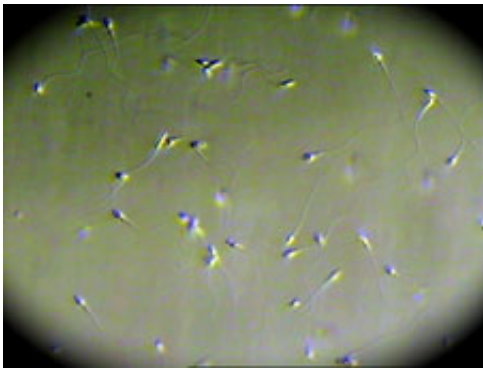


Study confirms that sperm quality decreases with age

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Credit: Fertility Associates Ltd. NZ

Conflicting evidence about the extent to which men's semen quality declines with age—likely lowering their fertility—is being cleared up by new University of Otago research that has collated and reviewed data from 90 previous studies from around the world.

After conducting a systematic review and meta-analysis of the studies' data, researchers from the University's Departments of Zoology and Anatomy found consistent age-related declines in semen volume and sperm performance and increases in malformed and DNA-damaged sperm. Semen quality is regarded as a proxy for how fertile a male is.

Study lead author Dr Sheri Johnson says that understanding how age affects fertility is becoming increasingly important as couples delay

childbearing toward later stages of their lives.

"While female age is well known to have negative effects on fertility, reproductive success and the health of offspring, the influence of male age on a couple's fertility has been largely neglected.

"The effects of declining semen traits with increasing male age have largely been ignored due to inconsistencies in the literature, but our work now suggests that male age affects a variety of traits. It is well recognised that reduced sperm performance can affect pregnancy success, but it is less well known that the quality of the sperm, particularly DNA quality, could affect the development and health of the offspring," Dr Johnson says.

Dr Johnson and her co-authors synthesised the current state of knowledge from 90 individual studies, spanning around 94,000 volunteers/patients from more than 30 countries. Their Marsden-funded study appears in the international journal, Ageing Research Reviews.

"Our study made no attempt to estimate the rate of decline, but some well-controlled clinic-based studies have observed consistent declines with increasing age, whereas others project declines after age 35 for some traits and after age 40 for others" she says.

Professor Neil Gemmell, a co-author on the paper, says the consistency in its findings suggests that further awareness of the potential consequences of male age on reproductive outcomes is needed.

"Older males contribute to increased risk of obstetric complications, miscarriage, and offspring disorders such as autism, Down syndrome, epilepsy, and schizophrenia. In addition, increasing male age may be an overlooked component of couple infertility, leading to our increased use and dependency on fertility treatments, such as IVF."

Overall, the authors advise that clinicians and the general public need to be aware of the risks associated with male age on fertility outcomes.

The authors suggest that clinical analysis of the percentage of DNA-fragmented sperm cells and a greater focus on how well sperm swim may lead to better patient outcomes during fertility treatments of ageing couples.

"These are likely more accurate and consistent predictors of a man's fertility status than commonly clinically measured traits such as semen volume, sperm concentration and total [sperm](#) count," Dr Johnson says.

Provided by University of Otago

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