# PsA gender differences

## Why is psoriatic arthritis worse in women than in men?

Although psoriatic arthritis (PsA) affects men and women in equal numbers, females with PsA tend to have a worse overall outlook than males. They have more severe disease activity, more debilitating pain, lower remission rates and greater loss of function. This article will briefly explore these differences and suggest some possible explanations.

## The epidemiology

Estimates vary, but the overall prevalence of psoriasis in the general population is around 2-3%.[1] Given that approximately one third of patients with psoriasis go on to develop arthritis, the prevalence of PsA in the general population is probably around 1%.[2]

## Symptom differences

The specific symptoms of PsA are broadly the same between males and females, but according to recent research,[3,4,5] women are more likely to experience:

- **severe pain**
- **greater loss of function**
- **higher levels of fatigue**
- **lower quality of life**
- **poorer response to treatment**
- **higher levels of disease activity**
- **lower remission rates**
- **polyarthritis - arthritis that affects five or more joints.**

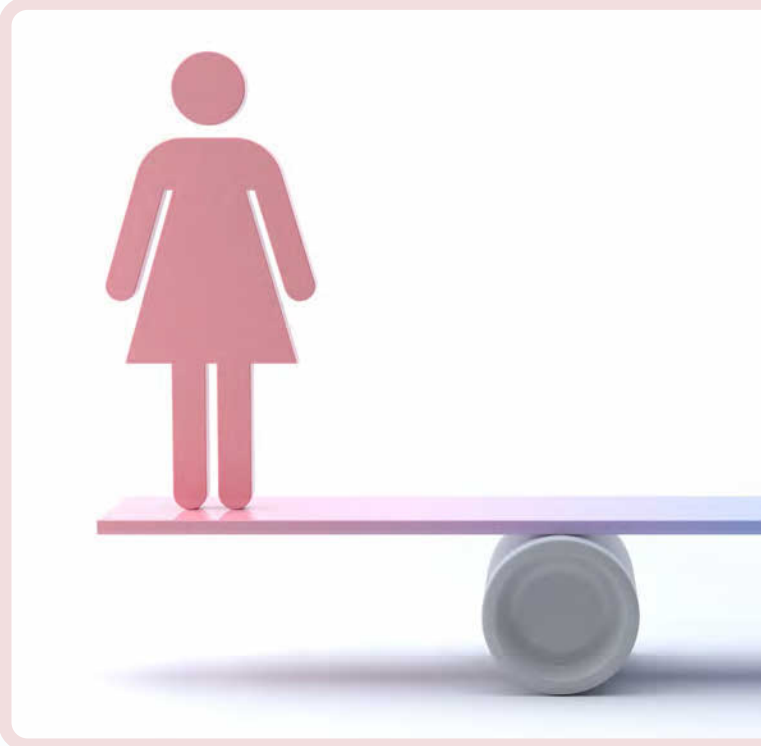
Moreover, in the 10 years after PsA diagnosis, women are more likely to develop psoriatic spondylitis – psoriatic arthritis affecting the spine and the joints in the pelvis. This may have a severe negative impact on general mobility and activities of daily living.[6]

## Responses to treatment

Recent evidence suggests that a major part of the reason why females have poorer outcomes and lower remission rates is because they respond less well to treatment. There are three recently published studies which illustrate some of these differences.

The first, a 2018 study from the Danish Health Care Registry, investigated gender differences in disease manifestation, patient-reported outcomes, and treatment effectiveness among 1750 patients (935 women) with PsA, treated with their first TNFα inhibitor (TNFI). *[NB: TNF inhibitors – e.g., adalimumab and infliximab – are a type of biological medication which is often used in the treatment of psoriasis and psoriatic arthritis].*

Women enrolled in this study were older, had higher smoking rates and were more likely to have a history of depression or anxiety.



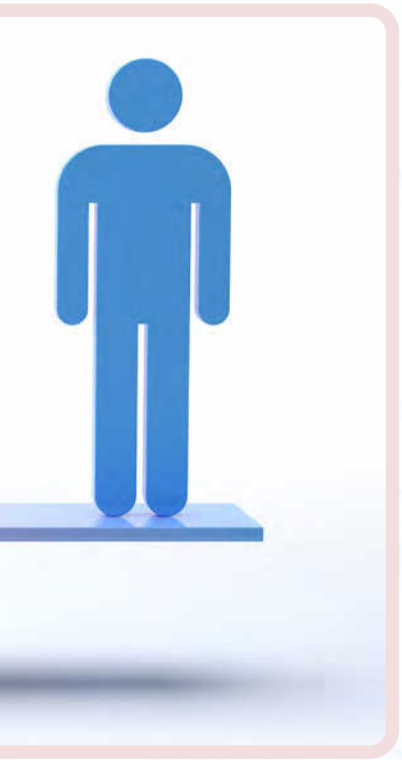
Overall results showed that three-month and six-month treatment response rates were significantly better among men than women. In addition, males had a lower level of disability after one year of treatment.[7]

The second is a 2022 Dutch study involving 273 men and 294 women with PsA.[5] At the time of enrolment, there were no significant differences in age, smoking habits, or ethnicity between the two groups. The prevalence of obesity was higher in women than in men (36% versus 28%) and fewer women than men were in paid employment. Moreover, women reported longer duration of symptoms prior to diagnosis of PsA.

Patients were first treated with methotrexate, though other drugs – including biologicals – were introduced as required. After one year of treatment, minimal disease activity rates were achieved by 58.1% of men, compared with only 35.7% of women. While women experienced some improvement, compared with their male counterparts they still had:

- **higher disease activity**
- **higher levels of pain**
- **lower functional capacity.**

The third is a 2022 study from researchers in Toronto, who used pooled data from two randomised trials that evaluated the efficacy of ixekizumab (Taltz) in adults with PsA.[8] Of the 679 study participants, the mean age was 51 years and 369 were women. *[NB: ixekizumab is a biologic medication that is used to treat psoriasis and psoriatic arthritis].* At the time of enrolment, women were older, had higher body mass index (BMI) and had worse baseline health scores than the men.



A number of measures were used to assess treatment outcomes. However, the main efficacy endpoint was measured as the proportion of patients achieving 20%, 50%, or 70% improvement from baseline as per the American College of Rheumatology criteria (ACR20/50/70).

In the group receiving ixekizumab every two weeks, the proportion of women achieving ACR70 at week 156 was 28.1% vs 41.2% among men. Trends were comparable in the group receiving ixekizumab every four weeks, with women significantly less likely to achieve ACR50 at week 156 than the men (38.3% vs 53.8%).

Importantly, men were significantly more likely to achieve complete remission of their disease. Among those receiving ixekizumab every two weeks, 17.3% of women vs 31.4% of men were in remission at week 156. For those taking the drug every four weeks, the figures were 16.8% and 28.4%.

It's worth noting that while figures for ACR20/50/70 are given here, scores across all outcome measures used showed women faring significantly worse than men.

## What accounts for these differences?

Scientists do not understand the exact causes of the rather stark differences in outcomes between males and females when it comes to treatment for PsA, but it's clear that many complex factors are involved.[9]

One obvious point is that, in all the studies above, women tended to have poorer health at the time of enrolment; they were older, had lower levels of employment, were more often smokers and had higher rates of obesity. These factors may impact on how well they respond to treatment. Some of them can be adjusted for, but even when this is done, the differences in outcomes remain.

There is some evidence to show that women discontinue drug treatments earlier than men. If they are less compliant with regard to medication, then their treatment outcomes are likely to be worse. This raises questions as to why they seem less willing or able to tolerate medication than men.

Evidence also suggests that women tend to have greater levels of anxiety and depression than men, which may result in poorer self-reported health outcomes following treatment. One may speculate as to why this is the case.

Other factors also likely to contribute, including:

- **sex hormones – both pre- and post-menopausal**
- **genetic makeup of the individual**
- **environmental and climatic factors**
- **lifestyle factors – including diet and physical activity.**

## Summary

- Although psoriatic arthritis (PsA) affects men and women in equal numbers, females with PsA tend to have a worse overall outlook than males.
- Women with PsA have more severe disease, more debilitating pain, lower quality of life and greater loss of function.
- On all outcome measures, including remission, women respond less well to treatment than men.
- Multiple factors may explain these sex differences and more research is needed to understand the mechanisms involved.

## Conclusion

Gender-specific medicine is the study of how diseases differ between men and women in terms of symptoms, clinical signs, therapeutic approaches, and prognosis. Until quite recently, it has been a neglected dimension of medical practice, but that is now beginning to change. It is now increasingly recognised that while a given disease in a male and female may bear the same name, in terms of presentation, symptoms, response to treatment and prognosis, they may be very different. Psoriatic arthritis (PsA) is a very good example of such a condition. Understanding sex differences in PsA will pave the way for better outcomes in both sexes.

In the meantime, family doctors and others caring for women with PsA should be aware of the fact that women may have more pain and therefore experience a greater impact on activities of daily living. They should also recognise that women may be more likely to suffer with depression and anxiety, which may require intervention in its own right. And finally, they need to recognise that women may be less compliant in taking medication, possibly because of unwanted side effects. Only if these differences are attended to early can outcomes for women with PsA begin to improve.

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## Scientific References

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