

Growing evidence: water as a potential treatment for inherited cause of kidney failure

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Lead researcher Dr Priyanka Sagar looking into a microscope Credit: The Westmead Institute for Medical Research

People with polycystic kidney disease (PKD) could benefit from a moderate increase in water intake, according to new research.

A study from The Westmead Institute for Medical Research found that a moderate increase in water intake in rats with PKD led to a long-term

reduction in kidney cyst growth and fibrosis.

This latest findings add to the growing body of evidence that supports water as a safe and effective treatment for PKD.

Polycystic kidney disease is the most common inherited cause of end-stage kidney disease. It is a chronic condition, in which fluid-filled cysts damage healthy tissue and [kidney function](#).

Left untreated, it can cause complications, including [high blood pressure](#), heart problems and, in severe cases, [kidney failure](#).

More than 2,000 Australians with PKD currently receive dialysis or need a [kidney transplant](#).

Lead researcher Dr. Priyanka Sagar said that water may be a potential treatment for PKD, because it stops the hormone responsible for cyst growth.

"Previous studies in animals haven't shown whether this benefit continues over time, and there is presently no evidence in humans," Dr. Sagar said.

"Our research in rats showed that increased water intake reduces the long-term progression of cyst growth and kidney fibrosis when administered during the early stages of kidney disease.

"Significantly, we identified that only a moderate increase in water was needed to have this sustained benefit in rats."

The research also showed that increased water intake had secondary benefits for some complications associated with PKD.

"Interestingly, we found that increased [water intake](#) also reduced hypertension," Dr. Sagar said.

"PKD is linked to an increased risk of cardiovascular disease, so this is an important protective effect."

Currently, treatment options for PKD in humans are limited. Dr. Sagar said that further studies are needed in humans to prove that water is an [effective treatment](#) for kidney cysts.

"We're finding more evidence to support water as a viable treatment for PKD," she said.

"However, further studies are needed to determine its effectiveness.

"Water is cheap and accessible, so the idea that it could be used as a treatment for PKD in the future is very exciting," she concluded.

More information: Priyanka S. Sagar et al, Increased water intake reduces long-term renal and cardiovascular disease progression in experimental polycystic kidney disease, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0209186](#)

Provided by Westmead Institute for Medical Research

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