

1 Impact of axial spondylarthritis on quality of life: results from the European Map of Axial
 2 Spondyloarthritis (EMAS) study in France
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23 Ethics and consent: All patients agreed to their participation through informed opt-in
24 consent. In this study, no clinical trial was conducted. As it was not an interventional study,
25 no ethics committee approval was required in France. EMAS global results have already
26 published.

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35 The impact of axSpA on patients' quality of life has been well assessed in terms of
36 body structures and functions, but much less in terms of social interactions and activities,
37 work, and fears related to social interactions or activities (1).

38 A better understanding of patients' daily difficulties is a key issue in rheumatology,
39 as it could positively affect patients' well-being and the management of their disease (2).
40 In this context, a large patients' survey, the European Map of Axial Spondyloarthritis
41 (EMAS) study, was performed to explore patients' perceptions of axSpA (3–6). The aim
42 of the present study was to assess the impact of axSpA on quality of life, and particularly
43 on social interactions, social activities, working issues and fears, using data from the
44 EMAS French participants.

45 EMAS was conducted in 13 European countries in 2017-2018 (4); the findings for
46 French patients are presented here. Participants had to be aged ≥ 18 years, to self-report
47 a diagnosis of axSpA (either radiographic or non-radiographic), and to report having seen
48 a healthcare professional for axSpA in the 12 months prior to participation.

49 The impact of axSpA was evaluated by an online questionnaire developed by an
50 international scientific committee. Four categories of impact were assessed: social
51 interactions (5 items: with spouse, family, friends and colleagues, and sexual intercourse
52 frequency), frequency of leisure activities and social life (4 items: restaurants, cultural
53 outings, travels, sports), working issues (current sick leave), and fears for the future.
54 Sociodemographic and disease-related data, as well as self-reported comorbidities
55 (anxiety, depression, overweight/obesity, fibromyalgia), were also collected.

56 Impact of axSpA on quality of life was assessed qualitatively: worse or much worse
57 social interactions for at least one of the five items, less or much less frequent social
58 activities for at least one of the four items, current sick leave, and at least a positive
59 response to a fear-related question. The key outcome here was major impact, defined as
60 having an impact on 2 or more aspects of quality of life (among social interactions, social
61 activities, sick leave or fears). Statistics were descriptive, without imputation of missing
62 data. Univariable and multivariable logistic regression models were built in order to
63 determine the factors associated with major impact. All variables with p-value < 0.20 in
64 univariable analysis were included in the multivariable model (7).

65 Data from 638 patients were analyzed: mean age 41.5 ± 11.1 years, 77% women,
66 mean disease duration 6.9 ± 8.2 years. Disease was active (mean BASDAI: 5.9 ± 1.7), and
67 19.1% participants were on biologics at the time of the survey. Participants frequently
68 reported anxiety (N=312, 50.4%), being overweight/obese (N=237, 38.2%) or depression
69 (N=199, 32.8%).

70 Overall, 615 (96.4%) patients reported any of the four impacts among social
71 interactions, social life, sick leave and fears (Figure 1). A major impact on quality of life
72 (i.e., ≥ 2 categories impacted) was reported by 575 participants (90.1%).

73 A total of 505 participants (79.4%) reported a negative impact of axSpA on social
74 interactions with partners, family, friends or coworkers, particularly in terms of frequency
75 of sexual intercourse. 548 (86.2%) participants engaged in fewer leisure activities due to
76 their axSpA and more specifically going to restaurants or physical activity in nearly 80%
77 of cases. More than half of participants were employed at the time of the survey, while 75
78 (12%) and 87 (14%) participants were respectively on temporary or permanent sick leave.

79 Finally, 585 (91.7%) participants reported fears for the future, the main fear reported by
80 the surveyed participants being alteration of daily activities (N=453, 71.0%).

81 Factors associated with major impact on quality of life in univariable and confirmed
82 in multivariable analysis were: being unemployed (odds ratio [OR]=3.3, 95% confidence
83 interval [CI] 1.7, 10.0), biologic use (OR=3.0, 95%CI 1.6, 5.3), female gender (odds ratio,
84 OR=2.6, 95%CI 1.4, 4.8), low educational level (OR=2.0, 95%CI 1.1, 3.3), and reporting
85 at least one comorbidity (OR=1.6, 95%CI 1.2, 2.2) (Table 1).

86 This study brings to light that more than 90% of patients with axSpA in France
87 describe a major impact of axSpA (defined here as having at least two categories of
88 quality of life among social activities, social interactions, sick leave, and fears impacted
89 by the disease) on their social and working life, in a context of fears for the future. Factors
90 associated with an increased risk of major impact were not related to the activity of the
91 disease, except receiving biologics; however, this association was probably secondary to
92 an indication bias, as these treatments are prescribed in the most severe/active axSpA,
93 which are more likely to affect patients' quality of life (8). Factors which were significantly
94 associated with major impact were rather related to patients' background, experience and
95 identity, which is concordant with previous studies (9–11). Indeed, sociodemographic
96 characteristics influence patients' understanding and perception of their disease, and
97 ultimately influence their experience and quality of life.

98 These findings underline the need of a multidisciplinary approach to enable a more
99 global and efficient management of axSpA, and ultimately improve patient's quality of life.

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Figure 1. Venn diagram for the four domains of quality of life in axSpA patients

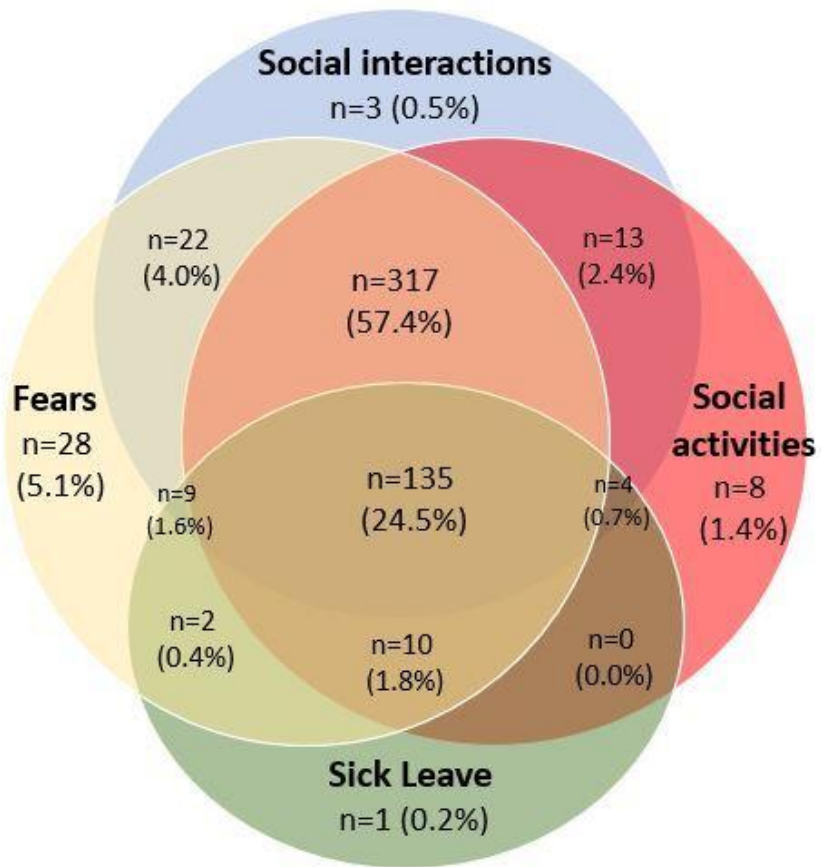


Table 1. Factors associated with major impact on quality of life (i.e. having at least two domains impacted by axSpA)

| Variable | Mean (SD) or N(%) in population with ≥ 2 impacts | Mean (SD) or N(%) in population with < 2 impacts | p-value for univariable analysis | p-value for multivariable analysis | OR (95% CI) for multivariable analysis |
|--|---|---|---|---|---|
| Age | 41.5 (\pm 10.9) | 42.2 (\pm 12.9) | 0.62 | N/A | N/A |
| Gender (Female) | 461 (80.2) | 36 (57.1) | <0.001 | 0.002 | 2.6 (1.4, 4.8) |
| Educational level (high school or less) | 295 (51.3) | 19 (30.2) | 0.002 | 0.029 | 2.0 (1.1, 3.3) |
| Married/living in couple (Yes) | 370 (64.3) | 42 (66.7) | 0.72 | N/A | N/A |
| Employment status (Unemployed) | 268 (48.7) | 13 (21.0) | <0.001 | 0.001 | 3.3 (1.7, 10.0) |
| Smoking (Yes) | 188 (32.7) | 19 (30.2) | 0.68 | N/A | N/A |
| Symptoms duration | 14.3 (\pm 10.5) | 13.5 (\pm 9.3) | 0.57 | N/A | N/A |
| bDMARD (Yes) | 366 (64.6) | 22 (36.7) | <0.001 | <0.001 | 3.0 (1.6, 5.3) |
| Comorbidities (0 to 4, odds ratio for one additional comorbidity) | 1.4 (\pm 1.2) | 0.7 (\pm 1.1) | <0.001 | 0.001 | 1.6 (1.2, 2.2) |

Footnote: axSpA: axial spondyloarthritis; bDMARD: biologic disease modifying anti-rheumatic drugs, 95%CI: 95% confidence interval; OR: odd ratio

Comorbidities corresponded to overweight/obesity, depression, fibromyalgia, and anxiety

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