

## Homeopathy might save costs and prolong life

Patients treated by a doctor who knows complementary and alternative medicine (CAM) tend to live longer at reduced health costs. This was the main conclusion from a Dutch study which was recently published in a renowned health economics journal [1].

### The study

This study, conducted by Peter Kooreman and Erik Baars from the Netherlands, analysed data from more than 150,000 patients of a Dutch health insurer and covered the time span from 2006 to 2009. Patients were treated by over 2,000 GPs, 28 of them being trained in homeopathy, 26 in anthroposophic medicine and 25 in acupuncture. These 79 physicians treated a total of just under 6,000 patients, one fifth of them (1,181 patients) formed the homeopathic group.

### Results

Compared to the conventional GPs, the homeopathic physicians had a slightly larger percentage of female patients (56 % vs 53 %) and a much smaller fraction of patients coming from disadvantaged neighborhoods (7 % vs 22 %). Furthermore, their patients were slightly older (four years on average).

On average the overall costs amounted to 515 € per quarter for an average conventional patient and 485 € for an average homeopathic patient. These differences could be attributed primarily to savings in hospital (15 €) and pharmaceutical costs (17 €). Overall mortality was higher among homeopathic (3.8 %) compared to conventional patients (2.6 %).

However both figures - costs and mortality - were likely to be heavily influenced by the reported differences in sex, age, and living area. The authors therefore decided to use statistical models which accounted for these imbalances and to estimate "adjusted" group differences which should give more commensurable and reliable results. With these models the mortality difference vanished, and both patients groups - conventional and homeopathic - were nearly identical with respect to survival rates. In fact, the homeopathic patients even had a slight, non-significant advantage. Depending on the statistical method used this difference was estimated as a relative risk

reduction of 18 % (the odds-ratio for death in the considered time span was 0.82), or an absolute reduction of 0.4 %.

Overall costs remained significantly lower in the homeopathic group, even after adjusting for baseline characteristics. This was the case in three age groups (0-24, 25-49, and 50-74); only in homeopathy patients 75 years or older did treatment costs show a relative, statistically not significant increase.

### Strengths and Weaknesses

In general, data from health insurers are ideal for analyzing costs and for detecting differences between various treatment strategies. This is because health insurers have the best overview on how much a patient costs the health system. Moreover, these data usually include a large number of patients. This enables researchers to detect even relatively small group differences, e.g. in the present study, reported cost savings of 7% and absolute mortality rate reductions of much less than 1%.

However, insurance data only cover expenses which are refunded by the company, not payments out of the patients' own pockets. Consequently, fewer expenses do not necessarily mean lower overall costs, and Kooreman and Baars' results therefore might not reflect real savings but a simple shift to private costs.

There is another problem with cost data. The present study did not include expenses for work absenteeism, because these costs were not covered by the insurer. However in other countries (e.g. Germany) health insurers must partly pay these costs. It is therefore unclear whether the findings of this study can be extrapolated from the Netherlands to other European countries. This is also true because all cost calculations in this study were based on Dutch prices, including those for the medicines, an hour of physician time, and per diem hospital costs - all of which vary considerably across Europe (as do hospital admission criteria). As a result, in some countries a patient with a homeopathically trained GP may be cheaper than one who has a conventional physician, but in others they may be more expensive.

The health outcome used by Kooreman and Baars' is a very crude instrument: the mortality rate. In most cases it is not the primary goal of a GP to prolong a patient's survival but to increase his or her quality of life and to reduce the severity of complaints. Overall mortality tells us little about this. This does not invalidate the study results but limits its interpretation, especially when one considers that homeopathy has been reported to increase quality of life in patients in several conditions [2,3]. Future studies should include more refined outcome measures.

A drawback of the study is that it failed to adequately address the fact that patients who contact a homeopath might differ considerably from those who contact a conventional physician. We know from the study results that both groups differed with respect to age and socioeconomic status, which led the authors to adjust their analyses for these imbalances. Regrettably it was not reported whether the patients also differed in their initial health status (probably the data set did not include this information). We know from other studies that patients who visit a homeopath suffer more frequently from allergic diseases or pain conditions [4,5], but less frequently from cardiovascular diseases than their counterparts who choose to visit a conventional physician. We cannot know whether this was also true in this study; if such differences were present they would severely affect the cost analyses.

Finally, this study does not constitute proof that homeopathic medicines work. This study was only concerned with the differences between patients who visit a homeopathically trained GP compared to those who do not. As we do not know whether these physicians actually treated the patients homeopathically (maybe all knew about homeopathy but decided to treat their patients conventionally), we cannot generalize this to the effectiveness of homeopathy.

### Conclusion

Kooreman and Baars' study did not prove that homeopathy is effective or cost-effective. It simply showed that physicians who know about homeopathy might save some costs, without saying whether this is related to homeopathic therapy or not. Their figures do however match the results of other studies which have suggested that homeopathy, or more appropriately the homeopathic package of care, might be cost-effective. See for example the controlled trial of Witt and coauthors [6] who found that chronically diseased patients benefit more from homeopathy than from conventional medicine at approximately the same costs. This study included 315 adults and 178 children over a period of 12 months. Half of the

patients received homeopathic care, the other half conventional medical care. In both groups patients' health status improved substantially, but improvement was greater in patients on homeopathic treatment. Overall costs, including those for doctor visits, medication, and hospital stays, were nearly identical for adults, but average costs were higher in homeopathically treated children.

The study by Kooreman and Baars' is a welcome contribution to the mostly unresolved question of the cost effectiveness of homeopathic care. We congratulate the authors for having undertaken this study and look forward to more research along these lines.

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### References

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