

C. Düsing<sup>1,2</sup>, K. Thiele<sup>3</sup>, K. Albrecht<sup>3</sup>, S. Wassenberg<sup>4</sup>, J. Callhoff<sup>3,5</sup>, J. G. Richter<sup>1,2</sup>

1 Department of Rheumatology, University Hospital Düsseldorf, Medical Faculty of Heinrich Heine University, 40225, Düsseldorf, Germany  
 2 Hiller Research Center, University Hospital Düsseldorf, Medical Faculty of Heinrich Heine University, 40225, Düsseldorf, Germany  
 3 German Rheumatism Research Centre, Epidemiology and Health Care Research, Berlin, Germany  
 4 Rheumazentrum Ratingen, Germany  
 5 Institute for Social Medicine, Epidemiology and Health Economics, Charité-Universitätsmedizin Berlin, Germany



**Background:** Fatigue is a major symptom in patients with inflammatory rheumatic diseases (IRD) that often severely affects quality of life and participation.

**Objective:** To explore the frequency of fatigue and its relationship to physician- and other patient-reported outcomes in patients with IRD.

**Methods:** In 2020, 7637 patients with rheumatoid arthritis (RA), axial spondyloarthritis (SpA), psoriatic arthritis (PsA) or systemic lupus erythematosus (SLE) reported fatigue in the National Database of the German Collaborative Arthritis Centres.

Fatigue, pain, physician (PhGI) and patient global (PtGI) disease activity, health status (all on numeric rating scales, 0-10) and WHO-5 well-being were categorized into three groups (mild, moderate, severe).

The frequency and severity of fatigue was compared in terms of the rheumatic diseases, age, sex, disease duration and sociodemographics. Violin plots show the relationship between fatigue and the other outcomes.

**Results:** A total of 4900 patients (84%) reported fatigue. Higher mean values were observed in patients with axSpA compared to PsA, RA and SLE. Female and elderly patients, patients with children, and patients with little education years reported more fatigue. No difference in fatigue severity was found between patients with initial diagnosis and those with long-term disease. More fatigue was related to a poorer global health status, higher PhGI and PtGI disease activity, higher levels of pain, and less well-being (figure 1). Patients with concomitant fibromyalgia or depression reported worse fatigue compared to those with no or other comorbidities.

Table 1: Patient characteristics	RA	axSpA	PsA	SLE
Number of cases	4863	777	1223	774
Female	75%	35%	52%	88%
Age, in years	63 ± 14	51 ± 14	58 ± 13	47 ± 15
Disease duration, in years	14 ± 11	20 ± 13	15 ± 11	17 ± 11
<b>% with Fatigue</b>	<b>84%</b>	<b>90%</b>	<b>84%</b>	<b>78%</b>
<b>Fatigue, mean ± sd</b>	<b>3.8 ± 2.8</b>	<b>4.3 ± 2.8</b>	<b>3.9 ± 2.9</b>	<b>3.7 ± 3.0</b>
PtGI health status	3.8 ± 2.3	4.0 ± 2.3	3.8 ± 2.4	3.5 ± 2.3
PtGI disease activity	3.5 ± 2.4	3.8 ± 2.4	3.6 ± 2.4	2.7 ± 2.4
PhGI disease activity	1.5 ± 1.7	1.8 ± 1.9	1.7 ± 1.8	1.5 ± 1.5
WHO-5	54 ± 27	50 ± 25	55 ± 27	54 ± 27

All values are mean ± standard deviation unless otherwise indicated.

**Conclusion:** Fatigue is a frequent symptom across various inflammatory rheumatic diseases. A strong relationship to global health, disease activity, pain and depressive symptoms needs to be considered in the (individual) therapeutic management of the diseases that relies on a shared decision making.

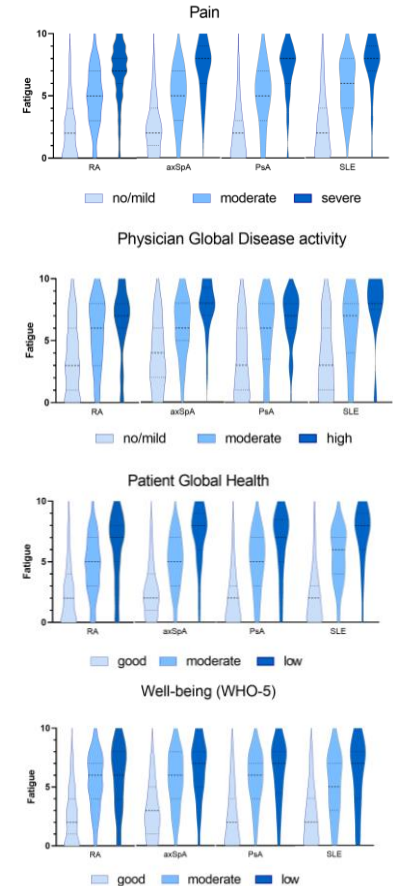


Fig. 1: Relationship between fatigue and pain, global health, disease activity and wellbeing