

Fibre can strengthen the intestinal barrier

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Similar to patients with Crohn's disease, elderly people with stomach problems have a intestinal barrier that is not functioning optimally. However, fibre can strengthen the intestinal barrier and thus, counteract gastrointestinal problems. This is shown in John-Peter Ganda Mall's thesis in biomedicine at Örebro University.

The function of the intestinal barrier can be compared to a filter. It protects against harmful substances and bacteria, while also absorbing nutrients from the diet.

"A large proportion of the elderly suffer from stomach problems such as constipation and diarrhoea, the underlying mechanisms of which are not fully understood. Our findings show that elderly people with stomach problems have an increased permeability in the intestine and, consequently, a deteriorating barrier function," says John-Peter Ganda Mall.

Fibre has positive effects on the intestinal barrier

In a substudy, John-Peter Ganda Mall has studied large intestine biopsies in people over 65 with stomach problems and compared these with biopsies taken from healthy control subjects. A variety of [fibre](#) was added together with a chemical agent aimed at increasing intestinal permeability.

"We could see that the fibres being studied had a protective effect in the biopsies. In some cases, permeability decreased by 50 per cent, and in some cases, the fibre completely offset the effect of the chemical on the barrier's permeability," explains John-Peter Ganda Mall.

Findings also show that the effect of different fibre varies in different age groups.

"We saw, for example, that a fibre from a yeast fungus had positive effects in the elderly, but not in the younger control group. On the other hand, a wheat fiber proved to be more effective in the young population and marginally effective in the elderly."

More clinical studies

John-Peter Ganda Mall has also followed some fifty elderly persons with stomach problems who supplemented their diet with two different types of fibre for six weeks. He then examined how the fibre affected the barrier function in the intestine. However, in this clinical study, there was no [protective effect](#) of fibre, as the one found in the lab environment.

"This may suggest that fibre in itself has a direct effect on the intestine in the lab environment, but perhaps needs to be taken in higher doses or for a longer period to have an effect in the body. More research is needed," he explains.

At the moment, John-Peter Ganda Mall is working on analysing the results of a clinical study in which he studied the gastrointestinal barrier in the elderly with stomach problems. They consumed fibre from a yeast fungus– the same fibre that in his previous studies was shown to have positive effects in both the elderly with [stomach](#) problems and patients with Crohn's disease, but in the lab environment.

"Older people generally consume less fibre than recommended and our results can be the basis for future dietary advice that could strengthen the health in the elderly and save healthcare costs."

More information: Non-digestible Polysaccharides and Intestinal Barrier Function: specific focus on its efficacy in elderly and patients with Crohn's disease. www.diva-portal.org/smash/record.jsf?aq2=%5B%5B%5D%5D&c=3&af=%5B%5D&searchType=SIMPLE&sortOrder2=title_sort_asc&query=john+peter+ganda+mall&language=sv&pid=diva2%3A1193037&aq=%5B%5B%5D%5D&sf=all&aqe=%5B%5D&sortOrder=author_sort_asc&onlyFullText=false&noOfRows=50&dswid=-1565

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