

## First study to show inflammatory arthritis can affect male fertility



Men diagnosed with inflammatory arthritis before and during the peak of reproductive age have lower fertility.

### INTRODUCTION

Inflammatory arthritis is a group of diseases including spondyloarthritis, rheumatoid arthritis, and psoriatic arthritis. These are chronic inflammatory diseases that affects a person's joints, and may cause pain and disability.

Inflammatory arthritis can affect people before or during the peak of their reproductive age. In men this may be linked to diverse sexual health problems such as erectile dysfunction or low sex drive.

### WHAT DID THE AUTHORS HOPE TO FIND?

The authors wanted to find out the impact of inflammatory arthritis on male fertility. Male fertility is a broad and complex topic, so the study aimed to evaluate the impact on one of the most important (and simple) markers of fertility, which is how many children a person has – their fertility rate.

### WHO WAS STUDIED?

The study looked at 628 men with inflammatory arthritis. Everyone was over the age of 40, and either did not want to have children, or had already completed their family. The study took place at 8 hospitals in The Netherlands.

### HOW WAS THE STUDY CONDUCTED?

A total of 1841 men were invited to participate in the study and sent a link to a questionnaire. The questionnaire included basic questions such as total number of children and demographic characteristics, but also more complex questions regarding fertility problems and factors that influenced their wish to become a father. Overall, 628 men completed the questionnaire.

The responders were put into one of three groups based on their age at diagnosis: men under the age of 30, 31–40 years, and those 41 or older. This classification was based on the fact that in The Netherlands approximately 85% of men become fathers between the age of 31–40 years, so this was taken as the 'peak of reproductive age'. Men diagnosed over the age of 41 were considered to be the control group. In addition, when available, results were compared to those for the general population of The Netherlands.

### WHAT WERE THE MAIN FINDINGS OF THE REVIEW?

The authors found that men diagnosed with inflammatory arthritis before and during the peak of reproductive age had significantly fewer children than men diagnosed after the peak of reproductive age, and men in the general population. Men diagnosed before they were 30 years had an average of 1.32 children, compared to 1.60 and 1.88 for men diagnosed between 31–40, and over the age of 41.

Men with inflammatory arthritis reported that they wanted more children, had more fertility health issues such as low sperm quality, and were less often childless by choice. In the two groups of men who were diagnosed at a young age, 10–12% were involuntary childless, compared to 4% of men in the oldest (control) group. Around 1 in 5 men in the two groups diagnosed at a younger age reported having received medical evaluations for fertility problems, compared to less than 1 in 10 in the oldest group.

### ARE THESE FINDINGS NEW?

To the best of the authors' knowledge, yes. This study showed for the first time that men diagnosed with inflammatory arthritis before and during the peak of reproductive age may have impaired fertility.

### WHAT ARE THE LIMITATIONS OF THE STUDY?

Although it was within the expected range, the response rate was low, with only 34% of men invited completing the questionnaire. There is a chance that men who decided to participate in the study were more motivated because they had experienced fertility issues. This might lead to selection bias. Furthermore, no information was collected on specific drugs that were used during the periods when these men were trying to conceive children.

### WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

This study has received a lot of media attention. Unfortunately, some articles misinterpreted the results by saying that inflammatory arthritis is associated with low sperm quality and infertility, or – even worse – that men with inflammatory arthritis are not able to have children. That is not exactly what is reported in this study. There is a need to raise awareness around the topic, and young men diagnosed with inflammatory arthritis who want to become a father need to receive proper advice to ease their journey to fatherhood.

This study should be viewed as an early sign that inflammatory arthritis *might* impair male fertility. The authors hope to confirm their findings, ideally in large prospective studies. It will also be important to work out the mechanisms by which inflammatory arthritis affects male fertility. It could be due to the disease itself, medicines used to treat it, or psychosocial factors. The authors are already doing some research on the impact of common anti-rheumatic drugs on male fertility. They are also looking at advice on how to have the conversation about sexual and reproductive health in the consultation room.

### WHAT DOES THIS MEAN FOR ME?

If you are a man who was diagnosed with inflammatory arthritis at an early age there are several factors which might affect your fertility. If you want to have children now or in the future, you should let your doctor know, and discuss this early on after your diagnosis. This is important, because it might affect the choice of medicine for your arthritis. For example, your rheumatologist might change your treatment strategy from a drug with known reproductive effects – such as low sperm quality – to one with a better profile. Discussing the issues early on may make the path to fatherhood easier for some people.

If you have any concerns about your disease or its treatment, you should speak to your doctor.

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