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## Dementia in Alzheimer's disease: Can Ginkgo help?



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Dementia typically occurs in older age: about 1 in 20 people between the ages of 70 and 79 are affected by it (5%). This figure rises to just under 1 in 6 people between the ages of 80 and 89 (about 18%), and 1 in 3 people over the age of 90 (32%). In the most common form of dementia, Alzheimer's disease, brain cells degenerate over time due to various processes in the brain. These processes often already start years before the first symptoms arise. Alzheimer's disease progresses over time.

At first, people who have dementia appear to be scatterbrained and forgetful. As the disease progresses, their memory becomes a lot worse, particularly their short-term memory. They start having problems with orientation in time and space and it becomes harder for them to understand processes and assess situations. Organising everyday life and doing things like shopping and household chores becomes increasingly difficult. As well as being more and more dependent on the help of others, their personality can change a lot too. This is usually particularly difficult for friends and relatives to cope with.

Although the treatment options for Alzheimer's disease are limited, there are some medications (anti-dementia drugs) and herbal products which can be used, particularly in the early stages of the disease. Other strategies, such as memory training and behaviour therapy, are often used too. The German Institute for Quality and Efficiency in Health Care (IQWiG) – the publisher of this website – is currently looking into what can be expected of these treatments and strategies.

## Research on Ginkgo biloba products

Together with researchers at the Technical University of Berlin (TU Berlin), IQWiG researchers carried out an assessment of Ginkgo-based products. These herbal preparations are made from the leaves of the Ginkgo biloba tree. They are believed to have various benefits, such as improving blood circulation and protecting nerve cells. Ginkgo products are available without a prescription. In Germany, they can also be prescribed by doctors for people who have Alzheimer's disease.

In order to find out whether people who have Alzheimer's disease really benefit from Ginkgo-based products, IQWiG

analysed all of the good quality trials in this area. In these trials, people with Alzheimer's disease were randomly assigned to two or more groups and given either Ginkgo, a fake medication (placebo) or a different medication. All of these randomised controlled trials were "blinded". This means that neither the participants nor their doctors knew which of the preparations they were taking.

The IQWiG researchers included seven trials in their analysis, involving just under 1,800 participants. Six of the trials compared Ginkgo to a placebo, and one trial compared it to a dementia medication (donepezil). But this trial could not deliver definitive results about how these two medications compare to one another.

All of the trials tested a specific Ginkgo preparation based on the extract EGb 761. The IQWiG researchers could not find any good quality trials of other Ginkgo-based preparations. The doses that were tested were 120 mg and 240 mg per day. Apart from one of the trials, they were all funded by the manufacturer of the Ginkgo extract.

The participants all had mild to moderate Alzheimer's disease, but there were quite big differences between the trials otherwise. For example, the average age of the participants was 65 in some trials and 78 in others. There were also big differences between the trials in terms of the symptoms that the participants had: for example, some trials mainly included people who had experienced mental changes caused by Alzheimer's disease, such as restlessness and depression.

The trials all tested whether the Ginkgo extract improved people's ability to remember things and whether it helped them to carry out daily activities again, such as shopping, washing themselves or doing household chores. Most of the trials also looked at whether the extract reduced psychological symptoms that accompany dementia, such as depression or hallucinations. Other important aspects, like the quality of life of participants and their relatives, were only considered in a few of the trials.

## High doses of Ginkgo extract EGb 761 could make everyday life easier

The trials showed that people who took the higher dose of the Ginkgo extract (240 mg per day) were better able to perform daily activities again, like household chores or washing themselves. However, this effect was not equally big across all of the trials, so it is not possible to be sure

about how many people could benefit from Ginkgo and how strong its effect is. The lower dose of the Ginkgo extract (120 mg per day) did not have a clear effect on the symptoms of Alzheimer's disease.

The extract may have a stronger benefit in younger patients or those who have psychological problems caused by Alzheimer's disease, but it is not possible to know for sure at this stage.

The trials also indicated that, when taken in high doses, Ginkgo could reduce psychological symptoms and improve people's ability to remember things. It also seemed to reduce emotional stress for caregiving relatives. Further research is needed to be sure of this, though.

## **Adverse effects are not common and interactions cannot be ruled out**

Most of the adverse effects that are associated with other anti-dementia drugs were not more common in people who took Ginkgo than they were in people who took a placebo. But patients often stopped taking Ginkgo due to adverse effects anyway.

It cannot be ruled out that Ginkgo may interact with other drugs. There have been rare reports that it increases the effect of blood-thinning medications like ASS (acetylsalicylic acid, eg Aspirin) and warfarin. So it is important to let doctors know about all of the medicines that are being taken as well as Ginkgo.

You can read more about using herbal products here (URL: <http://www.gesundheitsinformation.de/dietary-supplements-and-complementary-medicine.483.56.en.html>)

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## **Note**

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Joint Committee on its English-language website, [www.english.g-ba.de](http://www.english.g-ba.de) (URL: <http://www.english.g-ba.de/>) .

**Glossary**

## depression

Depression is one of the most common mental illnesses, and it can be mild, moderate or serious. There are several different types of depression that can be recognised by different signs. Which symptoms of depression occur and how strong and frequent they are vary from person to person. People in any social or age group can be affected, both women and men. If someone has had at least two of the following symptoms for longer than two weeks, it might mean that they are depressed: deep sadness; listlessness; loss of interest in the things they usually care about.

## Sources

German Institute for Quality and Efficiency in Health Care (IQWiG). *Ginkgo in Alzheimer's disease. Final report A05-19B. Version 1.0.* Cologne: IQWiG. September 2008. [Executive summary (URL: [http://www.iqwig.de/download/A05-19B\\_Executive\\_Summary\\_Ginkgo\\_in\\_Alzheimers\\_disease.html](http://www.iqwig.de/download/A05-19B_Executive_Summary_Ginkgo_in_Alzheimers_disease.html)) ] [Full text – in German (URL: [http://www.iqwig.de/download/A05-19B\\_Abschlussbericht\\_Ginkgohaltige\\_Praeparate\\_bei\\_Alzheimer\\_Demenz.html](http://www.iqwig.de/download/A05-19B_Abschlussbericht_Ginkgohaltige_Praeparate_bei_Alzheimer_Demenz.html)) ]

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## **Evidence basis of our health information**

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **[www.informedhealthonline.org](http://www.informedhealthonline.org)**

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