Benefit of exercise in patients with hypertension has been insufficiently investigated

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There are many good reasons to ensure sufficient exercise in everyday life. However, advising patients with increased blood pressure (hypertension) to exercise regularly is often regarded as a specific medical measure aiming to reduce the increased risk of late complications. But whether more exercise actually helps to avoid illnesses related to hypertension or at least delay their onset has been insufficiently investigated.

In order to provide better advice to patients with hypertension, informative clinical studies are therefore needed. This is the result of a report published by the German Institute for Quality and Efficiency and Health Care (IQWiG) on 22 September 2010.

Comprehensive commission package on hypertension

This report is part of a comprehensive commission package awarded by the Federal Joint Committee (G-BA) in which the benefit of various non-drug treatment strategies for essential hypertension was to be assessed. This is the most common type of hypertension, for which no clear cause can be found.

People with increased blood pressure receive much well-meant advice, for example, to adopt stress-management strategies, smoke less and drink less alcohol. These measures are also recommended in clinical

practice guidelines. IQWiG has already completed reports on the questions as to how a reduction in weight and salt intake affect blood pressure.

What should "more exercise" achieve?

Patients with hypertension have an increased risk of certain diseases of the heart and circulatory system. Strokes, heart attacks and also kidney failure are more common in people with hypertension than in those without this disorder.

The researchers at IQWiG were therefore particularly interested firstly, to know whether people with hypertension, by exercising more, can actually reduce the risk of heart attacks or stroke, for example, and secondly, to determine how more exercise affects their health-related quality of life.

Studies included only a few participants

The researchers searched for studies in which volunteers with hypertension had been randomly assigned to two groups. Patients in the intervention group had been advised to exercise more over a longer period of time (e.g. cycling, running, hiking, swimming), while those in the control group had not been given this advice. In addition, only studies lasting 24 weeks or more were considered.

Overall, IQWiG and its external experts included 8 randomized controlled trials lasting 6 to 12 months in the assessment. The studies were relatively small; most included a maximum of 20 people per study group. In addition, most studies were prone to bias, which greatly limited their informative value.

Side effects not investigated

As the assessment showed, the studies considered in the report allow no conclusions on patient-relevant aspects of the benefit of increased physical activity in hypertension. The studies did not provide sufficient results, neither on mortality, disease of the heart and circulatory system (cardiovascular morbidity), and kidney failure (end-stage renal disease), nor on health-related quality of life. Sufficient data were also lacking on side effects (adverse events): as many elderly patients suffer from hypertension they could potentially have a higher risk of falling or injuring themselves.

Systolic blood pressure lowered

In contrast, in all studies the effects of exercise on blood pressure were analysed. The data show that increased physical activity could lower the systolic (higher) value by 5 to 8 mmHg. In contrast, no differences between treatment groups were shown for the diastolic (lower) value. However, the researchers cannot safely predict whether the reduction in the systolic value is long term and what the effects on health are. A reduction in blood pressure is an indication that the risk of late complications may be diminished. However, it is well-known with regard to drugs that even if medications are similarly effective in reducing blood pressure, they may still fail to prevent late complications such as heart damage equally well, and also produce different side effects.

In addition, it could not be concluded from the studies whether participants could reduce the intake of blood-pressure lowering medications through exercising more often.

Advice on lifestyle changes also investigated in studies

"To avoid misunderstandings: our conclusion is not that more exercise is useless or even harmful," says Professor Dr. med. Jürgen Windeler, IQWiG's Director. "However, it is a sobering fact that medications to lower blood pressure have been tested in dozens of large studies but we still know little about the advantages and disadvantages of physical activity, even though national and international professional associations have recommended this measure for a long time." This imbalance should be corrected. "Advising patients with hypertension to exercise more will often mean a substantial change in their life style; patients should know whether they benefit from this."

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