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Depression: Can duloxetine and venlafaxine help, and how do they compare?



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Most of us feel down and gloomy every now and again. These feelings often do not last long and we feel better again. But people who have depression feel this way for longer periods of time and it can make their lives very difficult: they no longer enjoy life, find it hard to work, and neglect their friends and family.

The symptoms of depression include

- feeling down all the time,
- listlessness,
- lack of enjoyment and loss of interest (even in hobbies and other activities that used to be fun).

Severe depression can be associated with a higher risk of suicide. If somebody is seriously considering taking their life, they urgently need medical help. You can read more about the possible symptoms of depression here (URL: <http://www.informedhealthonline.org/index.559.en.html>).

Depression is very common

Researchers estimate that around 15 out of 100 adults in Germany have depression at least once in their lifetime – that is about 15%, or 1 in 7 adults. Depression is roughly twice as common in women as it is in men. It is not unusual for depression to be accompanied by other physical and/or psychological conditions. For example, depression and anxiety disorders are often closely related.

There are many causes of depression. Biological, psychological and social factors all play a role. Depression is often triggered by crises such as unemployment, break-ups or coping with a serious illness. Traumatic experiences can lead to depression too. But depression is not always triggered by an event: it can also develop for no apparent reason.

Depression often comes in episodes: many people who have had depression get it again. But there are treatments which make that less likely to happen.

Medication for the treatment of depression (“antidepressants”)

There are a lot of medications for the treatment of depression. Antidepressants are mainly used in moderate and severe depression. St John’s wort is often used in mild depression. Antidepressants are commonly used together with psychological treatment.

Most antidepressants work by increasing the amount of particular chemical substances, so-called neurotransmitters, in the brain. This can improve your mood and sometimes have other effects too, like increasing your motivation. It can take several days or weeks for antidepressants to start working. When people stop taking them it sometimes leads to problems such as sleeplessness, nausea and restlessness. But these usually go away again within about two weeks. To avoid problems like this, the dose of antidepressants is usually reduced gradually when people stop taking them.

The most commonly used antidepressants belong to the following groups of drugs:

- Selective serotonin reuptake inhibitors (SSRIs): these increase the concentration of the neurotransmitter serotonin.
- Serotonin-norepinephrine reuptake inhibitors (SNRIs): these increase the concentration of the two neurotransmitters serotonin and norepinephrine.
- Tricyclic and tetracyclic antidepressants: these affect various neurotransmitters. The names of these groups of antidepressants come from their chemical structure.

Antidepressants can have adverse effects. These include things like loss of appetite, nausea, problems with arousal and orgasm, as well as problems with ejaculation and impotence in men. Tricyclic and tetracyclic antidepressants are used less nowadays because they can have a lot of adverse effects.

The German Institute for Quality and Efficiency in Health Care (IQWiG) – the publisher of this website – is currently reviewing research on the newer antidepressants. More specifically, they are interested in what people can expect from the SNRIs that have been approved for use in Germany, as well as the drugs bupropion, mirtazapine and reboxetine. This research summary is about the SNRIs. We will report on the other antidepressants as

soon as IQWiG has completed its analyses on them.

Reliable research results from randomised controlled trials

Two SNRIs are currently approved for use in the treatment of depression in Germany: duloxetine and venlafaxine. Together with researchers from the Charité university hospital in Berlin and the University of Ulm, IQWiG reviewed the research on these two drugs.

In their search for studies, the researchers focused on so-called randomised controlled trials (RCTs). This kind of study delivers the most reliable results for determining the benefits and harms of medications. RCTs are carried out like this: people with depression who have agreed to participate in the trial are randomly assigned (randomised) to one of two or more groups. Each group then has a different treatment, such as an antidepressant or a dummy drug (placebo). At the end of the trial – after a few weeks, months or years – the effects of the treatment in each group are compared.

You can read more about randomised controlled trials here (URL:

<http://www.informedhealthonline.org/evidence-based-medicine.61>

Research on SNRIs

The researchers found 80 trials of SNRIs. They analysed the trial data of more than 20,000 participants. Most of the trials were relatively short, lasting between 6 and 14 weeks. But some trials also looked into whether these drugs could prevent depression from returning in the longer term. Episodes of depression that happened within a few weeks or months after the start of treatment were called relapses. Episodes that happened after more than six symptom-free months were called recurrences.

The people in the trials were of different ages and some had more severe depression than others. Various doses of duloxetine and venlafaxine were used.

The trials investigated different aspects, including:

- Improvement of symptoms: In how many people did the symptoms of depression improve considerably?
- Remission: How many people were symptom-free after treatment, or had such mild symptoms that they were no longer considered to have depression?
- Likelihood of a relapse or recurrence: In how many

people did the depression come back?

- Other symptoms: Did the medication improve other problems that are sometimes associated with depression, such as anxiety or pain?
- Everyday life: Did the treatment help people to cope better in everyday life?
- Quality of life: Was there an improvement in wellbeing?
- Adverse effects: How common were adverse effects?

Venlafaxine and duloxetine are effective in the treatment of depression

The trials that compared duloxetine and venlafaxine with a placebo showed that both of these drugs help in depression.

At the end of the duloxetine trials, there was a noticeable improvement of symptoms in 53 out of 100 people who took duloxetine (53%), compared to 36 out of 100 people in the placebo group (36%). This means that duloxetine had a considerable benefit in 17 out of 100 trial participants (17%). Many of these people had a remission: they had no, or hardly any, depressive symptoms after treatment. Duloxetine seems to be similarly effective in younger and older people.

The venlafaxine trials lead to similar conclusions: 57 out of 100 people who took venlafaxine experienced considerable improvement (57%), compared to 41 out of 100 people in the placebo group (41%). In other words: venlafaxine had a positive effect in 16 out of 100 people (16%). A lot of the patients had a remission here too. However, venlafaxine has not been shown to relieve depressive symptoms in older people. But that does not mean that venlafaxine is not effective in this group of people: the trials involving older people were just relatively small. More research is needed here.

Two trials compared duloxetine and venlafaxine directly with each other. These trials did not show that either of the drugs had any advantages over the other in terms of reducing depressive symptoms.

Both drugs can probably lower the likelihood of relapses – venlafaxine helps against anxiety too

When compared with a placebo, duloxetine and venlafaxine both seemed to effectively prevent relapses in

the trials. One trial of duloxetine and one trial of venlafaxine indicated that relapses were less common in patients who took these drugs. There were also two trials of venlafaxine that observed the participants for a longer amount of time. These trials showed that, even after more than one year, people who took venlafaxine were less likely to have a recurrence than people who took a placebo.

Some of the trials also investigated whether people were better able to manage in everyday life or were less anxious. They found that, compared to a placebo, both drugs helped people to cope better in everyday life. More research is needed to be sure about whether this is true in the longer term too. Several shorter trials also showed that, compared to a placebo, venlafaxine can reduce anxiety that accompanies depression.

The drugs were not shown to be any more effective than placebo at relieving other problems that can accompany depression, such as pain.

Some of the trials looked at various aspects related to quality of life. Duloxetine was found to improve quality of life compared to a placebo in several trials. This was not found to be true for venlafaxine.

Discontinuation of treatment due to adverse effects was more common with duloxetine than with venlafaxine

Both drugs can have adverse effects. Two trials that directly compared duloxetine and venlafaxine found that it was more common for people who were taking duloxetine to stop taking their medication due to adverse effects: 15 out of 100 people on duloxetine stopped taking their medication for this reason (15%), compared to only 9 out of 100 people on venlafaxine (9%). However, the trials that compared the drugs with a placebo found that 5 to 6 out of 100 people who were taking a placebo (5 to 6%) stopped taking it due to adverse effects too.

The researchers did not look into exactly what type of adverse effects people had. But serious adverse effects, such as those requiring a hospital stay, were rare in the trials. They were not more common in the SNRI groups than they were in the placebo groups.

Pros and cons compared to other drugs

Some trials compared duloxetine and venlafaxine with other kinds of drugs, particularly SSRIs. There were also

several trials that compared venlafaxine with drugs belonging to the group of tricyclic and tetracyclic antidepressants.

In the trials that compared venlafaxine with various SSRIs, venlafaxine was found to be somewhat more effective: more people taking this drug experienced an improvement in symptoms. This better effect will probably benefit people with severe depression in particular. Venlafaxine also had disadvantages compared to SSRIs, though. For example, it was more common for people who were taking venlafaxine to discontinue their treatment due to adverse effects.

Duloxetine was not shown to be more effective than SSRIs. And, like with venlafaxine, people who took duloxetine were more likely to stop taking their medication due to adverse effects compared to people who took SSRIs.

The trials that compared venlafaxine with tricyclic and tetracyclic antidepressants found them to be similarly effective. But adverse effects were less common with venlafaxine than with drugs belonging to the group of tricyclic and tetracyclic antidepressants.

You can find further information about depression – for example, how well St John’s wort works, psychological treatments and the prevention of depression in children and teenagers – here (URL: <http://www.informedhealthonline.org/depression.308.56.en.html>).

This additional information has been provided by the U.S. National Library of Medicine:

In the U.S. a third SNRI, desvenlafaxine, has been approved by the Food and Drug Administration (FDA) to treat depression.

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Note

This health information is a summary of a scientific report published by IQWiG. It is not an assessment of the right to have health care services reimbursed by statutory health insurance funds in Germany. By law, decisions about the reimbursement of diagnostic and therapeutic

procedures can only be made by the German Federal Joint Committee (G-BA). The Federal Joint Committee takes IQWiG reports into consideration in its decision-making process. You can find information about the decisions of the German Federal Joint Committee on its English-language website, 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). *Selective serotonin and norepinephrine re-uptake inhibitors (SSNRI) in the treatment of depression. Final report A05-20A. Version 1.0.* Cologne: IQWiG. June 2009.

[Executive summary (URL:

http://www.iqwig.de/download/A05-20A_Executive_Summary_SNRI_for_patients_with_depression.html)] [Full text (URL:

http://www.iqwig.de/download/A05-20A_Abschlussbericht_SNRI_bei_Patienten_mit_Depressionen.html) - in German]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

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**

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