

## The short-term relationship between discomfort, sleep and fatigue in Sjögren's Syndrome and Rheumatoid Arthritis

By Claire Goodchild B.Sc., M.Sc. Research Assistant, Department of Psychology Institute of Psychiatry, King's College London.

Fatigue is increasingly gaining attention in the rheumatology setting as an important symptom of both Sjögren's Syndrome and rheumatoid arthritis that needs better understanding and treatment. Claire, Gareth, David and Simon monitored fatigue over the course of a month and investigated the relationship between fatigue, discomfort and sleep. Previous research has indicated that people with Sjögren's Syndrome and rheumatoid arthritis identify sleep as contributing to fatigue. They also attribute joint discomfort, the need to drink, or the need for eye drops as reasons for poor sleep.

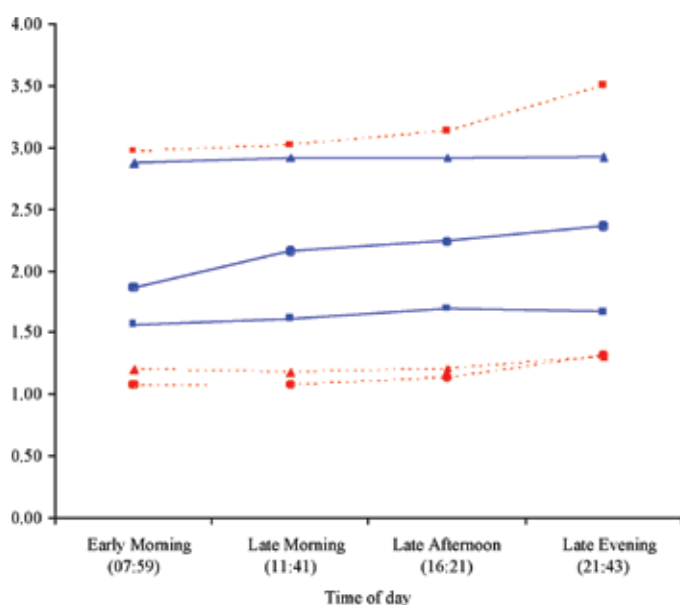
In particular, Claire investigated whether evening discomfort (i.e. joint pain or dryness symptoms) and sleep disturbance influenced fatigue the following afternoon.

Twenty five women who had rheumatoid arthritis and 14 women who had Sjögren's Syndrome and who lived in the Birmingham area, agreed to take part in the study. All participants wore a wrist watch that measured their activity (and estimated their sleep and wake during the night) for 35 nights and then completed a short sleep questionnaire each morning. They also reported how much discomfort and fatigue they felt throughout the day for the 35 days.

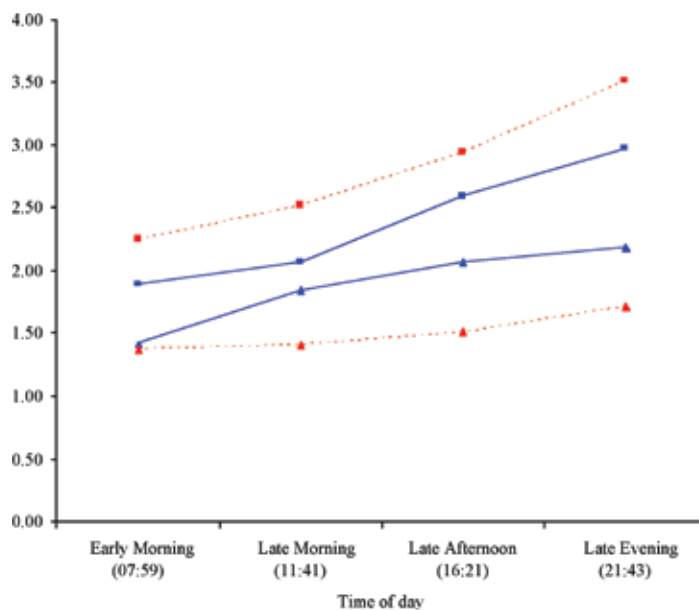
The discomfort questionnaire, which was completed four times a day, measured joint pain, dryness discomfort mostly associated with mouth problems and dryness discomfort mostly associated with eye problems. As expected, women with rheumatoid arthritis reported more discomfort due to joint pain than women with Sjögren's Syndrome. Where as women with Sjögren's Syndrome reported worse discomfort due to dryness symptoms than women with rheumatoid arthritis.

Joint pain became increasingly more severe as the day progressed for women with rheumatoid arthritis, while women with Sjögren's Syndrome reported their worst joint pain during late afternoon. The severity of discomfort due to dryness increased as the day progressed for women with Sjögren's syndrome and to a lesser extent for women with rheumatoid arthritis (see graph 1).

The fatigue questionnaire, which was completed four times a day as well, measured physical fatigue (the need for rest and difficulties with starting and continuing with activities) and mental fatigue (poor concentration and poor memory). Both physical and mental fatigue increased as the day progressed and the severity of both physical and mental fatigue were similar in Sjögren's Syndrome and rheumatoid arthritis (see graph 2).



Graph 1: The mean ratings of discomfort reported during the morning, afternoon and evening.



Graph 2: The mean ratings of fatigue reported during the morning, afternoon and evening

Continued next page

The severity of each woman's discomfort, sleep and fatigue reported each day was compared to their average scores for each symptom and then coded as a good or bad day for each symptom. Afternoon fatigue following good symptom days (less discomfort and better sleep) was then compared with afternoon fatigue following bad symptom days (more discomfort and poor sleep).

The findings indicated that there were small statistical associations between discomfort, sleep and fatigue. Both women with Sjögren's Syndrome and women with rheumatoid arthritis reported slightly more physical and mental fatigue following nights when their discomfort was worse than their average rating (from all of the 35 nights). Participants also reported slightly more physical and mental fatigue following nights when their sleep was more disturbed than their average rating of sleep (again based on all 35 sleep reports). The influence of poor sleep on fatigue appears to be greater for physical fatigue than for mental fatigue.

To summarise, the findings from this study suggest that changes in discomfort and sleep pattern (although small) do influence fatigue reports the following day. The findings are consistent with previous research and indicate that treatment for Sjögren's Syndrome and rheumatoid arthritis should include management strategies for improving sleep as well as managing discomfort (especially at night). More research is also needed to investigate other possible causes of fatigue in Sjögren's Syndrome and rheumatoid arthritis.

## Thank you

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