Disability Motivates Patients With Ankylosing Spondylitis for More Frequent Physical Exercise

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Objective: To evaluate whether patients with ankylosing spondylitis who perform disease-specific exercises more frequently have fewer functional limitations and disability than those who exercise more often.

Design: Cross-sectional; retrospective chart review.

Setting: Rehabilitation center in Austria.

Participants: A sample of 1500 patients with ankylosing spondylitis (1163 men, 337 women; mean age ± standard deviation, 50±12y; disease duration, 21±11y) grouped by how many times per week they performed disease-specific exercises for at least 5 minutes: group A (n=542), less than 1 time; group B (n=691), 1 to 3 times; and group C (n=267), more than 3 times.

Interventions: Not applicable.

Main Outcome Measures: Self-report of exercise frequency and a German version of the Health Assessment Questionnaire (HAQ-S).

Results: The HAQ-S showed significant differences among the groups (analysis of variance on ranks, P<.001). In pairwise multiple comparison, group A showed significantly less disability (median, 0.5; interquartile range [IQR], 0.2–0.8) than group B (median, 0.6; IQR, 0.3–0.9) or group C (median, 0.7; IQR, 0.3–1.0).

Conclusion: Patients with less disability exercised less than their more disabled counterparts. The reasons for this difference, particularly the issue of motivation, deserve more attention.

Key Words: Disability evaluation; Exercise therapy; Motivation; Rehabilitation; Spondylitis, ankylosing.

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PHYSICAL EXERCISE AND SPORTS are fundamental to treating patients with ankylosing spondylitis in all stages of the disease.¹ The short-term beneficial effects of physiotherapy and exercise on the course of the disease have been shown repeatedly in prospective trials.² Ongoing group exercise has also proven effective in improving mobility, fitness, and overall health.³ Recreational exercise for at least 30 minutes a day and back exercises performed 5 days a week are associated with improved health status in ankylosing spondylitis.⁴ Although a more favorable long-term outcome has not yet been proven in longitudinal studies, most rheumatologists advocate daily exercise for the rest of the patient’s life.⁵

The purpose of this cross-sectional study was to investigate the relationships between disease-specific exercises performed less than 1, 1 to 3, or more than 3 times a week and the degree of disability in patients with ankylosing spondylitis.

METHODS

The charts of all patients with ankylosing spondylitis who presented between 1996 and 2000 for medical rehabilitation and pain treatment at the Gasteiner Heilstollen Hospital were examined. Patients underwent physical examination at entry and were then asked by their physician to voluntarily complete a comprehensive questionnaire. Approximately 90% of the patients cooperated and returned the completed questionnaire, which focused on personal data, disease-related history, activities, and habits. Most of the patients were Austrian or German. Patients whose records contained complete data were included in the study. Complete data from 1500 patients (1163 men, 337 women; mean age ± standard deviation, 50±12y; disease duration, 21±11y) were available for analysis.

The questionnaire included this question: How often during the week do you perform disease-specific exercises for at least 5 minutes? (Possible answers included less than 1 time weekly, 1 to 3 times weekly, and more than 3 times weekly.) The respondents also completed a German translation of the Health Assessment Questionnaire (HAQ) for the spondyloarthopathies⁶ (HAQ-S). They quantified their degree of disability in certain activities of daily life: for example, Are you able to carry heavy packages such as grocery bags? (Possible answers: without any difficulty, 0; with some difficulty, 1; with much difficulty, 2; unable to do, 3.) The mean of 10 subscales is the HAQ-S score (range, 0–3; a higher score means more severe disability).

Because most patients had been diagnosed by a rheumatologist and had had ankylosing spondylitis for many years, no further diagnostic procedures were performed to confirm diagnosis. In a previous investigation,⁷ the diagnosis had been confirmed in all but 1 patient in a sample group of 106 patients referred for treatment to our hospital.

Patients were grouped according to how frequently they did at least 5 minutes of disease-specific exercises: group A, less than once weekly; group B, 1 to 3 times weekly; and group C, more than 3 times weekly.

Because the normality test failed, results of all groups are given as median and 25th and 75th percentiles. Differences among the groups were analyzed with the Kruskal-Wallis 1-way analysis of variance on ranks. When a significant difference was found, pairwise multiple comparison procedures (the Dunn method) were applied. The software program SigmaStat, version 2.0,⁸ was used for calculations.

RESULTS

Of the total sample, 36% performed disease-specific exercises for at least 5 minutes less than once weekly (group A: n=542; 430 men, 112 women), 46% did so from 1 to 3 times weekly (group B: n=691; 542 men, 149 women), and 18% did so more than 3 times weekly (group C: n=267; 191 men, 76 women).

The HAQ-S showed significant differences among the groups (P<.001), with the lowest HAQ-S scores in group A (fig 1). The patients who exercised more frequently were more disabled.
with ankylosing spondylitis, 2-4 one must conclude from these assessment at 1 point only. Because exercise benefit persons with ankylosing spondylitis,2-4 one must conclude from these results that patients with less disability (lower HAQ-S score) are less motivated to exercise regularly than are patients with a higher HAQ-S score.

The share of patients unwilling to complete a comprehensive questionnaire at entry to our hospital (10%) may be presumed to be a selection of less active patients (who do not want to reveal their inactivity to their physician), and it is hard to believe that their HAQ-S scores would be above average. The difference among the groups would, thus, be even more pronounced.

Our question on exercise frequency was very general. However, because consistency, and not quantity, is probably the most important influencing factor,5 this question addresses the issue well.

A subanalysis showed that a significant difference existed among groups A, B, and C for age (P<.001) and disease duration (P<.017). In pairwise comparison, the age of the patients in group A (median; 25th, 75th percentiles: 49y; 39, 58) and group B (50y; 41, 58) was significantly lower than in group C (55y; 43, 61). Disease duration was 20 years (10, 30) in group A, 20 years (13, 30) in group B, and 23 years (12, 31) in group C; the difference between groups A and C was significant.

The results of this study confirm the findings of 2 separate studies9,10—that only a minority (29%) of Austrian or German patients with ankylosing spondylitis exercise daily. Those patients who are less disabled may be less motivated to adhere regularly to a home exercise program. The exercises taught to the patient to improve mobility, posture, and fitness may not be attractive enough, and more exciting forms of exercise must be sought. The issue of motivation and the need for more attractive exercises deserve greater attention, especially for less disabled, younger patients with ankylosing spondylitis.

Acknowledgment: The author thanks the medical staff of the Gasteiner Heilstollen Hospital for their help in data collection.

References

Supplier
a. SPSS Inc, 233 S Wacker Dr, 11th Fl, Chicago, IL 60606.