Background: Other studies have shown the ability of a wearable activity tracker (TAP) to improve physical activity (PA) in different rheumatic diseases. Given the importance of PA in spondyloarthritis, our hypothesis is that the use of a TAP could improve physical activity and thus disease activity.

Objectives: The purpose of this study is to evaluate the impact of a TAP used to encourage PA on disease activity in patients with spondyloarthritis.

Methods: In this randomized controlled trial consisting of three 12-week stages (Figure 1), Patients with spondyloarthritis were randomized to a group with TAP (GT), or a group without TAP (GST). For the first stage, both groups received physical activity counseling. In the second 12-week stage, no patients received TAP. In the third 12-week stage, all patients received supervised PA combined with TAP for GT only. Disease activity, performance (assessed by the Short Form 36 Health Survey Questionnaire [SF-36]) were assessed at 12, 24, and 36 weeks. The primary endpoint was the progression of relapses between baseline and 12 weeks.

Results: A total of 108 patients were included in the study. At 12 weeks, both groups showed a non-significant improvement in the number of relapses: mean change (Δ), -0.32 [95% CI-0.68;60.09] in GT and Δ, -0.38 [95% CI-0.68;60.09] in GST. But, differences in outcome between groups were not significant (p=0.87). The TM6 was improved in the GT and GST groups at 12, 24, and 36 weeks (p < 0.01, and p < 0.001, respectively). We observed improvement in different dimensions of the SF36, mainly in physical function, emotional role, general health, and physical pain at 12 weeks (p < 0.01). Multivariate analysis showed improvement over time in performance (p < 0.01) and moderate flare-ups (p < 0.01) without the influence of a PAR (p = 0.29, and p = 0.66, respectively).

Conclusion: To our knowledge, our study is the first to explore the impact of TAP use on disease activity in spondyloarthritis. We observed an improvement in disease activity, physical performance and quality of life without significant difference between the two groups. The lack of difference could be explained by the encouragement of physical activity to both groups. But also by the fact that our patients presented a significant number of severe relapses. Indeed, authors have shown the limits of the use of TAP in severe diseases, particularly in pulmonary pathologies [1]. Our study did not show any effect of the use of a connected object on disease activity. However, this study confirmed the benefits of physical activity on disease activity, quality of life and physical performance in patients with spondyloarthritis.

REFERENCES:

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