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ORIGINAL PAPER

Motivations of patients seeking supportive care for cancer from physicians prescribing homeopathic or conventional medicines: results of an observational cross-sectional study

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Background & aims: **The motivations of patients who consult a homeopathic (GP-Ho) or conventional (GP-CM) general practitioner for supportive care during cancer treatment have not been widely studied. We investigated the reasons why cancer patients consult a GP-Ho *versus* a GP-CM for supportive care and the GPs' motivations for their prescriptions.**
Methods: **This observational survey was carried out in France between October 2008 and October 2011. GPs across France were randomly selected and asked to recruit four cancer patients each. At inclusion, the sociodemographic and clinical (including psychological) characteristics and medical history of the patients were recorded by the GPs and the patients noted their quality of life (QoL) and anxiety/depression using the Quality of Life Questionnaire-C30 (QLQ-C30) and Hospital Anxiety and Depression Scale (HADS) self-questionnaires. The main motivations of the patients regarding the type of GP consultation and the main reasons for the GPs' prescriptions were recorded.**
Results: **Six hundred and forty four patients were included in the analysis: 399 consulted a GP-CM (n = 112) and 245 a GP-Ho (n = 73). Patients consulting a GP-Ho were more often female [OR = 1.93; 95%CI: 1.11–3.35; p = 0.02], employed in a professional capacity [OR = 6.57; 95%CI: 1.96–21.99; p = 0.002], have a shorter time since cancer diagnosis [OR = 2.19; 95%CI: 1.24–3.87; p = 0.007], have received targeted anticancer therapy [OR = 3.70; 95%CI: 1.67–8.18; p = 0.001] and have a high QLQ-C30 score for constipation [OR = 1.01; 95%CI: 1.00–1.02; p = 0.001]. Patients mainly consulted a GP-Ho to receive overall care (73.5% *vs.* 64.9%; p = 0.024) and medicines to prevent anticancer treatment-related side-effects (63.7% *vs.* 41.4%; p < 0.0001). In contrast, patients consulted a GP-CM to receive psychological care (50.1% *vs.* 40.8%; p = 0.021) and more information regarding the oncologists' strategic decisions (p < 0.0001). There was a significantly greater prescription of psychotropic drugs by GP-CM (53.7% *vs.* 22.4%, p < 0.0001).**

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Conclusions: **Patients consulting a GP-Ho or GP-CM had different motivations for seeking supportive care. There was a significantly greater prescription of psychotropic drugs by GP-CM.** *Homeopathy* (2016) **105**, 289–298.

Keywords: Cancer; General practice; Cross-sectional survey; Supportive care; Homeopathy; Complementary medicine

Introduction

Complementary and alternative medicines (CAMs) are a diverse set of medical systems, practices or products that fall outside the realm of conventional Western medicine and are used alongside or instead of it. In practice few people forego conventional medicine so the term integrative medicine is increasingly preferred. CAM focuses on the whole person and includes physical, emotional, mental and spiritual health.[1] Despite the fact that many CAM techniques are controversial and are not validated by evidence-based medicine, the use of CAM as integrative therapy by cancer patients, in parallel with anticancer treatments prescribed by oncologists, has increased considerably over the past 30 years.[2] Studies in France have shown that 30–60% of cancer patients report consulting a CAM practitioner in addition to their cancer specialist.[3–5] A more recent review of the English literature published between 2000 and 2015 suggests that CAM use may be as high as 94.7% in some groups of cancer patients.[6]

In France, the cancer plan of 2009–2013 aimed to guarantee each cancer patient a personalized, equivalent and effective care programme and to reinforce the coordination of care between health professionals to allow a better quality of life (QoL) during and after the disease.[7] Regular consultations with an oncologist are scheduled in advance and the oncologists' reports are sent to the patient's regular (treating) general practitioner (GP). The patient is then free to consult their GP for supplementary care if any problems arise between oncology consultations.

Although there is no evidence of cancer 'cure' with CAM, CAM can play an important role in supportive and palliative care in oncology.[8] Homeopathy is practised as complementary medicine to cancer treatments and helps in patient support. Supportive therapy is defined as "*all care and supports necessary for ill people, at the same time as specific treatments, along all severe illnesses*".[9] Several publications have attempted to define the motivations of cancer patients using CAM as supportive therapy. The majority of patients use CAM to increase the body's chance of fighting the cancer, to reduce their symptoms and to improve their physical and emotional health and wellbeing.[2,4,10–14] However, in two reports, 13–20% of patients considered CAM as a potential cure for their cancer[2,14] and 17% thought it could prevent recurrence,[14] even though the CAM was given in addition to conventional anticancer treatments.

In a large cross-sectional study of European cancer centres providing integrative oncology treatments, 40.4% of patients using CAM used homeopathy.[15] In cancer patients, homeopathic medicines have been reported to increase global health status, subjective wellbeing and QoL,[16,17] increase life-expectancy,[18] decrease fatigue,[17] reinforce the natural defences of the body[3] and improve tolerance to anticancer treatments.[3] In an ethnographic study carried out among practitioners and users of homeopathy[19] it was suggested that homeopathy can provide some support to patients, especially to combat the stress and uncertainty that derives from cancer and conventional treatments. Homeopathy can be seen as a supportive therapy to help patients live a better life with their cancer.

We present the results of survey carried out in France to describe the motivations of patients seeking either homeopathic or conventional integrative care from their GP during treatment for cancer and the reasons GPs give for their prescriptions.

Material and methods

Study design

This prospective, observational cross-sectional survey was carried out in France between October 2008 and October 2011 among GPs known to prescribe either homeopathic or conventional medicines, within the framework of their usual medical practice. A scientific committee was set up to agree the study protocol and monitor the study progress.

The study was approved by the French National Data Protection Commission (CNIL), the Advisory Committee on Information Processing in Material Research in the Field of Health (CCTIRS) and the French National Council of Physicians (CNOM). As this was an observational study and did not involve any modifications to the anticancer treatments given to the patients or to the assessment of any possible new treatments for cancer, ethical approval was not required according to French law.

Recruitment of general practitioners

A list of approximately 1200 GPs was randomly generated from a list of all GPs in France. These GPs were contacted by telephone by a clinical research associate (CRA) and the study was explained to them with the aim finding 400 GPs who would agree to participate (200 GP-Ho and 200 GP-CM). The GPs were asked to recruit four patients each over a 6-month period with the aim of recruiting 1600 patients overall. Because of patient recruitment below the desired level an additional 110 GPs were contacted by telephone in March 2011 and asked to take part; thus a total of 1310 GPs were contacted.

Of these 1310 GPs, 679 (51.8%) agreed to participate in the study. The study was explained to these GPs again and

they were given the relevant documents and shown how to complete them by the CRA. Only 187/679 (27.5%) GPs were active and included at least one patient (Figure 1). The main reasons given for non-participation were a lack of time, the GP did not participate in studies and a lack of eligible patients.

The participating GPs were divided into two groups depending on their specialty: registered homeopathic GPs who prescribed mainly homeopathic medicines (GP-Ho) and GPs who prescribed mainly conventional medicines (GP-CM). In France, most GPs who prescribe homeopathic medicines undergo additional training on homeopathic medicines during their medical training or as part of their continuing professional development during their ongoing practice.

Participating GPs received financial remuneration for the study but the patients did not.

Recruitment of patients

Patients were eligible for inclusion in the study if they had a solid tumour or a haematological malignancy, irrespective of the stage of the tumour or the anticancer treatment received (surgery, radiotherapy and/or chemotherapy). Patients were excluded if they had another evolving malignancy or were unable to understand French.

The patients were divided into two groups depending on the specialty of their GP: GP-Ho or GP-CM. The end of recruitment was fixed at 31 October 2011.

All patients were given an information letter about the study and gave their informed consent before taking part.

Data collection by the general practitioners

The following data regarding the GPs were recorded at the start of the study: age; gender; geographic location; type of practice (urban/rural); and activity (Sector I with health insurance contract for minimum fees, Sector II with additional fees, or not linked to the state health scheme).

At inclusion the GPs recorded the following sociodemographic and clinical data for each patient using a standard form: age; gender; body mass index (BMI, kg/m^2); socio-professional group (8 categories); level of education (5 categories); marital status (4 categories); physician's role (regular treating physician or not); health insurance (covered by additional health insurance or not, universal illness coverage [French 'CMU'] or not); type of cancer; time since cancer diagnosis (<1 month, 1−6 months, >6 months); previous and current treatments for cancer (surgery, radiotherapy, chemotherapy, hormone therapy, immunotherapy, targeted therapy, graft/allograft, association of one or more treatments); number of previous cycles; current prescriptions (conventional and homeopathic medicines, number of drugs prescribed, proportion of homeopathic medicines, number of patients who received at least one prescription of homeopathic medicine) and current supportive care (yes/no) and type. The GPs noted the three main motivations of the patient (in hierarchic order) for the consultation out of seven possibilities from a closed list: (i) overall supportive care; (ii) psychological care; (iii) information on the cancer and its evolution; (iv) complementary information regarding the oncologists' decisions

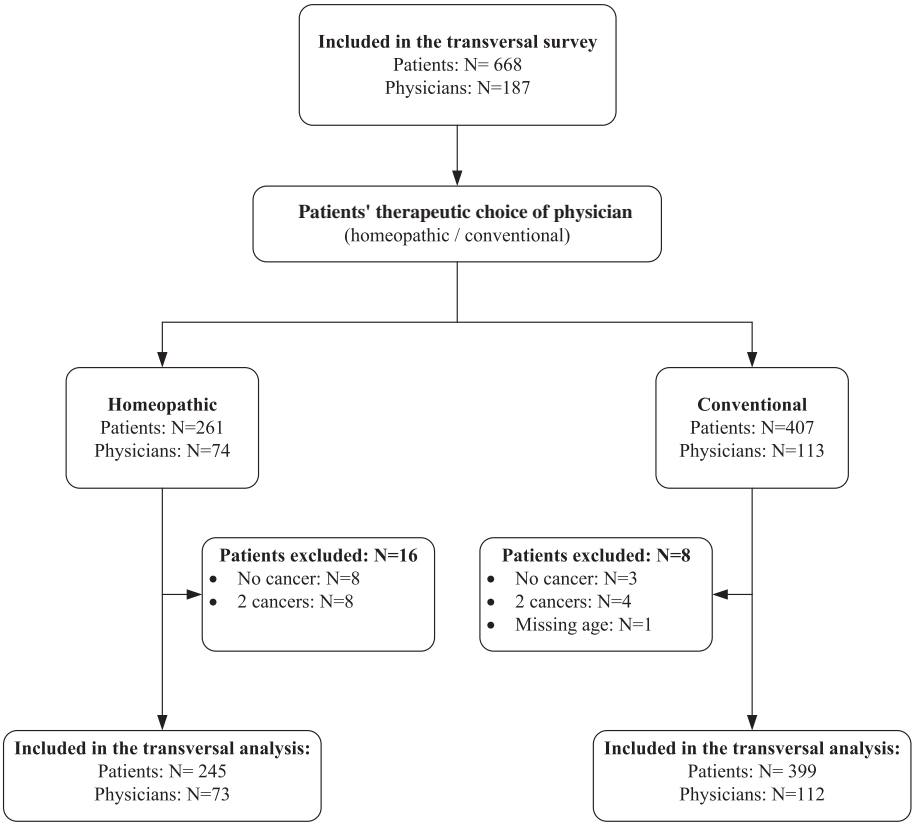

Figure 1 Flow chart of the study population.

and treatment strategies; (v) preventive or curative management of the side-effects of anticancer treatments; (vi) better chance of cancer cure; (vii) other. The GPs also made a note of their reasons for the prescription from a list of four possibilities (more than one reason was possible): (i) to improve tolerance of anticancer treatments; (ii) to treat anxiety/depression; (iii) to improve compliance with anticancer treatments; and other.

Data collection by the patients

The following data were recorded by all patients at inclusion using a self-questionnaire: current status regarding work (sick leave, full-time, unemployed, retired, part-time, other); QoL using the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire-C30 (QLQ-C30) (version 3)[20]; and anxiety/depression using the Hospital Anxiety and Depression Scale (HADS).[21] The QLQ-C30 was administered according to the recommendations of the EORTC.[20] The 30 items were pooled into 3 domains: (i) activity; (ii) symptoms; (iii) overall health-related QoL. For the evaluation of activity (scale of 0−100), a high score represented a high level of activity, for symptoms a high score represented a high level of symptoms and for QoL a high score represented a good QoL. The HADS score was interpreted as described by Zigmond & Snaith[21]: score ≤7 = no anxiety/depression, 8−10 = suspected anxiety/depression, ≥11 = confirmed anxiety/depression.

Statistical analysis

Quantitative variables are expressed as number, mean ± standard deviation (SD), 95% confidence intervals (CI), median, first and third quartile, range (minimum and maximum) and number of missing data. Qualitative variables are expressed as frequency, percentage, 95%CI and number of missing data.

Quantitative variables were analysed using the Student's *t*-test and qualitative variables were analysed using the Chi-square test or Fischer's exact test. The possible association between sociodemographic and clinical factors and type of medical care sought (*i.e.* conventional *vs.* homeopathic) was evaluated by logistic regression analysis.

For the logistic regression analysis, a model was created for the probability of receiving homeopathic supportive care. The following factors were analysed in univariate and multivariate models: (i) sociodemographic data; (ii) cancer history (type and duration); (iii) previous or current treatments (surgery, radiotherapy, hormone therapy, chemotherapy, targeted therapy, immune therapy, transplant/allograft, other); (iv) 15 scores for the QLQ-C30 scale (activity, QoL, symptoms); (v) HADS scores. The multivariate model was built by stepwise selection with an entry threshold of 0.10 and a cancellation threshold of 0.05. The variables type of cancer and time since diagnosis were included in the final multivariate model irrespective of their level of significance.

All statistical analyses were performed using SAS, version 9.2.

Results

Study population − general practitioners

The composition of the study population is summarized in the flowchart in Figure 1. The characteristics of the 187 active GPs are summarized in Table 1. There was no significant difference between the age of GP-CM and GP-Ho but significantly more GP-Ho were female (43.5% *vs.* 6.5%, $p < 0.0001$). GP-Ho were significantly less frequently the regular treating physician than GP-CM (78.3% *vs.* 98.2%, respectively; $p < 0.0001$).

The distribution of the participating GPs was in accordance with French national data, with some slight differences. Most GP-CM were in the Ile-de-France, Nord-Pas de Calais, PACA (south region) and Rhône-Alpes regions, while GP-Ho were more frequently located in the Midi-Pyrénées and PACA regions (data not shown).

Study population − patients

A total of 668 were recruited. Twenty-four patients were excluded from the final analysis as they did not fulfil the

Table 1 Characteristics of the active general practitioners (GPs) (N = 185)

Characteristic	*Conventional GP (N = 112)*	*Homeopathic GP (N = 73)*	*Total (N = 185)*	*p*
Age				
Mean ± SD	53.6 ± 7.3	52.8 ± 6.4	53.2 ± 6.9	0.485*
Sex				
M/F (%)	95.5/6.5	64.5/34.5	81.8/18.2	**<0.0001**†
Rural location (%)	32.6	19.4	27.3	**0.034**†
<10,000 inhabitants	16.3	16.1	16.2	
10,000−50,000	21.7	22.6	22.1	
50,000−100,000	2.2	16.1	7.8	
>100,000	17.4	19.4	18.2	
Paris + surrounds	9.8	6.5	8.4	
Sector of activity (%)				
Sector 1	92.4	66.1	81.8	**<0.0001**†
Sector 2	7.6	29.0	16.2	
Not connected	0	4.8	1.9	
Usual treating GP, yes (%)	98.2	78.3	90.6	**<0.0001**†

p value in bold text indicates statistical significance.
* Student's test.
† Fisher's exact test.

inclusion criteria, thus the final analysis consisted of 644 patients (112 GP-CM recruited 399 patients and 73 GP-Ho recruited 245 patients) (Figure 1).

The sociodemographic and clinical characteristics of these patients are summarized in Table 2. Mean age was 62.5 ± 12.4 years and 51.6% were female. Patients consulting a GP-CM were significantly older than those consulting a GP-Ho (63.7 ± 12.4 *vs.* 60.6 ± 12.1 years; p = 0.003) whereas patients consulting a GP-Ho were more likely to be female (61.5% *vs.* 45.5%, respectively; p < 0.0001). More patients consulting a GP-Ho were employed in a professional occupation (p < 0.001) (Table 2).

The most frequent malignancy in the study population was breast cancer (34.0%) (Figure 2). There was no significant difference in time from cancer diagnosis in the two groups (p = 0.148) (Table 2).

Two-thirds of the patients (68.3%) had previously undergone surgery for their cancer and half (50.2%) had received chemotherapy with nearly half of these having received three cycles or more (Table 2). A third of the patients in the GP-Ho group (36.3%) had already received homeopathic treatments as supportive care. More patients in the GP-CM group had previously been treated with anxiolytics, antidepressants and hypnotics as supportive care (42.8% *vs.* 33.9%, p = 0.025).

Table 2 Sociodemographic and clinical characteristics of the study population (N = 644)

Characteristic	*Conventional (N = 399)*	*Homeopathic (N = 245)*	*Total (N = 644)*	*p*‡
Age (years)	63.7 ± 12.4	60.6 ± 12.1	62.5 ± 12.4	**0.003**
Gender, female	182 (45.5)	151 (61.5)	333 (51.6)	**<0.0001**
Body mass index (kg/m²)	25.1 ± 4.4	24.5 ± 4.1	24.8 ± 4.3	
Socio-professional category				
Farmer	15 (3.8)	8 (3.3)	23 (3.6)	**<0.001**
Craftsman, storekeeper, manager	11 (2.8)	24 (9.8)	35 (5.4)	
Executive and intellectual profession	28 (7.0)	24 (9.8)	52 (8.1)	
Intermediate profession	29 (7.3)	33 (13.5)	62 (9.6)	
Employee	52 (13.1)	24 (9.8)	76 (11.8)	
Workman*	22 (5.5)	7 (2.9)	29 (4.5)	
Retired	208 (52.3)	103 (42.0)	311 (48.4)	
Other	33 (8.3)	22 (9.0)	55 (8.6)	
Highest diploma obtained				
Below secondary school examination*	251 (63.1)	138 (56.6)	389 (60.6)	0.136
Secondary school examination	73 (18.3)	45 (18.4)	118 (18.4)	
Above secondary school examination	74 (18.6)	61 (25.0)	135 (21.0)	
Marital status				
Single or alone*	39 (9.8)	23 (9.4)	62 (9.6)	0.997
Married or partnership	295 (73.9)	182 (74.3)	477 (74.1)	
Widowed or divorced	63 (15.8)	40 (16.3)	103 (16.0)	
Other	2 (0.5)	0 (0.0)	2 (0.3)	
Additional health insurance coverage	382 (95.7)	237 (96.7)	619 (96.1)	0.527
Universal Health Insurance coverage (CMU)	13 (3.3)	6 (2.4)	19 (3.0)	0.557
Time from cancer diagnosis (%)				
<1 month	45 (11.3)	38 (15.6)	83 (12.9)	0.148
1–6 months	165 (41.5)	107 (43.9)	272 (42.4)	
>6 months*	188 (47.2)	99 (40.6)	287 (44.7)	
Previous or current anticancer treatments (%)				
Surgery	274 (68.7)	166 (67.8)	440 (68.3)	0.808
Radiotherapy	146 (36.6)	103 (42.0)	249 (38.7)	0.168
Chemotherapy	193 (48.4)	130 (53.1)	323 (50.2)	0.248
Hormone therapy	72 (18.0)	49 (20.0)	121 (18.8)	0.538
Targeted therapy	12 (3.0)	22 (9.0)	34 (5.3)	**0.002**
Immunotherapy	3 (0.8)	2 (0.8)	5 (0.8)	0.927
Other	12 (3.0)	11 (4.5)	23 (3.6)	0.328
Transplant/allograft	3 (0.8)	2 (0.4)	4 (0.6)	0.596
Number of cycles of chemotherapy already received				
1	63 (15.8)	35 (14.3)	98 (15.2)	0.217
2	22 (5.5)	23 (9.4)	45 (7.0)	
≥3	73 (18.3)	52 (21.2)	125 (19.4)	
Other type(s) of supportive care already received†	272 (68.2)	177 (72.2)	449 (69.7)	0.275
Vitamins/minerals/food supplements/tonics	104 (26.1)	73 (29.8)	177 (27.5)	0.303
Anxiolytics/antidepressants/hypnotics	171 (42.8)	83 (33.9)	254 (39.4)	**0.025**
Homeopathy	28 (7.0)	89 (36.3)	117 (18.2)	**<0.0001**
Psychotherapy	47 (11.8)	42 (17.1)	89 (13.8)	0.055
Physiotherapy	40 (10.0)	30 (12.2)	70 (10.9)	0.379
Acupuncture	15 (3.8)	25 (10.2)	40 (6.2)	**0.001**
Osteopathy	10 (2.5)	8 (3.3)	18 (2.8)	0.570
Other	4 (1.0)	12 (4.9)	16 (2.5)	

Values shown are n (%), or mean ± standard deviation. p value in bold text indicates statistical significance.
* Value used as reference for statistical calculation.
† Prescribed by the treating GP or not.
‡ Student's *t*-test for quantitative variables or Fisher's exact test for qualitative variables.

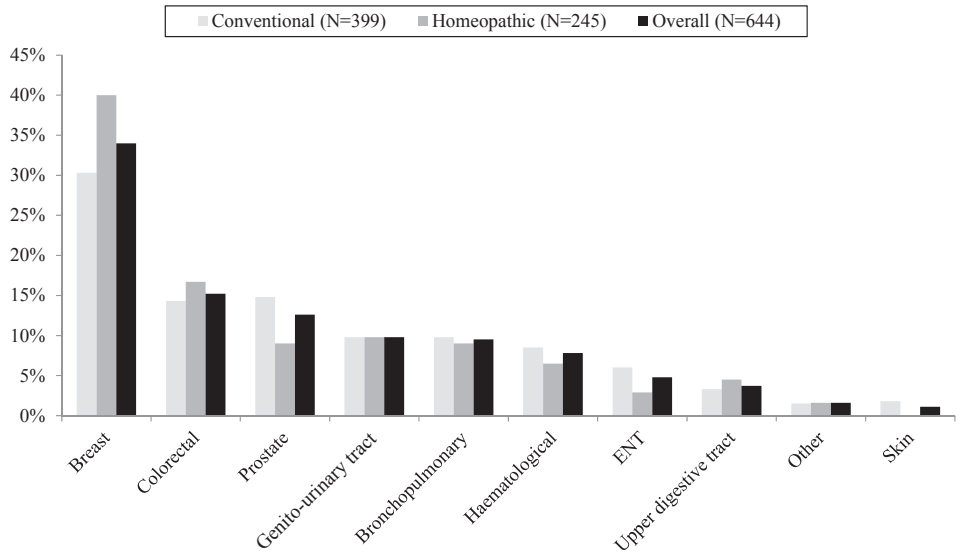

Figure 2 Types of cancer among the study population.

There was no significant difference between GP-Ho and GP-CM patients in HADS scores or QLQ-C30 scores at inclusion (Table 4), except for diarrhoea and constipation where scores were significantly higher for GP-Ho patients ($p = 0.021$ and $p < 0.001$, respectively).

Treatments provided by the general practitioners during the study

Significant differences were observed between the two groups of patients regarding the treatments prescribed during the study and were in accordance with the preference of the GPs for conventional or homeopathic medicines (Table 3). Conventional medicines were prescribed preferentially (74.2%) by GP-CM and homeopathic medicines (76.3%) by GP-Ho.

The most frequent medicines prescribed by GP-CM were psychotropic drugs (anxiolytics 30.1%, antidepressants 11.8%, hypnotics and sedatives 11.8%) (53.7% *vs.* 22.4% in the GP-Ho group) whereas the most frequent medicines prescribed by GP-Ho were *Ignatia amara* (17.6%), *Nux vomica* (14.7%) and *Gelsemium sempervirens* (12.7%). *Ignatia amara* and *Gelsemium sempervirens* are usually prescribed to treat anxiety and *Nux vomica* for digestive disturbances.

Motivations of the patients for consulting their general practitioner

At inclusion, patients were asked to list their three main reasons (out of a closed list of seven) for consulting their GP. Over two-thirds of patients wanted overall supportive

Table 3 Types of medicines prescribed to the two groups of patients during the study

	GP-CM (N = 399)	*GP-Ho (N = 245)*	*Total (N = 644)*	*p*
At least 1 treatment	**339 (85.0)**	**237 (96.7)**	**576 (89.4)**	
Conventional	**296 (74.2)**	**99 (40.4)**	**395 (61.3)**	**<0.0001**
Anxiolytics	120 (30.1)	28 (11.4)	148 (23.0)	**<0.0001**
Antidepressants	47 (11.8)	21 (8.6)	68 (10.6)	0.235
Hypnotics and sedatives	47 (11.8)	6 (2.4)	53 (8.2)	**<0.0001**
Other analgesics and antipyretics	40 (10.0)	16 (6.5)	56 (8.7)	0.150
Propulsives	33 (8.3)	13 (5.3)	46 (7.1)	0.160
Drugs for peptic ulcer and gastro-oesophageal reflux disease	26 (6.5)	9 (3.7)	35 (5.4)	0.122
Opioids	26 (6.5)	9 (3.7)	35 (5.4)	0.122
Homeopathic	**42 (10.5)**	**187 (76.3)**	**229 (35.6)**	**<0.0001**
Ignatia amara	7 (1.8)	43 (17.6)	50 (7.8)	
Nux vomica	8 (2.0)	36 (14.7)	44 (6.8)	
Gelsemium sempervirens	10 (2.5)	31 (12.7)	41 (6.4)	
Arsenicum album	4 (1.0)	24 (9.8)	28 (4.3)	
China regia	3 (0.8)	18 (7.3)	21 (3.3)	
Arnica montana	2 (0.5)	17 (6.9)	19 (3.0)	
Passiflora compose	4 (1.0)	16 (6.5)	20 (3.1)	
Thuya occidentalis		15 (6.1)	15 (2.3)	
Lycopodium clavatum		13 (5.3)	13 (2.0)	
Phosphorus		13 (5.3)	13 (2.0)	
Phytotherapy (unspecified herbal)	**30 (7.5)**	**26 (10.6)**	**56 (8.7)**	0.176
Food complements/trace elements/vitamins	**46 (11.5)**	**45 (18.4)**	**91 (14.1)**	**0.015**
Other vitamin products, combinations	18 (4.5)	30 (12.2)	48 (7.5)	**<0.001**

Values shown are n (%). p value in bold text indicates statistical significance.

Table 4 Quality of life scores for the two groups of patients at inclusion

	GP-CM (N = 399)	*GP-Ho (N = 245)*	*Total (N = 644)*	*p*
Depression scores, according to Zigmond & Snaith[21]				
Missing data	29	30	59	
Minimal or no depression (score ≤7)	133 (35.9)	8 (37.2)	213 (36.4)	0.402
Suspected depression (score 8−10)	99 (26.8)	47 (21.9)	146 (25.0)	
Recognized depression (score ≥11)	138 (37.3)	88 (40.9)	226 (38.6)	
Total	**370**	**215**	**585**	
Anxiety scores, according to Zigmond & Snaith[21]				
Missing	29	30	59	
Minimal or no anxiety (score ≤7)	140 (37.8)	81 (37.7)	221 (37.8)	0.434
Suspected anxiety (score 8−10)	107 (28.9)	53 (24.7)	160 (27.4)	
Recognized anxiety (score ≥11)	123 (33.2)	81 (37.7)	204 (34.9)	
Total	**370**	**215**	**585**	
QLQ-C30				
Activity				
Physical activity	69.4 ± 23.5	70.4 ± 24.5	69.8 ± 23.8	0.634
Limitation due to physical status	53.1 ± 30.1	55.2 ± 30.7	53.9 ± 30.3	0.430
Cognitive activity	70.8 ± 23.5	70.6 ± 26.8	70.7 ± 24.7	0.949
Emotional activity	56.5 ± 25.4	56.6 ± 25.6	56.6 ± 25.4	0.978
Social activity	60.2 ± 29.2	57.6 ± 30.1	59.2 ± 29.5	0.304
Symptoms				
Fatigue	50.3 ± 27.5	52.2 ± 26.7	51.0 ± 27.2	0.427
Pain	36.2 ± 28.0	38.1 ± 29.1	36.9 ± 28.4	0.435
Nausea/vomiting	18.9 ± 24.0	22.2 ± 27.3	20.1 ± 25.3	0.133
Appetite	36.8 ± 31.6	34.9 ± 33.5	36.1 ± 32.3	0.497
Constipation	16.7 ± 25.3	25.1 ± 29.9	19.8 ± 27.4	**<0.001***
Diarrhoea	10.3 ± 21.9	14.9 ± 24.7	12.0 ± 23.0	**0.021***
Insomnia	46.1 ± 30.6	43.5 ± 30.9	45.1 ± 30.7	0.318
Dyspnoea	33.3 ± 31.2	28.2 ± 31.4	31.5 ± 31.4	0.058
Financial	14.5 ± 25.2	20.0 ± 28.0	16.5 ± 26.3	**0.015***
Overall quality of life	**45.6 ± 20.1**	**47.7 ± 19.8**	**46.3 ± 20.0**	0.221

Values shown are n (%), or mean ± standard deviation. p value in bold text indicates statistical significance.
* Statistically significant ($p < 0.05$).

care (68.2%), defined as the treatment of all other symptoms beyond those due to the cancer (Table 5). The proportion of patients who wanted overall supportive care and treatments to prevent or relieve anticancer treatment-related side-effects were significantly higher in the GP-Ho group (73.5% *vs.* 64.9%, $p = 0.024$; and 63.7% *vs.* 41.4%, $p < 0.0001$, respectively). On the other hand, patients consulting a GP-CM more often wanted psychological care (50.1% *vs.* 40.8%, $p = 0.021$) and additional information regarding the oncologist's treatment decisions (46.4% *vs.* 27.3%, $p < 0.0001$).

Motivations for the general practitioners' treatment decisions

The GP-CM and GP-Ho were also asked why they had prescribed the various treatments to their patients (Table 6). The most common reasons were to improve the tolerance of anticancer treatments (32.6% *vs.* 58.0%, respectively; $p < 0.001$) and to prevent or treat anxiety and/or depression (50.4% *vs.* 66.1%, respectively; $p < 0.001$) (Table 6). There was a significantly greater prescription of antipsychotic drugs by GP-CM (53.7% *vs.* 22.4%, $p < 0.0001$).

Analysis of the factors associated with homeopathic consultations

Multivariate analyses of the sociodemographic and clinical characteristics of the patients consulting GP-Ho showed a statistically significant influence of female sex [OR = 1.93; 95%CI: 1.11−3.35; p = 0.02], being employed in a professional capacity [OR = 6.57; 95%CI: 1.96−21.99; p = 0.002], shorter time since cancer diagnosis (<1 month *vs.* >6 months) [OR = 2.19; 95%CI: 1.24−3.87; p = 0.007], the presence of targeted anticancer

Table 5 Motivations* for the consultation with the general practitioner (GP) in the two groups of patients

*Motivations**	*Conventional GP (N = 399)*	*Homeopathic GP (N = 245)*	*p*
Overall supportive care	259 (64.9)	180 (73.5)	**0.024**
Psychological care	200 (50.1)	100 (40.8)	**0.021**
Information on the disease and its evolution	169 (42.4)	88 (35.9)	0.105
Complementary information on the oncologists' strategic decisions	185 (46.4)	67 (27.3)	**<0.0001**
Treatment of side-effects linked to the anticancer treatments	165 (41.4)	156 (63.7)	**<0.0001**
Greater chance of cancer cure	150 (37.6)	108 (44.1)	0.103
Other	9 (2.3)	9 (3.7)	0.289

Values shown are n (%). p value in bold text indicates statistical significance.
* From a closed list of seven possible motivations.

Table 6 Reasons given by the general practitioners (GPs) for the prescriptions

Reasons	*Conventional GP (N = 399)*	*Homeopathic GP (N = 245)*	*Total (N = 644)*	*p*
To improve tolerance to anticancer drugs	130 (32.6)	142 (58.0)	272 (42.2)	**<0.001**
To treat or prevent anxiety/depression	201 (50.4)	162 (66.1)	363 (56.4)	**<0.001**
To increase compliance of the patient to the anticancer treatment	78 (19.5)	54 (22.0)	132 (20.5)	0.447
Other	83 (20.8)	35 (14.3)	118 (18.3)	0.038

Values shown are n (%). p value in bold text indicates statistical significance.

therapy (previous or current) [OR = 3.70; 95%CI: 1.67−8.18; p = 0.001] and a high QLQ-C30 constipation score [OR = 1.01; 95%CI: 1.00−1.02; p = 0.001] (Figure 3). No factor was significantly associated with consultation with a GP-CM.

Discussion

This large, observational, cross-sectional study shows that in two groups of patients with similar levels of anxiety/depression and QoL at inclusion, the main reasons for consulting a GP-Ho were to eliminate the side-effects of anticancer treatments and to receive overall supportive care where more patients consulting a GP-CM expected to receive psychological care. Our findings regarding GP-Ho agree with those of previous reports that the majority of cancer patients use CAM to reduce the side-effects of cancer and its treatment and to improve their physical and emotional health and wellbeing.[2,4,10−12] The main homeopathic medicines prescribed in this study, *Ignatia amara* (17.6%), *Nux vomica* (14.7%) and *Gelsemium sempervirens* (12.7%) are traditionally prescribed to treat anxiety, sleep disorders, digestive disturbances and fatigue, which are frequent symptoms in cancer patients. Cancer is accompanied by psychological suffering which never completely disappears despite good organization of conventional management (series of examinations and anticancer treatments). Homeopathy is an individualistic treatment where medicines are proposed to suit individual requirements which may link very closely with the components of conventional treatment. In essence, resort to homeopathic treatments is largely induced by the real or supposed effects of conventional treatments. GP-CM prescribed psychotropic drugs to address the psychological suffering. However, in one study by Kelly *et al.*, the use of the antidepressant paroxetine during tamoxifen treatment was associated with an increased risk of death from breast cancer.[22]

Multivariate analysis confirmed previous findings that patients who consult a GP-Ho are more likely to be female [OR = 1.93; 95%CI: 1.11−3.35; p = 0.02] and to be employed in a professional capacity [OR = 6.57; 95%CI:

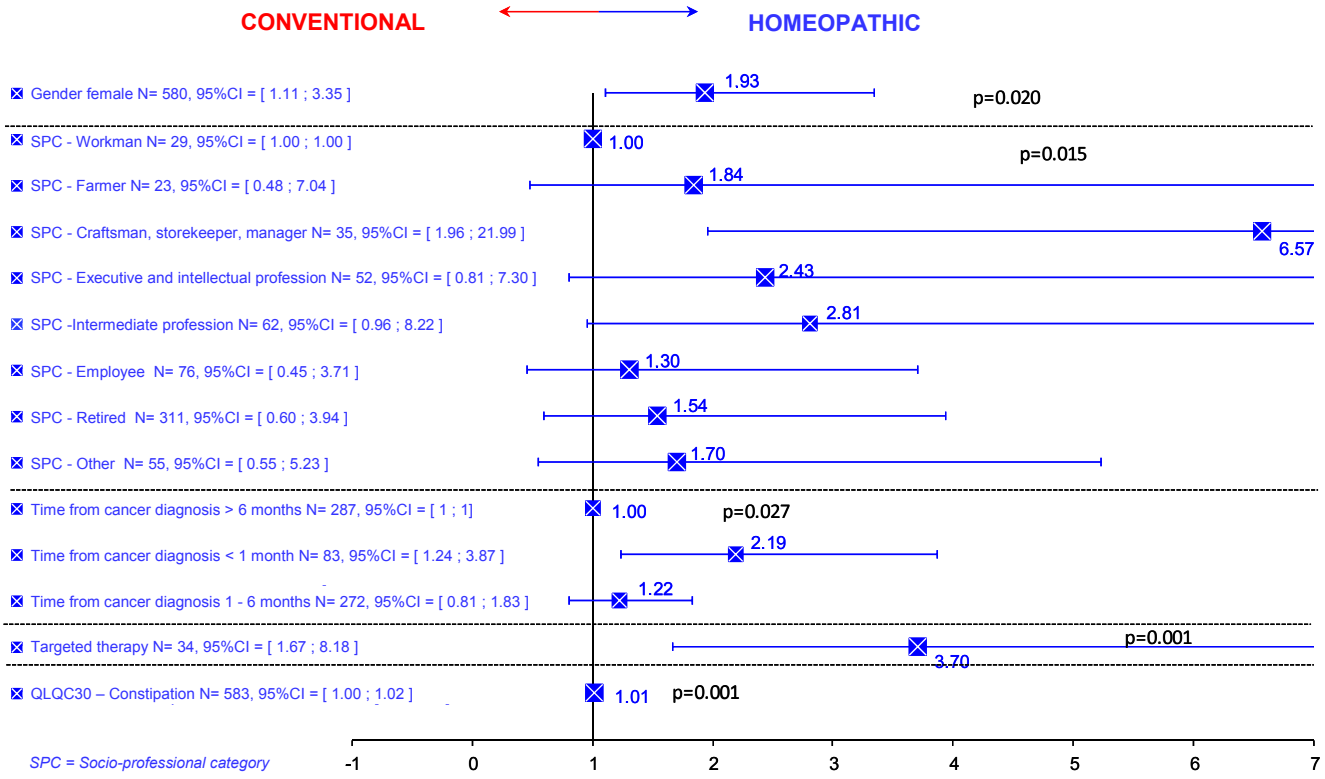

Figure 3 Multivariate analysis of the factors favouring consultation with a conventional or homeopathic general practitioner.

1.96−21.99; p = 0.002].[3,23,25] Furthermore, patients who consulted a GP-Ho were more likely to have received or be receiving targeted anticancer therapy [OR = 3.70; 95%CI: 1.67−8.18; p = 0.001] and to have a high QLQ-C30 score for constipation [OR = 1.01; 95%CI: 1.00−1.02; p = 0.001]. To our knowledge, these latter observations have not been reported previously. In contrast to other studies,[24,25] the patients in our study consulted a GP-Ho earlier in their disease than GP-CM patients [OR = 2.19; 95%CI: 1.24−3.87; p = 0.007]. Indeed, a recent report suggests that "*CAM decision-making begins with the diagnosis of cancer and encompasses three distinct phases (early, mid and late), each marked by unique aims for CAM treatment and distinct patterns of information-seeking and evaluation*".[26]

When the profile of the GPs was examined, there was a significantly higher proportion of female GP-Ho than GP-CM (34.5% *vs.* 6.5%; p < 0.0001). Moreover, the GP-Ho was the usual treating physician in only 78.3% of cases (*vs.* 98.2% for GP-CM). This suggests that cancer patients may consult a homeopathic physician who is not their regular physician specifically to receive homeopathic treatments or another type of treatment to that prescribed by their usual doctor. To our knowledge this has not been reported previously.

In a study in Europe, Molassiotis *et al.* asked patients who were not using CAM to note the reasons they did not do so.[11] Nearly half (43.4%) stated that they were happy with conventional treatments, one-third (34.7%) said that they never thought of CAM and 15.1% said that they did not believe in CAM. Although we addressed the patients' motivations for using homeopathy in this study, we did not asked the patients who consulted a GP-CM what their attitudes and beliefs towards homeopathy were.

In France, it is rarely possible to consult a homeopathy specialist for supportive care in the hospital setting. However, it is clear that an increasing number of cancer patients are turning to these therapies as part of their integrative care irrespective of the views and beliefs of health professionals about CAM. A large study of CAM use in cancer patients conducted in 14 European countries in 2005 showed that herbs were the most common CAM therapy in Turkey, Israel, Serbia, Czech Republic, Denmark, Italy, Switzerland, Spain and Greece whereas homeopathy was the most common CAM in Belgium.[11] More recently in France, the MAC-AERIO survey of 850 adults with solid or haematological malignancies found that 60% of patients used CAM and that 33% of these used homeopathic treatments.[5] Thompson and Reilly reported that 75% of cancer patients were satisfied with the homeopathic treatment they had received as supportive care and that this had significantly helped them regarding their symptoms.[27] Simon *et al.* also reported a high level of patient satisfaction with CAM with good subjective results on their general status, fatigue and nausea-vomiting.[3]

Healthcare staff in hospitals need to be aware of the reasons why patients turn to CAM rather than conventional treatments as supportive care. Patients and healthcare workers should be educated about CAM therapies for which evidence of effectiveness exists and these therapies should be offered to patients as part of their ongoing cancer treatment. Training of healthcare workers about CAM offers an opportunity to integrate different approaches into patient management.[11,28] GP-Ho and oncologists rarely meet and there is no collaboration between GP-Ho and oncologists around the patient. Homeopaths should also be educated about the conventional management of cancer patients and specialist GP-Ho should be trained to follow cancer patients. The goal should be better communication between the oncologist, the homeopath and the patient.

In our study, over half of the GP-Ho (58.0%) prescribed therapies aimed at improving tolerance to anticancer treatments. This is an important consideration as better tolerance of anticancer treatments may lead to better compliance and an increased probability of survival. The patients resorted to homeopathy to help them better support their disease and its treatments as well as its psychological consequences.

Our study has several limitations. First, the two groups of patients were very different and this could have introduced a bias into the study. However, the regression analysis took into account and confirmed some of these differences. Our observational study aimed to describe the reality in day-to-day practice without any modifications to this practice. Secondly, we cannot exclude the possibility that some of the patients could have also used treatments and/or consultations other than those reported. Our survey did not take into account medications that were taken either as self-treatment without a medical prescription or following a pharmacist's advice. In France, homeopathic treatments can be delivered directly by a pharmacist without a medical prescription. Thirdly, our study population included relatively few GPs although the GPs were well distributed across France. Finally, a previous report suggested that cancer patients using CAM had a healthier lifestyle, positive beliefs towards CAM and a desire to participate in their own care.[29] Our study mainly investigated the motivations for seeking supportive care in terms of medical needs and only the question about cancer cure addressed the patients' attitudes and beliefs towards CAM.[29] Patients who consulted a GP-CM were not asked why they had not consulted a GP-Ho.

This study shows that patients consulting a GP-Ho expected to receive overall supportive care and therapies to prevent cancer treatment-related side-effects, whereas patients consulting a GP-CM sought psychological care. The most common reasons for the GPs prescriptions were to prevent or treat anxiety and/or depression and to improve tolerance to anticancer treatments. There was a significantly greater prescription of psychotropic drugs by GP-CM while the most frequently prescribed homeopathic medicines were those used to treat anxiety, digestive disorders and fatigue. Further research is needed to explore the potential benefits of homeopathic medicines as integrative care in cancer patients. It would be interesting to investigate which symptoms are most

frequently reported among the cancer patients who consult a GP-Ho.

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