

Patients' Journey and Burden of Disease among Psoriatic Arthritis Patients in Greece: A Cross-Sectional Online Survey

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Objectives

To explore the patients' journey from symptom onset to diagnosis and treatment and to evaluate the humanistic burden, work impairment and the out-of-pocket expenses of patients with Psoriatic arthritis (PsA) in Greece.

Background

- PsA affects 0.05% to 0.25% of the general population.¹
- A major challenge in managing PsA is diagnostic delays, often over 2 years, increasing the burden on patients and healthcare systems.²⁻⁴

Methods

Study Design: Cross-sectional online survey.

Patients: Members of the Greek patients' association "Reumazin", adults, patients with PsA.

Study Assessment and Statistical Analyses

Data collection: Data was collected on patients' socio-demographic characteristics, medical history quality of life, work productivity and health-care utilization.

Cost estimation: Annual out-of-pocket expenses was the summation of out-of-pocket expenses for outpatient visits, hospitalizations, and treatment. The indirect cost consisted of absenteeism and presenteeism cost.

Statistical analysis: Costs are presented with means and 95% confidence intervals (CI), which were obtained from 5,000 nonparametric bootstrapped resamples. Univariate and multivariate Cox models were applied to determine predictors for time from symptoms' onset to treatment initiation. (STATA software, version 17.0, 2021, STATA Corp).

Results

Patient characteristics

- From the 294 members of "Reumazin" with PsA, 163 were reached (more active and informed members) and 148 participated in this survey, with a median age of 56.0 years.
- Most responders were female (70%), most had ≥ 1 comorbidity (85%), and were receiving treatment for PsA (95%). (Table 1)

Diagnosis and patients' journey

- 146 reported experiencing ≥ 1 symptom that prompted them to seek medical care. The most common symptom was skin rash/psoriasis (77%), followed by joint pain (45%).

- The median age at PsA diagnosis was 41 years.

- 47% of participants had been initially misdiagnosed. Specialties initially visited are presented in Figure 1.

- The median time from the onset of the first symptom to treatment initiation was 15.3 months. (Figure 2)

- Being obese, residing in suburban or rural areas instead of urban areas, having hypercholesterolemia, and experiencing an initial misdiagnosis were associated with an *increased* time from symptom onset to treatment initiation. (Figure 3)

Quality of life and work productivity

- The median PsAQoL score was 9 (Q1: 4, Q3: 13). Patients' responses are presented in Figure 4.

- Among those employed (47%), work productivity loss reached 30% (Figure 5).

Resource use and healthcare cost

- Most of participants visited a private doctor (70%) and half had at least one hospital appointment (49%).
- Only 5% was hospitalized, with a median (Q1 – Q3) duration of 5 (3 – 15) days.
- The mean annual out-of-pocket expenses per patient was estimated at €609. Indirect cost reached €3,723. (Table 2)

Limitations

The study's cross-sectional design and online survey may introduce selection and recall bias, limiting causal inferences and generalizability to the broader PsA population.

Conclusions

This survey highlights significant delays in diagnosis and high rates of misdiagnosis for PsA patients in Greece. Despite a median diagnostic delay of 12.8 months, patients begin treatment relatively quickly thereafter. However, the disease's impact on health-related QoL and economic burden remains substantial, emphasizing the need for improved early diagnosis and comprehensive management strategies.

Figure 1 Specialty of first visited physician (N=145)

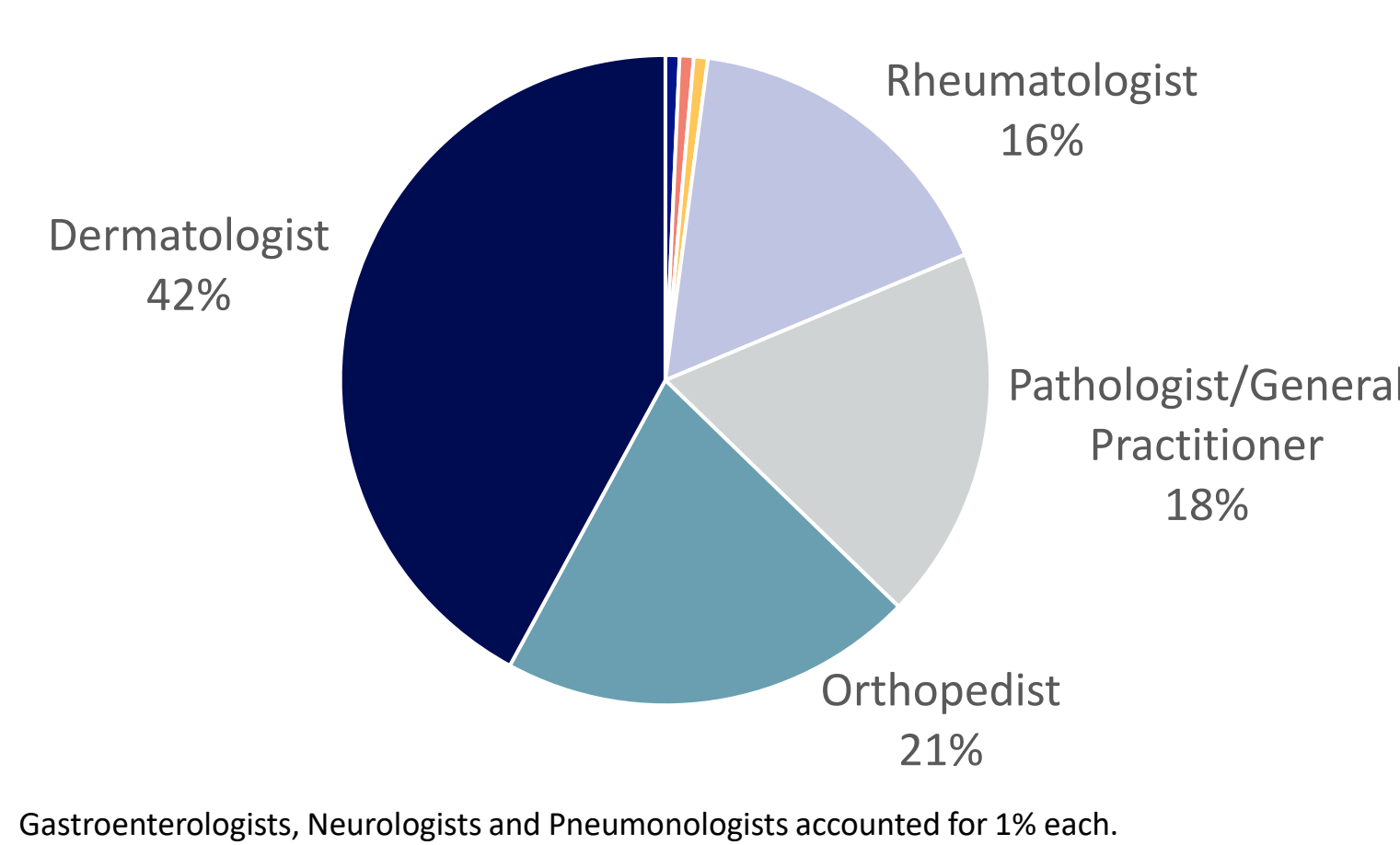


Figure 2 Patients' journey from symptoms onset to treatment initiation

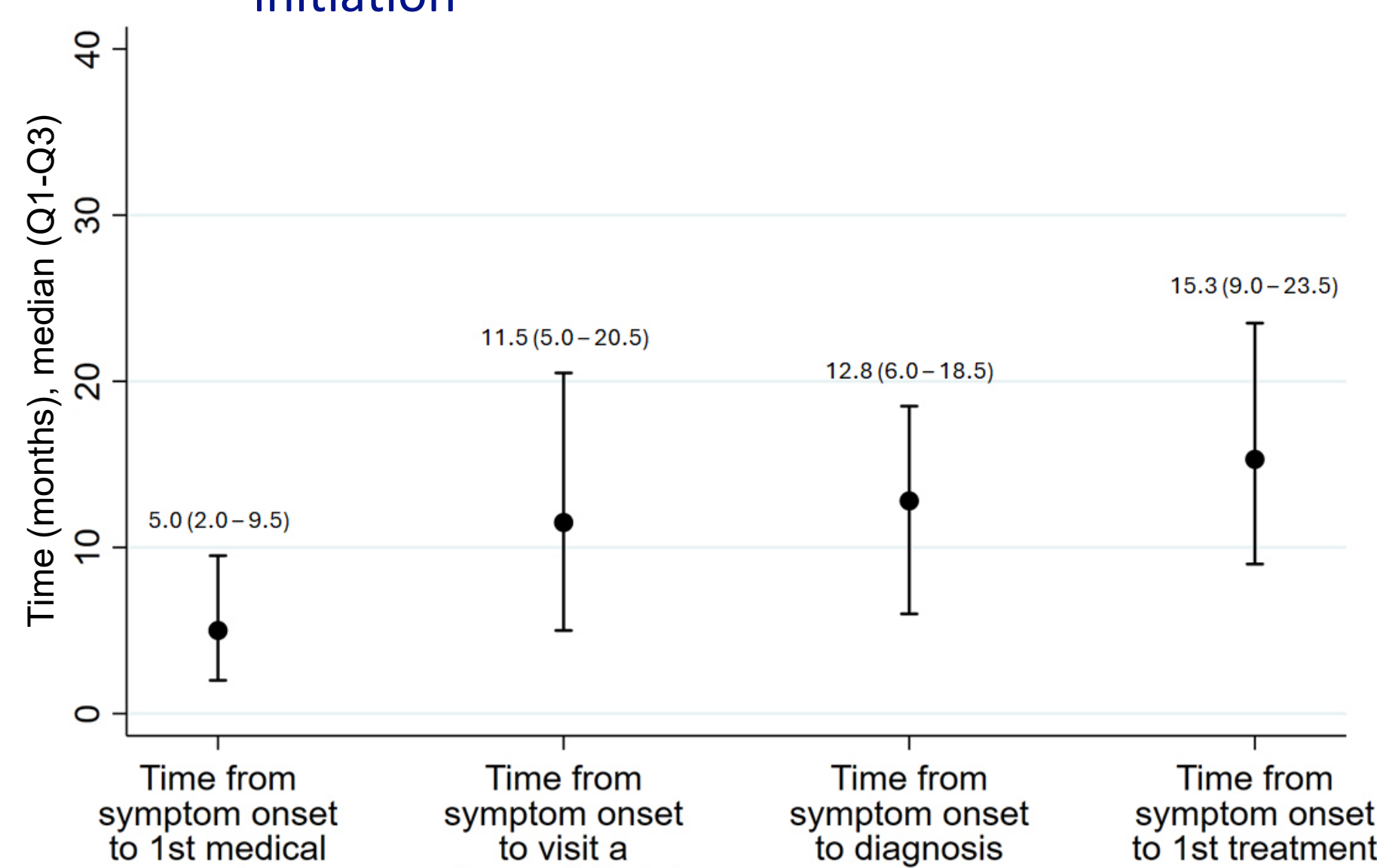


Figure 3 Factors associated with time from symptom onset to treatment initiation

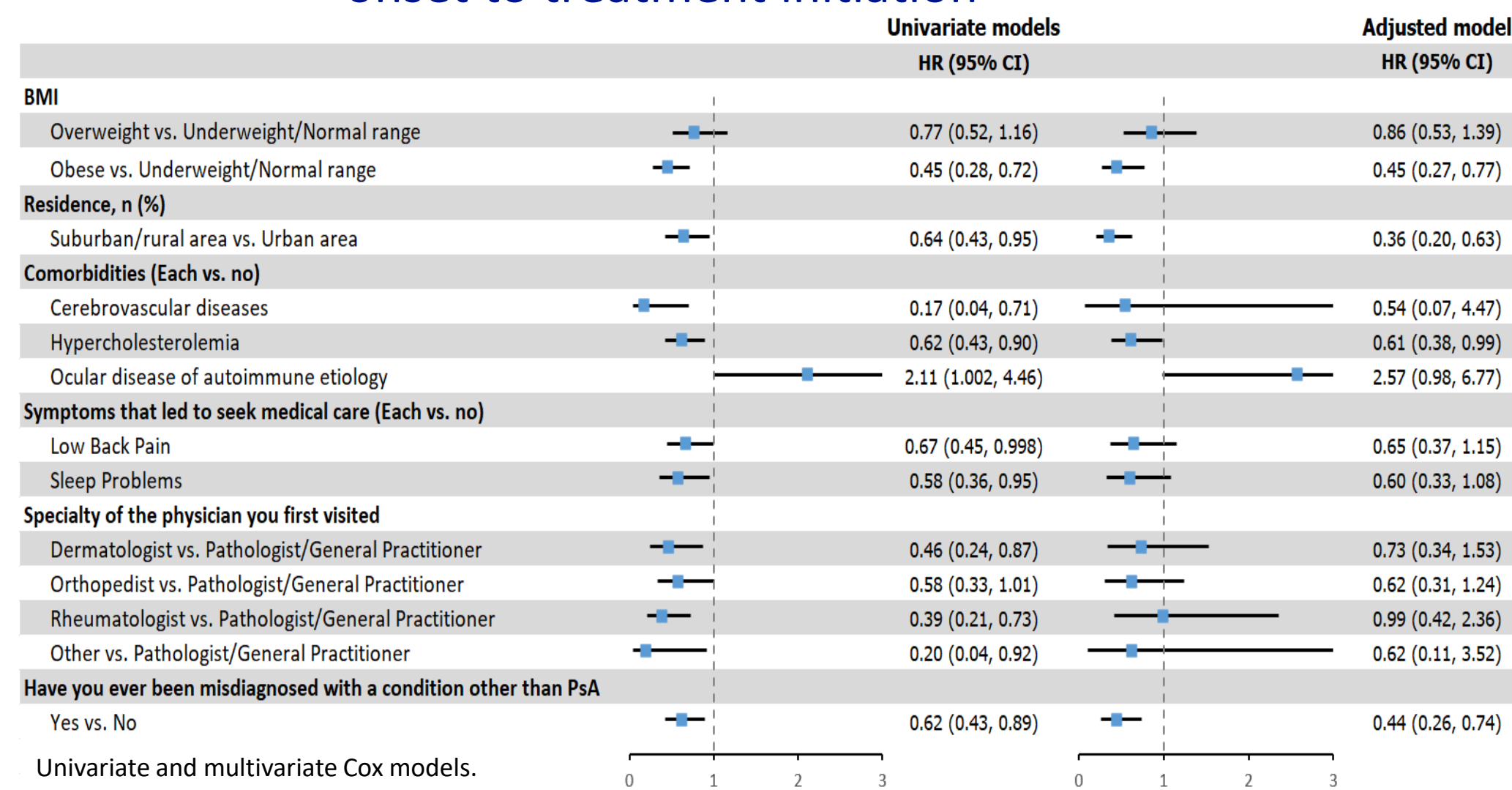


Figure 4 PsAQoL responses

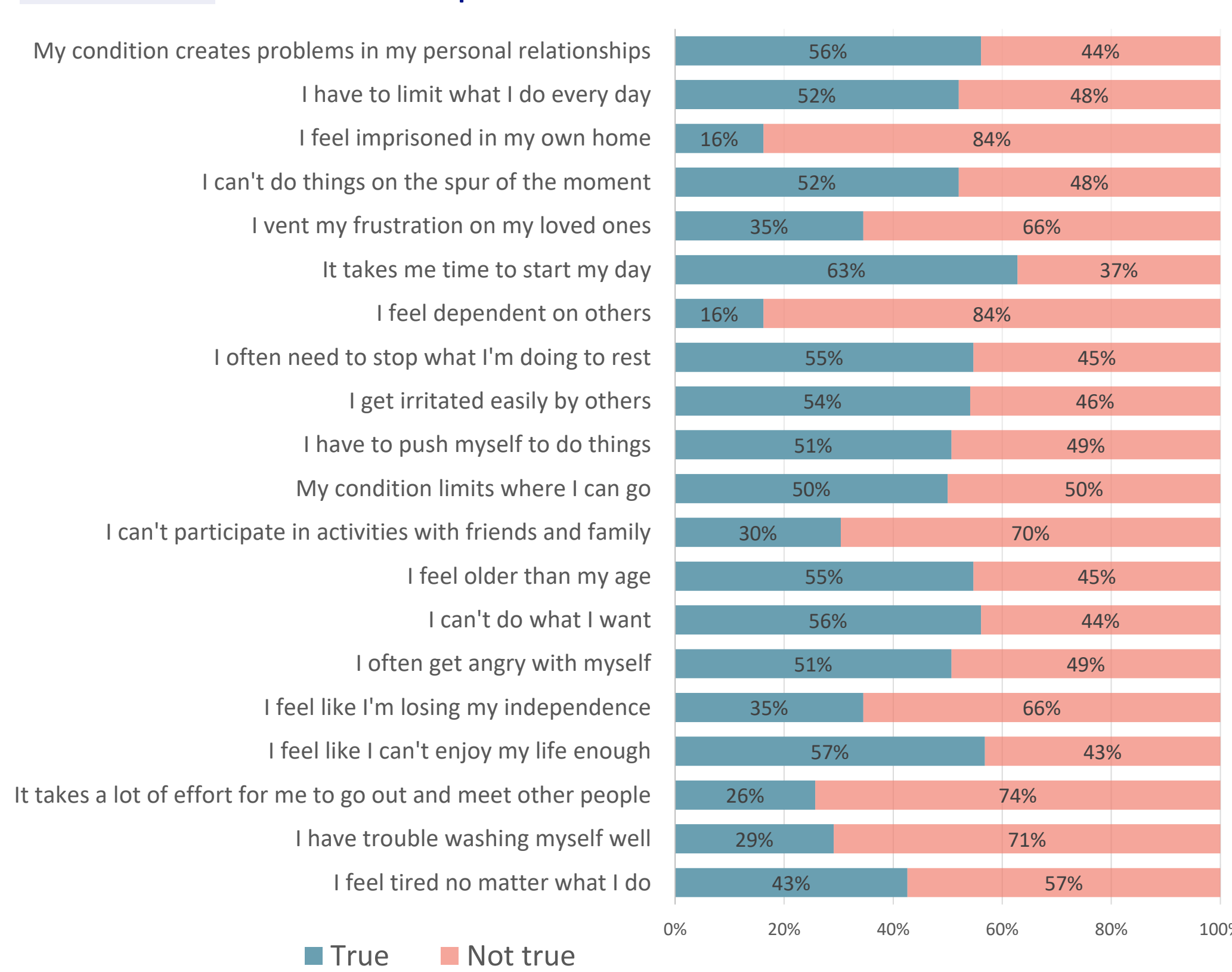
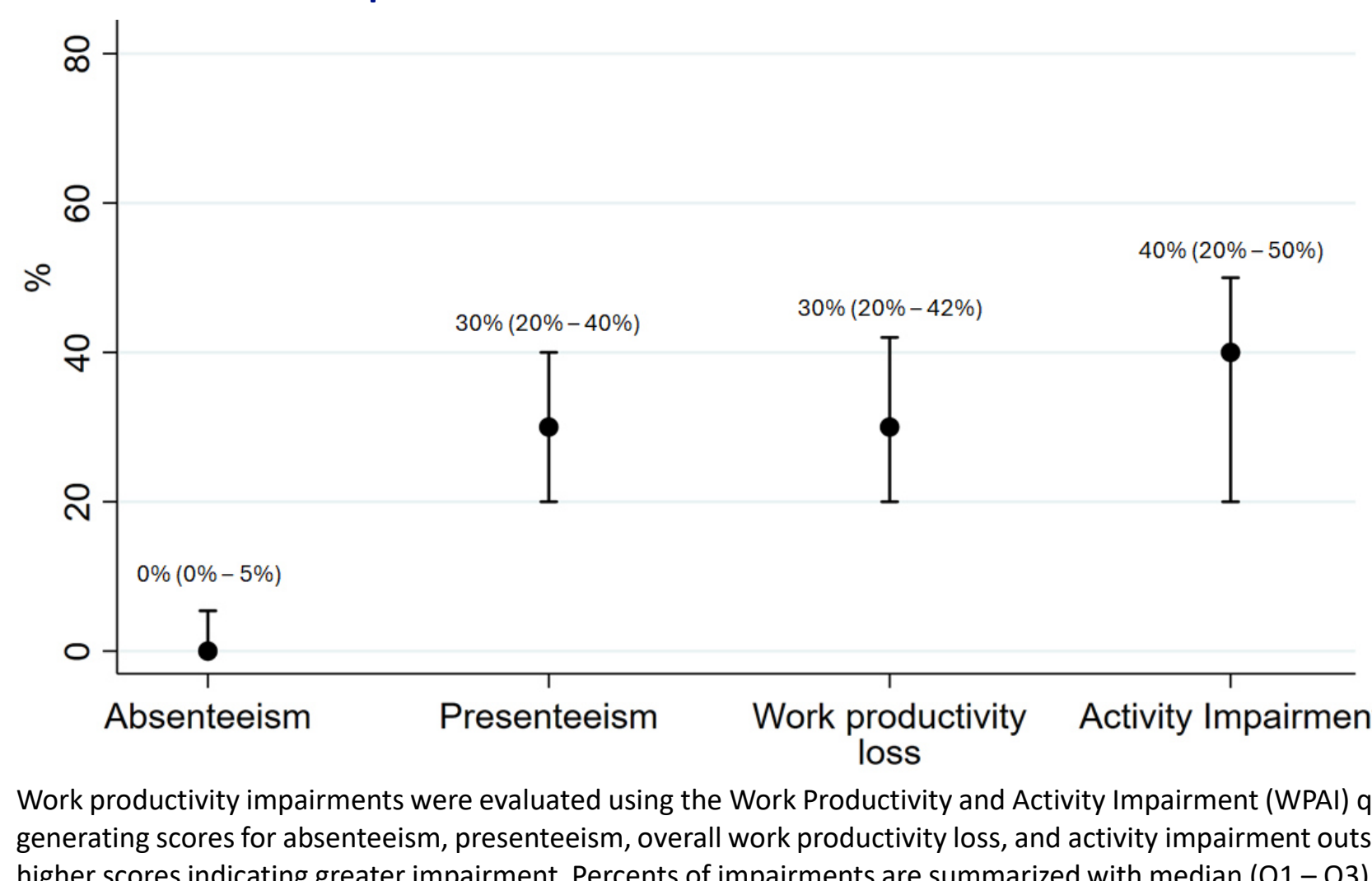


Figure 5 Work productivity impairment based on WPAI questionnaire.



Work productivity impairments were evaluated using the Work Productivity and Activity Impairment (WPAI) questionnaire, generating scores for absenteeism, presenteeism, overall work productivity loss, and activity impairment outside work, with higher scores indicating greater impairment. Percents of impairments are summarized with median (Q1 – Q3).

Table 1 Characteristics of Study Participants (N=148)

N (%)	Clinical profile, working status and treatment (N=148)
Sex	N=148
Female	104 (70.3%)
Male	44 (29.7%)
Age, Median (Q1 – Q3)	56.0 (45.0 – 66.5)
Comorbidities	N=137
% with ≥ 1	116 (84.7%)
Hypercholesterolemia	46 (33.6%)
Osteoporosis	45 (32.8%)
Arterial hypertension	41 (29.9%)
Fibromyalgia	33 (24.1%)
Depression or anxiety disorder	33 (24.1%)
Diabetes Mellitus	21 (15.3%)
Asthma	19 (13.9%)
Coronary heart disease (heart failure, arrhythmia, heart valve problems)	15 (11.0%)
Ocular disease of autoimmune etiology (Uveitis, Keratitis, Blepharitis, Conjunctivitis, Episcleritis)	11 (8.0%)
Crohn's disease or ulcerative colitis	6 (4.4%)
Non-alcoholic fatty liver	6 (4.4%)
Cerebrovascular diseases (Stroke, Peripheral artery disease, Aortic Valve Disease)	5 (3.7%)
Other	4 (2.8%)
Family history of PsA	N=106
Yes	71 (67.0%)
No	35 (33.0%)
Employment status	N=148
% of employed participants	69 (46.6%)
Treatment	N=147
% of patients on treatment	139 (94.6%)
On-going treatment	N=139
Biologic agents	89 (64.0%)
Conventional DMARDs (Methotrexate, Leflunomide, Sulfasalazine)	66 (47.5%)
Oral cortisone	40 (28.8%)
Topical treatments (creams, ointments)	27 (19.4%)
NSAIDs	8 (5.8%)
Cortisone via intra-articular/local injection	6 (4.3%)
Phosphodiesterase-4 inhibitor (Apremilast)	2 (1.4%)
Other: Painkillers	1 (0.7%)
Treatment combinations	N=147
Only biologics	43 (29.3%)
Biologics combinations ¹	46 (31.3%)
Only DMARDs	17 (11.6%)
DMARDs combinations (excluding biologics) ²	25 (17.0%)
Other ³	8 (5.4%)
No treatment	8 (5.4%)

¹DMARDs, NSAIDs, cortisone, and/or topical treatments; ²with NSAIDs, cortisone, and/or topical treatments; ³NSAIDs, cortisone, topical treatments and/or painkillers.

Table 2 Annual out-of-pocket expenses and indirect cost per patient of PsA.

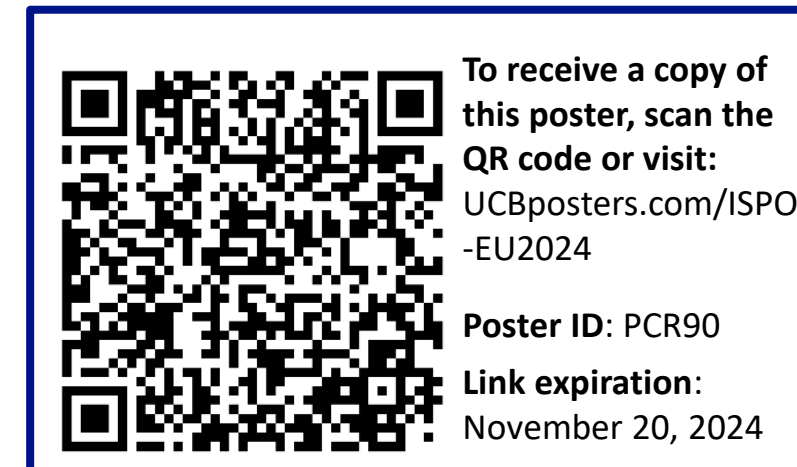
Mean (95% CI)	Annual cost (N=146)
Total out-of-pocket expenses/patient, €	609 (535 – 704)
Cost of outpatient visits/patient, €	178 (151 – 211)
Private doctor	134 (111 – 165)
Private doctor (EOPYY)	4 (1 – 15)
Hospital appointment (morning)	0 (0 – 0)
Hospital appointment (evening)	40 (29 – 55)
Cost of hospitalizations/patient, €	3 (0 – 8)
Cost of any treatment/patient, €	429 (368 – 502)
Indirect cost/patient, €	3,723 (2,906 – 4,859)
Absenteeism cost, €	682 (376 – 1,568)
Presenteeism cost, €	3,041 (2,363 – 3,781)

Absenteeism cost was calculated by multiplying hours lost from work with mean hourly earnings (€21,297 GDP per capita / 245 working days / 8 hours). Weekly presenteeism cost was estimated by multiplying affected hours with reduced productivity percentage and mean hourly earnings. Annual absenteeism and presenteeism costs were weekly costs multiplied by 49 working weeks.

CI: confidence interval; DMARDs: Disease-Modifying Anti-Rheumatic Drugs; HR: hazard ratio; NSAIDs: Non-Steroidal Anti-Inflammatory Drugs; PsA: psoriatic arthritis; Q1: upper quartile; Q3: lower quartile; QoL: quality of life; WPAI: Work Productivity and Activity Impairment.

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