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ORIGINAL PAPER

An observational study of patients receiving homeopathic treatment

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Background. **Observational studies have recently contributed useful information to the debate about the utility of homeopathic treatment in everyday practice.**
Aim. **To gather data about routine homeopathic general practice.**
Setting. **Eighty general medical practices in Belgium where physicians were members of the Unio Homoeopathica Belgica.**
Methods. **All patients and their physicians visiting the practices on a specified day completed a questionnaire.**
Results. **A total of 782 patients presented with diseases of all major organ systems which were of sufficient severity to interfere with daily living in 78% of cases. Compared to previous conventional treatment, patients reported that consultations were much longer but costed less. One or more conventional drug treatments were discontinued in over half (52%) of the patients: CNS (including psychotropic) drugs (21%), drugs for respiratory conditions (16%) and antibiotics (16%). Conventional drugs were prescribed to about a quarter of patients (27%), mostly antibiotics and cardiovascular medication. The antibiotics were almost exclusively (95%) used to treat respiratory infections. Prescription costs (including conventional medicines) were one-third of the general practice average. Patients' satisfaction with their homeopathic treatment was very high (95% fairly or very satisfied), and ratings of their previous treatment was much lower (20%). The great majority (89%) said that homeopathy had improved their physical condition; 8.5% said that it had made no difference, 2.4% said that homeopathy had worsened their condition. Physicians' ratings of improvement were similar. Previous conventional treatment had improved 13% of patients, made no difference to 32%, and had worsened the condition of over half (55%). A similar pattern was seen for psychological symptoms.**
Conclusions**: Patients were very satisfied with their homeopathic treatment, both they and their physicians recorded significant improvement. Costs of homeopathic treatment were significantly lower than conventional treatment, and many previously prescribed drugs were discontinued.** *Homeopathy* (2004) **93, 3–11.**

Keywords: homeopathy; general practice; Belgium; patient satisfaction; costs; effectiveness

Introduction

There is increasing interest in data collection as a valid research method,[1] not just complementing the information gained from clinical trials and basic research but also indicating potentially fruitful areas for these. Part of the impetus arises from the need to demonstrate to decision-makers the economic advantages and benefits to patients, rather than the more traditional research motive of demonstrating the validity of homeopathy to skeptical scientists. There is also a view that clinical research in homeopathy over the last decade has yielded relatively disappointing results,[2]

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and that the creation of large databases, with the potential to establish links between patient presentation, prescribing habits and outcomes, is a promising alternative research approach which until recently has been relatively neglected.[3] Data collection is also an important component of the EU's Sixth Framework for research.[4]

Some work in this direction has already been undertaken. Becker-Witt et al[5] compared the effectiveness and costs of homeopathic treatment with conventional medicine. Trichard et al[6] made a similar comparison of cost-effectiveness, homeopathic treatment in recurrent acute rhinopharyngitis in children. Steinsbekk and Fønnebø,[7] investigated the question of who visits homeopaths in Norway. All these authors stress the importance of meeting the challenge of assessing the effects of homeopathy in real life practice, as recommended by Güthlin and Walach.[8]

The present study was undertaken in part to investigate the methodology, and to discover what kind of information would emerge. It was undertaken by members of the Unio Homoeopathica Belgica in 2001 to investigate patients' perceptions of their homeopathic treatment and the prescribing habits of their homeopathic doctors.

Method

There was no control group. Two questionnaires were used, one for completion by patients and one by their doctors. The patient questionnaire gathered information about the frequency, duration, outcome and cost of current and previous treatment, the perceived effectiveness of these and satisfaction with them. Effectiveness was measured by a nine-point bipolar scale with a neutral midpoint, and satisfaction on a 10-point scale. Patients also rated the severity of their symptoms on a four-point scale as follows:

0 little problem
−1 some disturbance of daily living
−2 problem confirmed by tests or examination and noticeable to others
−3 preventing work or study

Physical and psychological symptoms were scored separately.

Similar questions were asked of the physicians, with additional questions about medication (homeopathic and conventional) and the basis on which prescriptions were made.

Eighty medical practitioners, members of the Unio Homoeopathica Belgica, agreed to take part. Each was asked to recruit 10 consecutive patients, unselected, beginning on the Monday of a week specified by the investigators. Both questionnaires were completed and identified by a unique number, allowing the patients' responses to be linked anonymously to those of their doctors. No identification of the doctors was recorded. Each patient completed the questionnaire without supervision on the doctor's premises before leaving, completed questionnaires were collected and returned to the investigators by each practice.

The data from the questionnaires were entered into a Microsoft Access database and forwarded to the second author in the UK for independent analysis. Comparisons between variables were mainly made using nonparametric statistics because the variables mostly comprised ordinal data (rating scales) or were highly skewed (such as reported costs). For normally distributed data such as age, *t*-tests were used for comparison of means. The entire data set was examined for significant relationships in the following manner: every variable with at least an ordinal trend was tested against every other variable in the data set, using the Wilcoxon test set at a high level of significance ($P<0.001$) to account for multiple comparisons. Differences discovered in this manner were investigated further, and these are described in this report.

Results

A total of 782 questionnaires were completed by patients; two of these did not have an accompanying questionnaire from their doctor. The target of 10 patients practice was thus largely met, although some practices returned more than 10 and some fewer. Acceptance by the patients was very high and no refusals to participate were recorded.

Patients

Two-thirds of respondents (67%) were female; a preponderance of females is usual in general medical practices, a similar figure was found in the Norwegian study cited above.[7] The average age was 39 years 8 months. The females were significantly older than the males overall (41 years 2 months *vs* 36 years 7 months respectively, $P<.01$, *t*-test); this difference was due to the larger numbers of boys in the sample.

Diagnosis

For each patient, doctors were asked to record a primary diagnosis by organ system and up to five secondary diagnoses. Table 1 shows the proportions of the primary diagnoses.

Conventional treatment

Table 2 shows conventional medication on the day of consultation. The majority of patients (73%) were not taking conventional medication; the figures in this table relate to the 208 patients who were. The great majority (95%) of those taking antibiotics, the largest category of conventional prescription, were doing so for respiratory infections.

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Table 1 Primary diagnosis (base 782)

CNS	*Respiratory*	*Musculo-skeletal*	*Not recorded*	*Other*	*Skin*	*GI tract & metabolism*	*Urogenital & reproductive*	*Cardio-vascular*	*Sensory*	*Endocrine*	*Blood & haematopoietic*
26.7%	21.6%	9.1%	9.0%	8.2%	7.9%	6.6%	4.7%	4.5%	1.0%	0.6%	0.3%

Table 2 Conventional drugs prescribed by organ system (base 782)

Anti-biotics	*Cardio-vascular*	*CNS*	*Musculo-skeletal*	*Other*	*Respiratory*	*Urogenital & reproductive*	*Endo-crine*	*GI tract & metabolism*	*Skin*	*Blood & haematopoietic*	*Sensory*	*Cytostatics & immune system*
58.7%	44.7%	29.3%	24.0%	17.3%	15.9%	13.9%	9.6%	9.1%	4.3%	3.4%	2.4%	1.4%

Table 3 Percentage of patients who discontinued conventional treatments (base 782)

CNS	20.6	Respiratory	16.1	Antibiotics	15.9
Muscle/bone	11.3	Cardiovascular	7.9	GI tract	6.3
Others	5.0	Skin	4.5	Urogenital	4.3
Endocrine	2.9	Cytostatics & immune system	1.8	Blood & haematopoietic	1.3
Sensory	0.3				

Table 4 Homeopathic medicines

Lycopodium	67	Sepia	42	Rhus tox	28	Staphisagria	19	Causticum	12
Sulphur	61	Calc carb	37	Ignatia	27	Calc phos	15	Kali carb	12
Pulsatilla	58	Nat mur	37	Lachesis	27	Magnesia mur	14	Phos ac	11
Phosphorus	48	Ars Alb	31	Nux vom	26	Carcinosinum	12	Carbo veg	11
Silicea	43								

Base 1276 prescriptions. Figures show the number of patients to whom each substance was prescribed. Some patients received more than one substance.

Table 5 Base 782. Patients receiving different numbers of remedies

1 remedy	62.8%	2 remedies	17.9%	3 remedies	7.9%	4 remedies	3.2%
5 remedies	2.9%	6 remedies	8.0%	7 or more	0.8%	No record	3.7%

Table 6 Base 1276 prescriptions. Percentage of prescriptions based on each prescribing strategy

Global repertorisation of the whole set of symptoms	68%	Repertorisation on the clinical symptoms	18%
Repertorisation on Boenninghausen modalities	16%	Particular materia medica	12%
Personal clinical experience	8%	Isopathy	2%
Organotherapy	2%	Other	0%

More than half of the patients (52%) were able to discontinue one or more conventional drug treatments after recourse to homeopathy, according to their doctors (Table 3). The largest decrease (21%) was in CNS drugs (the great majority of these being psychotropic medication such as antidepressants and tranquillisers), followed by drugs for respiratory conditions (16%) and antibiotics (16%).

Homeopathic treatment

The doctors also recorded homeopathic prescriptions by substance, potency, frequency of dosage, duration of treatment and the basis upon which the prescription was chosen. Whilst a total of 333 different substances were prescribed, just 21 of these accounted for half of the prescriptions. More than half (197, or 59%) were prescribed on only a single occasion (Table 4).

A third of patients received more than one substance (Table 5).

Most doctors based their prescriptions on the totality of the symptom picture. Other strategies were also used, and some doctors used more than one strategy (Table 6).

Time scales and consultations

The average period for which patients had used homeopathy was 9 years 2 months; a third of respondents said they had used homeopathy for more than 10 years. Although both patients' and doctors' overall estimates of the duration of the presenting

Table 1 Primary diagnosis (base 782)

CNS Respiratory Musculo-

skeletal

Observational studies M Van Wassenhoven and G Ives

5

Not

Other Skin GI tract &

Cardio-

Sensory Endocrine Blood & recorded

metabolism

vascular

haematopoietic

26.7% 21.6% 9.1% 9.0% 8.2% 7.9% 6.6% 4.7% 4.5% 1.0% 0.6% 0.3%

Table 2 Conventional drugs prescribed by organ system (base 782)

Anti- biotics

Homeopathy Urogenital & reproductive

Cardio-

CNS Musculo-

Other Respiratory Urogenital &

Endo-

GI tract &

Skin Blood &

Sensory Cytostatics

& vascular

skeletal

reproductive

crine

metabolism

haematopoietic

immune system

58.7% 44.7% 29.3% 24.0% 17.3% 15.9% 13.9% 9.6% 9.1% 4.3% 3.4% 2.4% 1.4%

Table 3 Percentage of patients who discontinued conventional treatments (base 782)

CNS 20.6 Respiratory 16.1 Antibiotics 15.9 Muscle/bone 11.3 Cardiovascular 7.9 GI tract 6.3 Others 5.0 Skin 4.5 Urogenital 4.3 Endocrine 2.9 Cytostatics & immune system 1.8 Blood & haematopoietic 1.3 Sensory 0.3

Table 4 Homeopathic medicines

Lycopodium 67 Sepia 42 Rhus tox 28 Staphisagria 19 Causticum 12 Sulphur 61 Calc carb 37 Ignatia 27 Calc phos 15

Kali carb 12 Pulsatilla 58 Nat mur 37 Lachesis 27 Magnesia mur 14 Phos ac 11 Phosphorus 48 Ars Alb 31 Nux vom 26 Carcinosinum 12 Carbo veg 11 Silicea 43

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Table 7 Annual number of homeopathic consultations (base 782)

None	1.0%	1 to 2	21.9%	3 to 5	35.9%	6 to 10	24.0%
11 to 20	9.2%	Over 20	1.7%	No record	6.3%		

Table 8 Length of consultation by severity of presenting symptoms

	Up to 15 min	*Up to 30 min*	*Up to 45 min*	*Up to 60 min*	*Over 60 min*
Severity 0 or −1	8.5%	57.9%	15.2%	13.7%	4.7%
Severity −2 or −3	4.3%	48.5%	18.4%	20.9%	8.0%

problem were similar (averages of 6 years 6 months and 5 years 1 month, respectively), there was little agreement between the two on an individual basis.

The average number of homeopathic consultations per year was 6.0 (Table 7).

Male patients had fewer consultations per year than female patients (5.1 *vs* 6.4, $P<0.001$, Wilcoxon). There was a marked decrease in the number of consultations with general practitioners other than the homeopath following recourse to homeopathy (7.1 per year *vs* 1.3, $P<10^{-10}$, Wilcoxon). Consultations with specialists also reduced considerably, halving from an average of 2.6 per year before recourse to homeopathy to 1.3 afterwards ($P<10^{-10}$, *t*-test).

By the patients' estimates, homeopathic consultations were considerably longer than those with non-homeopathic generalists, averaging 37.0 min compared with 15.0 (very highly significant, $P<10^{-10}$, *t*-test). Several factors influenced the length of the homeopathic consultation. It was shorter where the primary diagnosis was a respiratory problem (31.5 min, $P<0.0002$, *t*-test), and longer when it was a CNS condition (including psychological problems) (40.4 min, $P<0.007$, *t*-test). The consultation was also longer when patients rated symptoms as more serious (Table 8). The difference between the two severity groups is significant ($P<0.001$, Wilcoxon). Consultations were also shorter if the duration of the presenting problem was less than 1 year (32.5 minutes, $P<0.0001$, *t*-test).

Costs of treatment

Patients estimated their average annual expenditure on consultations before their recourse to homeopathy to be €370, compared with €287 afterwards ($P<0.05$, Wilcoxon). These are average figures, and some patients saw their costs increase. The data showed the obvious correlations which would be expected, with more serious conditions and longer durations of illness attracting higher costs. Patients with worse ratings for physical health prior to homeopathy made higher savings (€61 less p.a. *vs* €137 less, comparing those rating their physical health 0 or −1 with those rating this −2 or −3, $P<.03$, Wilcoxon). Female patients' costs were greater than those of males because of their greater number of annual consultations.

Table 9 Relationship between remedy and patient's rating of outcome

Physical symptoms		*Psychological symptoms*	
Remedy	Average score	Remedy	Average score
Calc-c	2.71	Lach	2.48
Lach	2.38	Sil	2.09
Ars-a	2.31	Ars-a	2.07
Nat-m	2.24	Lyc	1.98
Lyc	2.19	Sep	1.86
Sil	2.17	Nux-v	1.81
Sep	2.00	Ign	1.74
Sul	2.00	Calc-c	1.69
Puls	1.93	Phosphorus	1.49
Nux-v	1.79	Sul	1.47
Phos	1.68	Nat-m	1.46
Ign	1.67	Puls	1.27
Rhus- t	1.52	Rhus-t	1.15
Overall	**2.06**	**Overall**	**1.72**

Outcomes

Outcome, as recorded by the patient, varied by medicine, both for physical and psychological symptoms (Table 9 shows the average improvement ratings recorded by patients). To ensure adequate numbers, these are shown only for the 13 remedies which were prescribed to at least 20 patients. Ratings of changes in physical and psychological symptoms on these 13 remedies correlated only modestly, with $r=0.53$.

Table 10 shows all the differences which are significant at $P<0.05$ or better on a *t*-test. For example, on ratings of physical symptoms, patients receiving *Lachesis* score significantly higher than those receiving *Phosphorus* ($P=0.042$). These data should be interpreted with caution, since both prescription and outcome depend on the patients' illnesses.

Perceived effects of conventional and homeopathic treatment

Table 11 summarises patients' ratings of their symptom levels before and after conventional and homeopathic treatment. It is very apparent that patients report a marked improvement in both physical and psychological conditions after treatment by homeopathy. The differences are large and statistically extremely significant (*P*-values $<10^{-10}$, Wilcoxon test).

Both patients and doctors were asked to rate the effectiveness of homeopathic and previous treatment

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None 1.0% 1 to 2 21.9% 3 to 5 35.9% 6 to 10 24.0% 11 to 20 9.2% Over 20 1.7% No record 6.3%

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Up to 15 min Up to 30 min Up to 45 min Up to 60 min Over 60 min

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Both patients and doctors were asked to rate the effectiveness of homeopathic and previous treatment

Table 10 Significance of differences between outcome for different remedies shown in Table 9

	Physical symptoms						*Psychological symptoms*				
	Calc	*Lach*	*Ars*	*Nat M*	*Lyc*		*Calc*	*Lach*	*Sil*	*Ars*	*Lyc*
Sep	0.031						Phos	0.005			
Sul	0.022						Sul	0.008			
Puls	0.01						Nat m	0.004			
Nux v	0.03						Puls	0.001	0.015	0.024	0.013
Phos	0.001	0.042	0.038				Rhus	0.004	0.036	0.046	0.037
Ign	0.007										
Rhus	0.002	0.031	0.019	0.042	0.04						

Table 11 Symptom severity before and after treatment (base 782)

	Severity score				
	0	-1	-2	-3	N/R
Physical state before homeopathy	18.2%	36.8%	16.0%	12.5%	16.5%
Physical state after homeopathy	64.2%	17.8%	4.3%	1.5%	12.1%
Psychological state before homeopathy	24.8%	36.3%	11.0%	10.1%	17.8%
Psychological state after homeopathy	66.6%	15.9%	1.4%	0.8%	15.3%

on physical and psychological symptoms. Only the patients' ratings are reported here because they are more likely than their doctors to have accurate knowledge of the effects of previous treatment. Figure 1 shows the average ratings. Here again, homeopathy was reported to be very effective in contrast to previous treatment which was not only reported ineffective but in many cases was said to have caused deterioration. Reported worsening of the condition was very rare with homeopathic treatment. The differences are statistically very highly significant (P-values $< 10^{-10}$, Wilcoxon test).

Satisfaction with treatment

Patients were asked to report their satisfaction with the treatment they received prior to homeopathy, and with homeopathic treatment, on a 10-point scale (Figure 2). The great majority (89%) said that homeopathy had improved their physical condition; 8.5% that it had made no difference and only 2.4% that homeopathy had worsened it. This contrasts with their previous conventional treatment, which had improved 13% of patients, made no difference to 32%, and had worsened the condition of over half (55%). A similar picture was seen in ratings of the effectiveness of prior and homeopathic treatments on psychological symptoms.

Satisfaction ratings with previous treatment were higher (but still low) where patients had received longer consultations, and where the problem was less severe. Patients were even less satisfied where the costs of previous treatment had been high. These three comparisons are shown in Figure 2a–c. The only variables showing a significant relation to satisfaction with homeopathic treatment were the outcome measures—the better the outcome, the more satisfied patients declared themselves to be.

Costs

A subset of 47 homeopaths supplied detailed data about the conventional drugs they prescribed during 1999, which were classified by drug type and organ system. The same data were obtained from national statistics,[9] which gave the total drug expenditure for doctors in Belgium (2000 figures) and the proportion of this in each drug category (1999 figures); in each case, these are the latest figures available. Approximate expenditure per doctor was calculated on the basis that the national statistics represent about 14,000 registered general practitioners. The results show that expenditure on conventional drugs by the 47 homeopathic doctors was only about a third that of their conventional colleagues. Their use of antibiotics was only one fifth. As a comparison, figures in table 15 are shown for the (purely theoretical) savings if all 14,000 doctors were to prescribe in the same way as their homeopathic colleagues. The implication is a national saving for Belgium of about €775 million annually, about two-thirds of the national drug budget. Table 12. This calculation must of course be seen as extremely approximate, and the comments above regarding the atypical nature of the population under study must be taken into consideration. Nevertheless, the data support the conclusion that homeopathic treatment is cheaper than conventional medicine and point the way for future studies.

Use of investigations

In a separate project, in 2002, the Unio Homœopathica Belgica undertook a comparison of the use of medical imaging and laboratory tests by conventional GPs (CGP) and the group of homeopathic general practitioners (HGP) in Belgium.

The average number of patient consultations per year by the HGP was 2415 (decile 3.4, ie 66% of

Table 10 Significance of differences between outcome for different remedies shown in Table 9

Physical symptoms Psychological symptoms

Calc Lach Ars Nat M Lyc Calc Lach Sil Ars Lyc

Sep 0.031 Phos 0.005 Sul 0.022 Sul 0.008 Puls 0.01 Nat m 0.004 Nux v 0.03 Puls 0.001 0.015 0.024 0.013 Phos 0.001 0.042 0.038 Rhus 0.004 0.036 0.046 0.037 Ign 0.007 Rhus 0.002 0.031 0.019 0.042 0.04

Table 11 Symptom severity before and after treatment (base 782)

Severity score

0 -1 -2 -3 N/R

Physical state before homeopathy 18.2% 36.8% 16.0% 12.5% 16.5% Physical state after homeopathy 64.2% 17.8% 4.3% 1.5% 12.1% Psychological state before homeopathy 24.8% 36.3% 11.0% 10.1% 17.8% Psychological state after homeopathy 66.6% 15.9% 1.4% 0.8% 15.3%

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Costs patients' ratings are reported here because they

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about the conventional drugs they prescribed during knowledge of the effects of previous treatment.

1999, which were classified by drug type and organ Figure 1 shows the average ratings. Here again,

system. The same data were obtained from national homeopathy was reported to be very effective in

statistics,9 which gave the total drug expenditure for contrast to previous treatment which was not only

doctors in Belgium (2000 figures) and the proportion reported ineffective but in many cases was said to have

of this in each drug category (1999 figures); in each caused deterioration. Reported worsening of the

case, these are the latest figures available. Approximate condition was very rare with homeopathic treatment.

expenditure per doctor was calculated on the basis that The differences are statistically very highly significant (P-values o10À10, Wilcoxon test).

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The average number of patient consultations per patients declared themselves to be.

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	Percentages									Further details			
	Dramatic deterioration (-4)	Deterioration affecting work (-3)	Worse, confirmed by tests etc. (-2)	Feeling worse (-1)	No change (0)	Feeling better (+1)	Better, confirmed by tests etc. (+2)	Interference with work goes (+3)	Complete cure (+4)	Base	Not recorded	Response	Total base
Previous treatment's effectiveness on physical symptoms	4.5	12.9	15.4	22.8	31.9	8.8	1.7	0.8	1.3	605	22.6	77.4	782
Homeopathy's effectiveness on physical symptoms	0.3	0.6	0.1	1.3	8.5	31.2	19.9	18.7	19.4	685	12.4	87.6	782
Previous treatment's effectiveness on psychological symptoms	2.9	8.9	8.5	27.8	42.2	6.0	1.0	1.0	1.7	586	25.1	74.9	782
Homeopathy's effectiveness on psychological symptoms	0.0	0.2	0.0	1.2	21.0	29.7	15.0	17.1	15.9	661	15.5	84.5	782

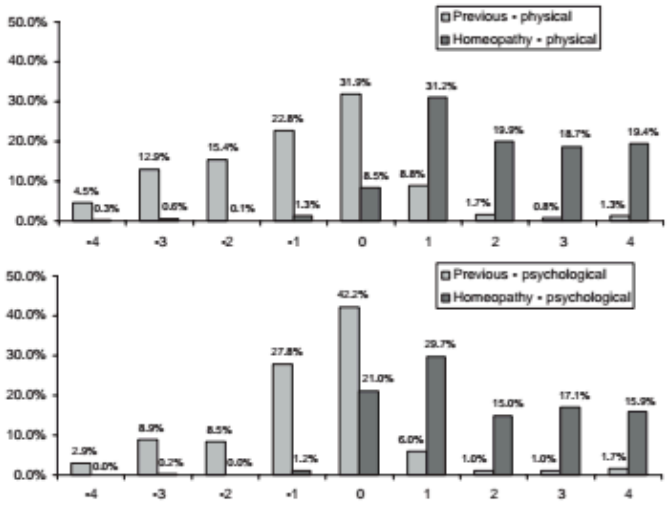

Figure 1 Perceived effectiveness of treatment as rated by patients.

Belgian GPs had more patient contacts and 34% had fewer). The number of referrals for medical imaging per consultation, the value for the HGP group was at decile 3.1, while the cost of these was only at decile 2.6. For laboratory tests, the annual average number of tests requested was decile 2.9, while the number of tests per request was decile 10.0. This indicates that when HGPs requested tests, they requested many more than CGPs, but the total number of tests requested by HGPs was lower. While the annual average cost of tests was at decile 3.7, this rose to 4.8 when expressed per patient contact.

The conclusion is that homeopathic practitioners in Belgium used medical imaging and laboratory tests similar to, but somewhat less than their conventional medical colleagues. There was no evidence that they made referrals for these excessively or unnecessarily.

Discussion

This is an observational, not experimental study, designed to capture a picture of doctors and patients in actual daily practice, rather than to manipulate conditions or variables. It therefore has a number of limitations which should be borne in mind when considering the results. There are other factors which have a bearing on the validity of the data.

Questionnaire design

Self-completion of questionnaires can lead to undetectable errors in the data. One such source is the use

Percentages Further details

Dramatic deterior- ation (-4)

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Homeopathy

Deterior- ation affecting work (-3)

Worse, confirmed by tests etc. (-2)

Better, confirmed by tests etc. (+2)

Interfer- Feeling No Feeling ence worse change better with work goes (-1)

(0)

(+1)

(+3)

Complete

cure

(+4)

Not

recorded

Total

base

Previous treatment’s effectiveness on physical symptoms

Base

Response

4.5 12.9 15.4 22.8 31.9 8.8 1.7 0.8 1.3

605 22.6 77.4 782

Homeopathy's effectiveness on

physical symptoms

0.3 0.6 0.1 1.3 8.5 31.2 19.9 18.7 19.4

685 12.4 87.6 782

Previous treatment’s effectiveness

on psychological symptoms

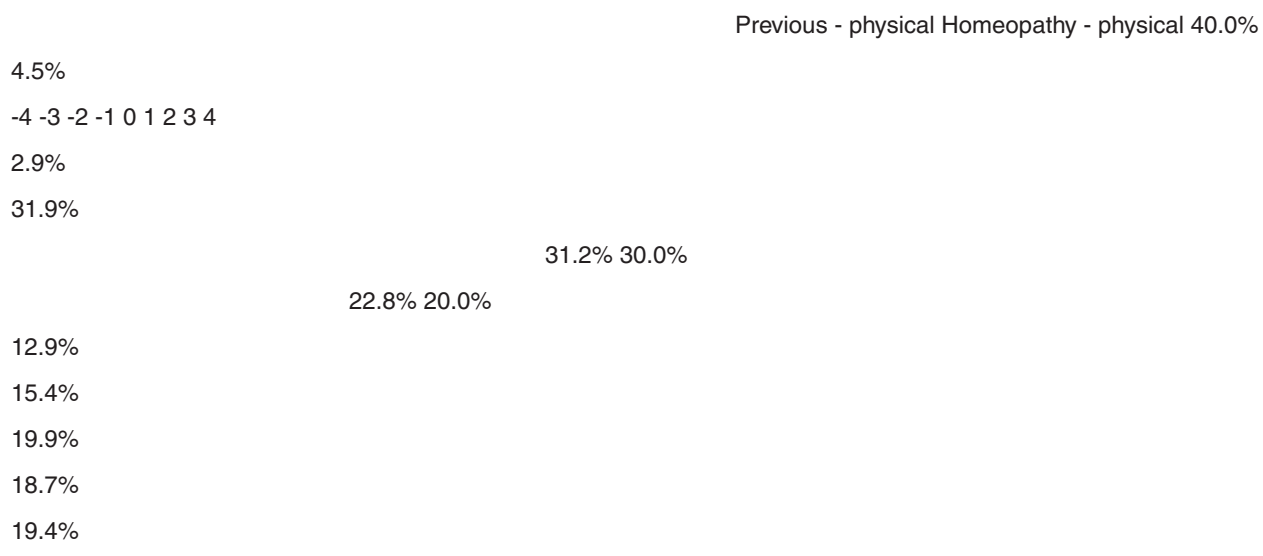
2.9 8.9 8.5 27.8 42.2 6.0 1.0 1.0 1.7

586 25.1 74.9 782

Homeopathy's effectiveness on psychological symptoms

0.0 0.2 0.0 1.2 21.0 29.7 15.0 17.1 15.9

661 15.5 84.5 782



10.0%

8.5%

8.8%

0.0%

0.3% 0.6%

0.1%

1.3%

1.7%

0.8% 1.3%

50.0%

Previous - psychological

42.2%

Homeopathy - psychological 40.0%

30.0%

27.8%

29.7%

15.0%

6.0%

1.0% 1.0%

-4 -3 -2 -1 0 1 2 3 4

Figure 1 Perceived effectiveness of treatment as rated by patients.

21.0% 20.0%

17.1%

15.9%

10.0%

8.9%

8.5%

0.0%

0.0%

0.2% 0.0%

1.2%

1.7%

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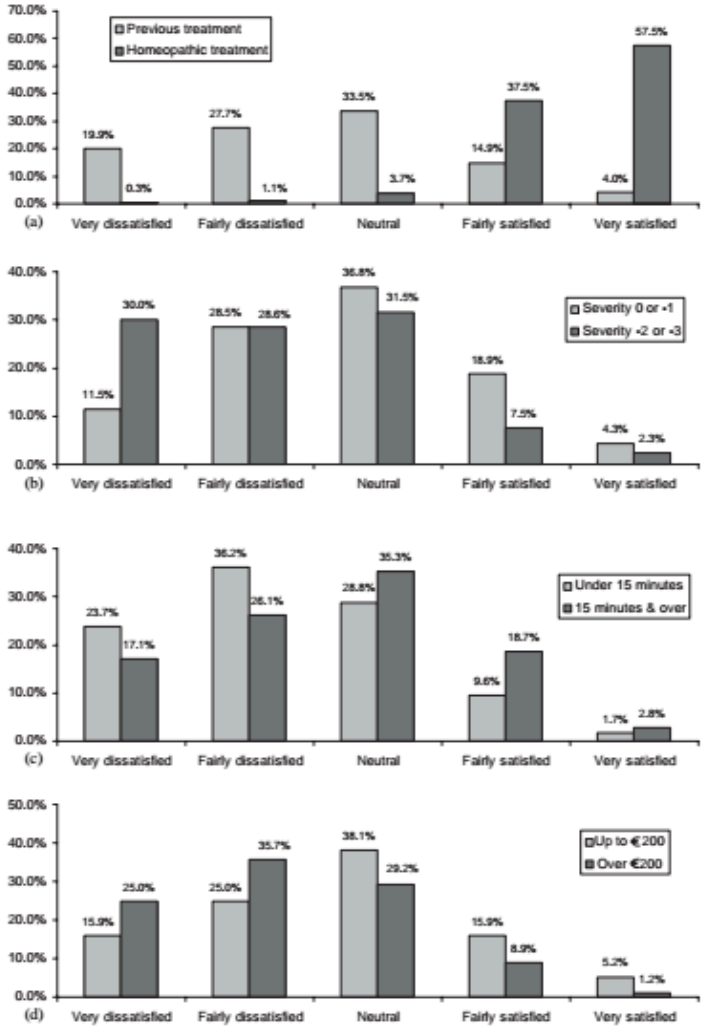

Figure 2 (a) Overall satisfaction with treatment; (b) variations in satisfaction with previous treatment by severity; (c) satisfaction with previous treatment by length of consultation; (d) satisfaction with previous treatment by cost.

of numerical rating scales for satisfaction, etc. Despite instructions to use one as a minimum and 10 as a maximum, some respondents will either not read or misunderstand the instructions, and may use the scale in the reverse direction. While this will reduce the average size of the effects observed, it will not introduce systematic bias since a person making this mistake will tend to do so consistently between questions. The information gathered on costs of treatment paid by patients is likely to be a slight underestimate since there is evidence that some, perhaps 2 or 3%, recorded cost per session rather than annual cost as requested.

Questionnaire content

A number of questions asked for information relating to the period before the patient's recourse to homeopathy, such as costs, number of consultations, and satisfaction with conventional treatment. Since almost a third of patients had been using homeopathy for over 10 years (and many of these answered these questions) the validity of such recall is questionable. It may be that their answers related to conventional treatment received concurrently, but the questionnaire did not specifically ask about this. This lack of clarity about the time frame in some questions is perhaps the most serious shortcoming of the study, and should be borne in mind when considering the results.

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9

70.0%

60.0%

Previous treatment Homeopathic treatment

57.5%

50.0%

40.0%

33.5%

37.5%

30.0%

27.7%

19.9% 20.0%

14.9%

10.0%

0.3%

1.1%

3.7%

4.0%

0.0% (a)

Very dissatisfied Fairly dissatisfied Neutral Fairly satisfied Very satisfied

40.0%

36.8%

30.0%

30.0%

28.5%

28.6%

31.5%

Severity 0 or -1 Severity -2 or -3

20.0%

18.9%

11.5% 10.0%

7.5%

4.3%

2.3%

0.0% (b)

Very dissatisfied Fairly dissatisfied Neutral Fairly satisfied Very satisfied

40.0%

36.2%

35.3%

30.0%

26.1%

28.8%

Under 15 minutes

23.7%

15 minutes & over

20.0%

17.1%

18.7%

10.0%

9.6%

1.7%

2.8%

0.0% (c)

Very dissatisfied Fairly dissatisfied Neutral Fairly satisfied Very satisfied

50.0%

40.0%

35.7%

38.1%

Up to 200

30.0%

25.0%

25.0%

Homeopathy 29.2%

Over 200

20.0%

15.9%

15.9%

10.0%

8.9%

5.2%

1.2% 0.0% (d)

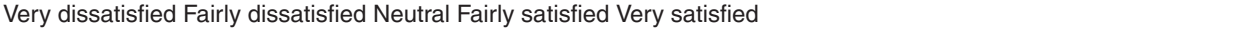

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Table 12 Notional cost savings (€)

Total Belgian drugs budget for 2000: €1,177,487,500	*Percentage of drugs budget in each category (1999)*	*Annual cost*	*Average annual cost per doctor*	*Average annual cost per homeopath*	*Homeopaths' expenditure as % of other doctors*	*Cost if all doctors prescribed like homeopaths*
GI tract & metabolism	11.2	131,878,600	9420	3149	33.4	44,086,000
Blood & haematopoietic	2.8	32,969,650	2355	723	30.7	10,115,350
Cardiovascular	33.1	389,748,363	27,839	10,803	38.8	151,237,100
Skin	1.4	16,484,825	1177	412	35.0	5,768,350
Urogenital & reproductive	3.5	41,212,063	2944	1248	42.4	17,465,000
Endocrine	2.2	25,904,725	1850	733	39.6	10,256,400
Antibiotics	14.2	167,203,225	11,943	2444	20.5	34,214,250
Cytostatics & immune system	3.2	37,679,600	2691	1256	46.7	17,579,800
Musculo-skeletal	5.8	68,294,275	4878	1621	33.2	22,699,600
CNS	12.7	149,540,913	10,681	3644	34.1	51,009,700
Respiratory	9.3	109,506,338	7822	2550	32.6	35,705,950
Sensory	0.5	5,887,438	421	116	27.5	1,619,100
Other	0.1	1,177,488	84	0		0
Totals	**100**	**1,177,487,500**	**84,106**	**28,697**	**34.1**	**401,756,600**

Data entry

Data entry was single for reasons of time and cost so that some miscoding of data is inevitable. Where this miscoding is identifiable (for example, recording positive values where only zero or negatives are possible) its extent is below 2%, which is generally considered acceptable in large databases of this type.

Inter-rates reliability

Both groups were asked to rate the effectiveness of former and homeopathic treatment on physical and psychological problems. Correlations between patient and doctor ratings on these measures were generally low (Spearman's r between 0.2 and 0.4), but it is arguable that a correlation coefficient is not the best measure of reliability for subjective ratings such as these. When a three-point rating of better/same/worse is used, the concordance between the two groups is high, being 67% across the four sets of measurements (ie ratings for 67% of patients overall fell into the same categories for both patients and doctors). Concordance was higher for ratings of physical symptoms than for psychological symptoms (76 *vs* 58%), which would be expected.

Patients were also asked how long they had suffered from their current problem, and doctors were asked the date from which the primary diagnosis applied. There was little correlation between these two figures (Pearson's $r=0.20$), indicating that the two groups were not recording the same thing. Both groups were also asked to note the number of homeopathic consultations per year. The correlation was better at $r=0.54$, but still not high. This could arise if patients consulted more than one homeopath, but again the questionnaire did not ask this. A more likely explanation is that one or both groups were estimating the numbers as informed guesses rather than accurate counts.

Selection bias

While the patients for inclusion in the study were not selected by the practices, and the zero refusal rate eliminates this particular bias, the patients were nevertheless self-selected for this type of treatment (homeopathy). The comparisons of perceived effectiveness of, and satisfaction with former and current treatment show very large and highly significant differences between the two. It is clear that as a group they had a very low opinion of their previous treatment, and indeed their satisfaction scores with this are remarkably low. This leads to the hypothesis that they sought homeopathic treatment because of the failure of previous therapies, and indeed more than half indicated that their conventional treatment made them worse. Such high levels of dissatisfaction with conventional treatment have not been observed elsewhere when homoeopathic and conventional therapies have been compared,[5] indicating that the present population does not simply comprise a subset of the normal patient population. The practices participating in the study, however, comprised a broad base of homeopathic medical practice in Belgium, and there is therefore no reason to suppose that the patients studied are not typical of those found in such homeopathic practices, and the study remains valid as an investigation of this subset of medical patients, ie those found in a homeopathic setting in Belgium. The separate study described above, the comparison of referrals for laboratory tests and medical imaging found that homeopathic practitioners in Belgium used these similar to, but somewhat less than their conventional medical colleagues, indicating that in this respect the patient populations were not too dissimilar.

A favourite argument used by those who wish to dismiss homeopathy is that positive results are obtained only because those consulting homeopaths are not really ill, and have only trivial or psychosomatic complaints. This study shows that on the contrary, patients present with illnesses of all major organ systems; 78% of them gave ratings of their physical state of sufficient severity to interfere with their daily life, and 15% were unable to pursue their occupation or education. It is also clear that the

Table 12 Notional cost savings (h)

Total Belgian drugs budget for 2000: h1,177,487,500

Homeopathy	Percentage of	Annual cost Average	Average	Homeopaths' drugs budget			
		annual cost	annual cost	expenditure as % in each			
		per doctor	per homeopath	of other doctors category (1999)			
		Cost if all doctors prescribed like homeopaths					
GI tract & metabolism	11.2	131,878,600	9420	3149	33.4	44,086,000	
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Urogenital & reproductive	3.5	41,212,063	2944	1248	42.4	17,465,000	
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CNS	12.7	149,540,913	10,681	3644	34.1	51,009,700	
Respiratory	9.3	109,506,338	7822	2550	32.6	35,705,950	
Sensory	0.5	5,887,438	421	116	27.5	1,619,100	
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patients in this study were very satisfied with their treatment, and that the clinical outcomes were good.

Patients reported that on average their homeopathic treatment cost them less than their previous conventional treatment, despite consultations being more than twice as long on average. The costs of their treatment to the health-care system were also lower because of the reduced use of conventional drugs. The calculated implication is a notional saving for Belgium of about 775 million Euros annually, about two thirds of the national drug budget. This calculation must of course be seen as extremely approximate, and the comments above regarding the atypical nature of the population under study must be taken into consideration. It is interesting to speculate how this cost saving might translate into the wider system if all general practitioners prescribed in the same way as the homeopaths. Despite important caveats, the data support the hypothesis that homeopathic treatment is cheaper than conventional medicine and point the way for future studies.

Such studies can be improved by a better questionnaire design allowing clearer discrimination of time frames. Questions about previous treatments were answered by patients who had used homeopathy for over 10 years, and the reliability of such estimates is doubtful. Nevertheless, the extremely large magnitude of differences observed between ratings of previous and homeopathic treatments makes it very unlikely that these differences are entirely artefacts. The degree of cost savings should be clarified and the addition of a quality-of-life measure would be useful. A concurrent study of patients in orthodox general medical practice should also be undertaken.

Conclusions

In this study, a large group of unselected patients seeking homeopathic therapy in general medical practice reported that their treatment had been highly effective in resolving physical and psychological symptoms which, in 78% of cases, had been sufficiently severe to interfere with their lives. These findings were corroborated by their physicians. The patients' satisfaction levels with their treatment were very high.

In contrast, both satisfaction with and the reported outcome of previous orthodox treatment was poor and failure of previous treatment may account both for the selection of homeopathic therapy by the patients and the large contrast between ratings of the two. Over half were able to discontinue previously prescribed conventional drugs. Most medications which were continued were antibiotics and cardiovascular. The antibiotics were almost exclusively used to treat respiratory infections.

Consultations were on average more than twice as long as for previous conventional treatment but cost the patients less. The largest cost savings were made by patients with the worst initial ratings of their physical condition. The lower level of conventional prescribing implied considerable savings to the state if homeopathic medicine were more widely adopted.

The results show that useful data can be obtained from this type of observational study and point the way for future work of a similar type.

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1 patients in this study were very satisfied with their and treatment, and that the clinical outcomes were good. half Patients reported that on average their homeopathic con- treatment cost them less than their previous conven- con- tional treatment, despite consultations being more than twice as long on average. The costs of their treatment to the health-care system were also lower of conventional drugs. The twice as calculated implication is a notional saving for Belgium cost of about 775 million Euros annually, about two thirds made by of the national drug budget. This calculation must of physical course be seen as extremely approximate, and the prescribing comments above regarding the atypical nature of the homeo- population under study must be taken into considera- It is interesting to speculate how this cost saving obtained might translate into the wider system if all general the practitioners prescribed in the same way as the homeopaths. Despite important caveats, the data support the hypothesis that homeopathic treatment is cheaper than selection of homeopathic therapy by the patients the large contrast between ratings of the two. Over were able to discontinue previously prescribed ventional drugs. Most medications which were tinued were antibiotics and cardiovascular. The antibiotics were almost exclusively used to treat respiratory infections. because of the reduced use Consultations were on average more than long as for previous conventional treatment but the patients less. The largest cost savings were patients with the worst initial ratings of their condition. The lower level of conventional implied considerable savings to the state if pathic medicine were more widely adopted. tion. The results show that useful data can be from this type of observational study and point way for future work of a similar type.

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Such studies can be improved by a better ques- tionnaire design allowing clearer discrimination of time

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frames. Questions about previous treatments were answered by patients who had used homeopathy for over 10 years, and the reliability of such estimates is doubtful. Nevertheless, the extremely large magnitude of differences observed between ratings of previous

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