Methods

Thirteen male patients with coronary heart disease, 53.8±8.2 years old who were admitted to the Department of Cardiology of Hospital Garcia de Orta and referred for CRP. The HRQoL was assessed with the short form-36 (SF-36). METs were calculated using the Bruce protocol when patients performed exercise stress test (treadmill Mortara® instrument, inc.X-Scribe3.20.14 Europe), and body mass index (BMI) and waist circumference was measured, at initial physical examination. All subjects signed an informed consent. This study followed all the principles of Helsinki Declaration.

Results

The mean value for BMI was 28.3±4.0 kg.m⁻², waist circumference 102.6±14.8 cm and METs 9.9±3.14. There was a positive correlation between BMI and waist circumference (r=0.87; P=0.001), between waist circumference and METs a negative correlation was observed (r=-0.59; P=0.04). The domain physical function score from SF-36 was positively correlated with METs (r=0.65; P=0.01) (Fig 1), and was negatively correlated with waist circumference (r=-0.60; P=0.02) (Fig. 2). The lowest mean values of SF-36 scores observed were vitality (63.1±20.4), and general health (56.8±22.5).

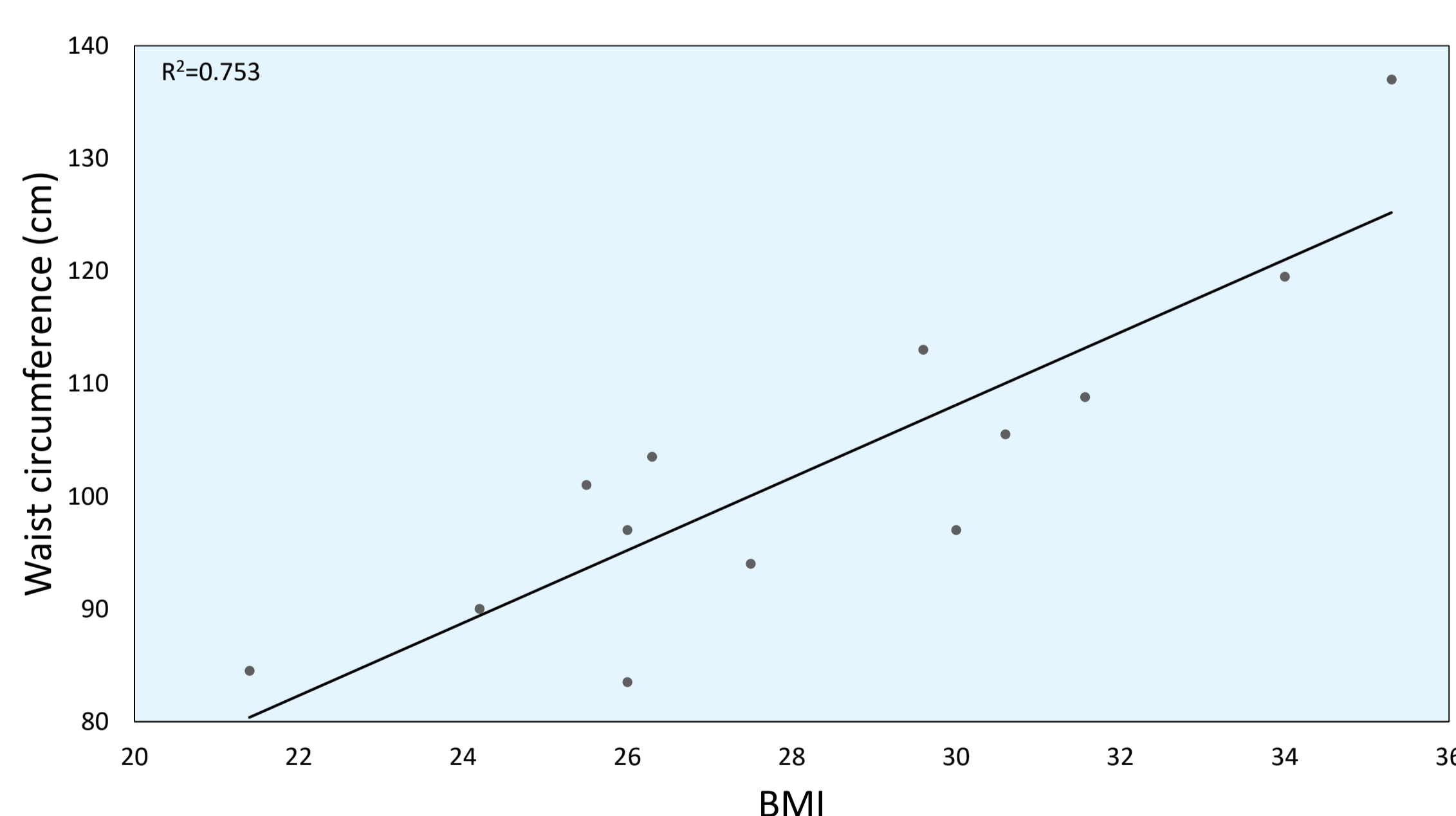


Fig. 1 – Positive correlations between Waist circumference and BMI

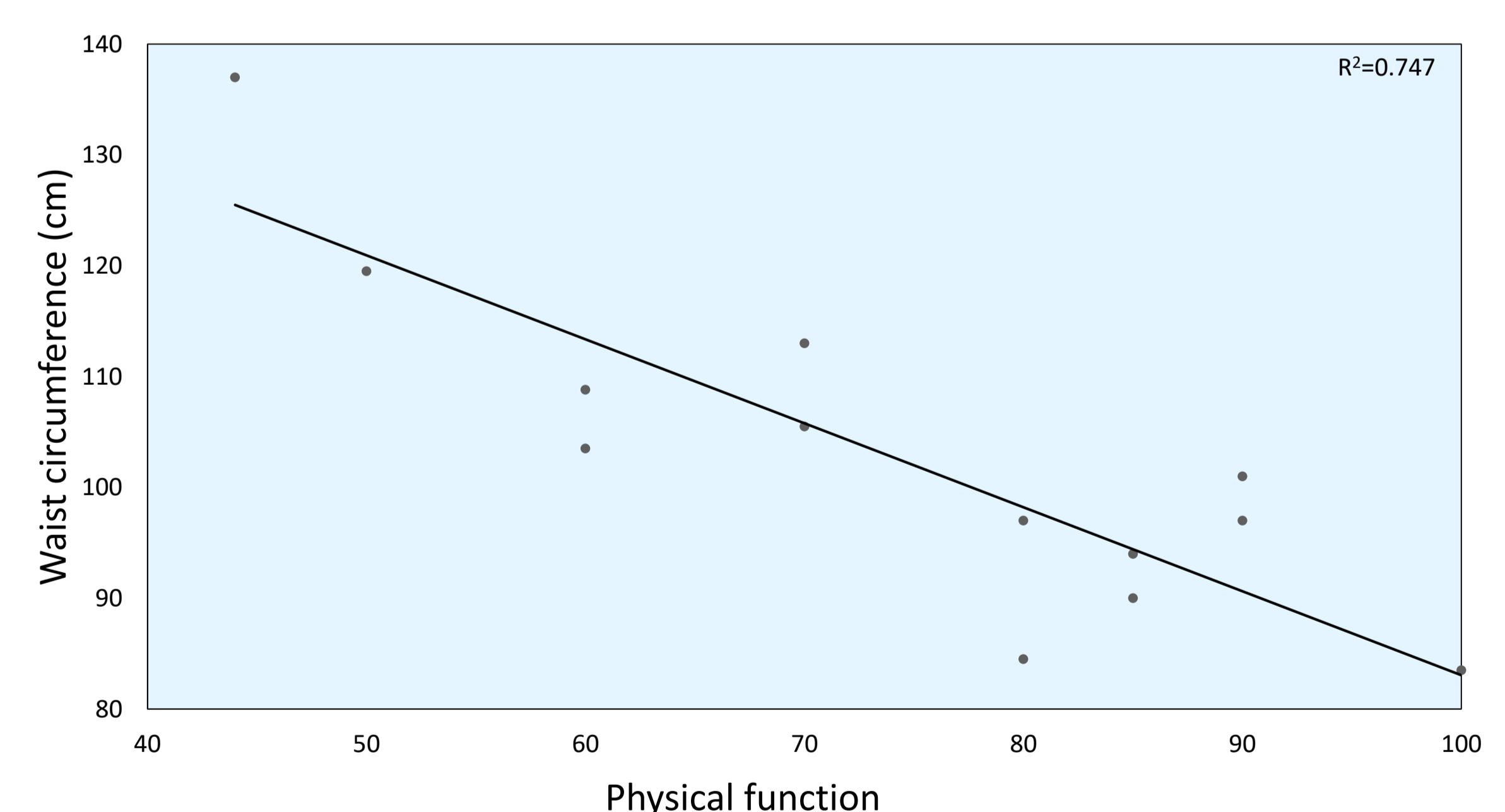


Fig. 2– Negative correlations between Waist circumference and Physical function

Discussion and Conclusion

As expected subjects with higher BMI had also higher waist circumference, and patients with better perception of physical function were those with lower waist circumference and also who had better performance in exercise stress test. This results are in accordance with previous studies (4). We can conclude that waist circumference and METs could be good predictors effectiveness of CR in this kind of patients, by showing better results as waist decrease and METs increase, with improvements in physical function perception.

References

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