

# Who seeks primary care for sleep, anxiety and depressive disorders from physicians prescribing homeopathic and other complementary medicine? Results from the EPI3 population survey

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## ABSTRACT

**Objectives:** To describe and compare patients seeking treatment for sleep, anxiety and depressive disorders (SADD) from physicians in general practice (GPs) with three different practice preferences: strictly conventional medicine (GP-CM), mixed complementary and conventional medicine (GP-Mx) and certified homeopathic physicians (GP-Ho).

**Design and setting:** The EPI3 survey was a nationwide, observational study of a representative sample of GPs and their patients, conducted in France between March 2007 and July 2008.

**Participants:** 1572 patients diagnosed with SADD.

**Primary and secondary outcomes:** The patients' attitude towards complementary and alternative medicine; psychotropic drug utilisation.

**Results:** Compared to patients attending GP-CM, GP-Ho patients had healthier lifestyles while GP-Mx patients showed similar profiles. Psychotropic drugs were more likely to be prescribed by GP-CM (64%) than GP-Mx (55.4%) and GP-Ho (31.2%). The three groups of patients shared similar SADD severity.

**Conclusion:** Our results showed that patients with SADD, while differing principally in their sociodemographic profiles and conventional psychotropic prescriptions, were actually rather similar regarding the severity of SADD in terms of comorbidities and quality of life. This information may help to better plan resource allocation and management of these common health problems in primary care.

## INTRODUCTION

Mental health problems such as sleep, anxiety or depressive disorders (SADD) are responsible for considerable disability worldwide<sup>1</sup> resulting in serious quality-of-life

## ARTICLE SUMMARY

### Article focus

- Up to 20% of patients attending primary health-care in developed countries suffer from the often-linked anxiety and depression disorders.
- Conventional treatments, particularly antidepressants and anxiolytics, are widely prescribed; often associated with adverse side effects, conventional treatments are a likely cause for an increasing number of patients to choose homeopathy and other complementary therapies.
- Understanding the characteristics of physicians and patients, prescribing or using homeopathy, respectively, in conjunction with or instead of psychotropic drugs is undoubtedly of clinical and public health relevance.

### Key messages

- Our results suggest that patients experiencing sleep, anxiety and depressive disorders (SADD) who chose a GP with a clear orientation towards homeopathy, differed in their socio-demographic profile but not in the severity of their mental illness from those attending regular physicians in general practice (GPs) with prescribing preferences towards conventional psychotropic drugs.
- Our survey is one the few studies highlighting that SADD show similar burdens in terms of severity and impact on mental impairment regardless of GPs' prescribing preferences.
- Our results showed that patients with SADD, while differing principally in their sociodemographic profiles and conventional psychotropic prescriptions, were actually rather similar regarding the severity of SADD in terms of comorbidities and quality of life.

impairment<sup>2</sup> and are often associated with high use of medical services. It is estimated that up to 20% of patients attending primary

## ARTICLE SUMMARY

**Strengths and limitations of this study**

- Strengths of the EPI-3 study include high representativeness of the patients involved and comparability against other nationwide studies.
- The main limitation of our study relates to the classification of GPs, which relied on self-reporting of complementary and alternative medicine prescriptions; generalisations of the results must be therefore made cautiously since our findings relate to general practice in France.

healthcare in developed countries suffer from the often-linked disorders of anxiety and depression. A high prescription rate of conventional therapies, particularly antidepressants,<sup>3 4</sup> which are often associated with adverse side effects, are a likely cause for an increasing number of patients to choose homeopathy and other complementary therapies.<sup>5</sup>

Evidence of effectiveness of these therapies compared to conventional psychotropic drugs is still limited.<sup>6-8</sup> Nonetheless, their perceived safety may be an important factor motivating patients with SADD disorders to seek care from physicians in general practice (GPs) preferring homeopathy and other types of complementary medicine. Among complementary alternative medicine (CAM) modalities of practice, homeopathy is widely used in countries with large access to conventional medicine and represents a particularly good marker for CAM practice in France, where homeopathic drugs are partly reimbursed by national health insurance and prescribed only by a medical practitioner, if not purchased as over-the-counter drugs.<sup>9</sup> In a previous study,<sup>10</sup> homeopathic practitioners (including non-medical healthcare professionals) indicated that their patients used homeopathy mainly in association with conventional psychotropic treatments, psychotherapy and counselling in a mixed practice.

Understanding the characteristics of physicians and patients, prescribing or using homeopathy, respectively, in conjunction with or instead of psychotropic drugs is undoubtedly of clinical and public health relevance. The objective of this study was to describe and compare patients seeking treatment for sleep, anxiety and depressive disorders (SADD) from GPs with three different practice preferences: strictly conventional medicine (GP-CM), mixed complementary and conventional medicine (GP-Mx) and certified homeopathic physicians (GP-Ho).

**METHODS****Study design, settings and participants**

The EPI3 survey was a nationwide, observational study of a representative sample of general practitioners and their patients, conducted in France between March 2007 and July 2008. The methodology of the study has been described elsewhere.<sup>2</sup>

Participants (GPs and their patients) were drawn by applying a two-stage sampling process. The GPs were first randomly selected from the French national directory of physicians and invited to participate, which meant allowing a research assistant to conduct a one-day survey in the waiting room at the doctor's practice. Blind to the study focus on conventional and CAM practice, consenting GPs were next contacted by telephone to enquire how frequently they prescribed CAM (homeopathy, mesotherapy, acupuncture, phytotherapy, etc). Depending on their prescribing preferences towards homeopathic medicines, they were classified as: strictly conventional GPs (GP-CM), who declared themselves never or rarely using CAM or homeopathic medicines; mixed practice (GP-Mx), who were GPs declaring using CAM regularly; and GPs certified in homeopathic practice (GP-Ho). In France, homeopathy can only be prescribed by physicians, mostly GPs qualified as homeopaths by the French National Council of Physicians (CNOM) upon completion of specific training and certification (3.3% of all French GPs in 2008).<sup>11</sup>

The second stage of selection consisted of random one-day sampling of consultations per participating physician, in order to survey all patients attending the practice on that very day. All adults (18 years old and over) and accompanied minor patients were eligible for inclusion in the EPI3 survey, except for those whose health status or literacy level did not allow responding to a self-administered questionnaire.

During the consultation, GPs asked all adult patients diagnosed or suspected of suffering SADD whether they would volunteer for a more in-depth study of their disease. Consenting patients were contacted again within 72 h for a telephone interview conducted by trained interviewers.

**Data collection**

Collection of data from patients included age, gender, nationality, educational attainment, type of health insurance, additional private insurance, smoking habit, alcohol intake, physical activity, height, weight, employment status, familial status, previous number of visits and referrals to physicians. Participants were also asked to confirm whether the attending GP was their regular primary care physician or not. In France, all citizens are required to choose a GP as their regular physician. This study was based on patients who reported being seen exclusively by their regular family physician.

Health-related quality of life was assessed using the validated 12-item Short Form (SF-12) questionnaire,<sup>12</sup> allowing an estimation of physical health (PCS score) and mental health (MCS score); the SF-12 questionnaire was validated in the late 90s for use in the USA, the UK, France and many other European countries.<sup>13</sup> Patients also completed the Complementary and Alternative Medicine Beliefs Inventory (CAMBI), which assesses attitudes and expectations of patients towards medical care, participation in decision-making, perception of risks

associated with treatment and understanding of both illness and healing process via a 17-question inventory.<sup>14</sup> High scores on the CAMBI items indicate pro-CAM treatment belief.

GPs recorded the main reason for consultation and up-to-five other diagnoses present that day as well as their prescriptions, which were entered by the interviewer in a database that automatically recorded the corresponding ATC (anatomical therapeutic chemical) codes, revision 2009. Diagnoses relating to 100 diseases<sup>2</sup> were coded by a trained archivist using the ninth revision of the International Classification of Diseases (ICD).<sup>15</sup> Patients with the following ICD codes were classified as anxious: 300.0 anxiety states; 300.2 phobic disorders; 300.3 obsessive-compulsive disorders; 300.5 neurasthenia; 300.8 somatoform disorders; 306.2 psychogenic disease related to underlying physiological disorders. Patients with the following ICD codes were classified as depressive: 296.3 major depressive disorder, recurrent episode; 296.5 bipolar disorder, most recent episode depressed; 296.1 manic disorder; 296.6 manic-depressive psychosis; 300.4 dysthymic disorders; 300.5 neurasthenia; 309.0 adjustment reaction; 309.1 prolonged depressive reaction; 311.9 unclassified depressive disorders. Patients were considered as experiencing sleep disorders if their diagnoses related to ICD codes 307.4 (specific disorders of sleep of non-organic origin) and 780.5 (sleep disturbances).

Comorbidity was defined as the presence of at least one diagnosis other than the principal motive for consultation at the recruitment visit. Comorbidities were categorised as co-associated sleep, anxiety or depressive disorder (other than the main reason for consultation), musculoskeletal disorders, respiratory diseases, cardiovascular and metabolism disorders, diabetes, thyroid and endocrine disorders and finally digestive disorders. Severity of SADD was characterised first by the degree of quality-of-life (QoL) impairment, then by the presence and finally by the number of associated comorbidities.

### Statistical analysis

Characteristics of non-participants (age, gender, length of time attending the GP's medical practice, type of health insurance and main reasons for consultation) were used to calibrate the final sample as previously reported<sup>2</sup> to ensure that it would closely represent the whole population attending French GPs practices, using a method known in demographic studies as the CALMAR procedure.<sup>16</sup> Overall characteristics of patients seeking access to each of the three types of GP and results reported here were based on weighted data. Distributions were compared using  $\chi^2$  and Fisher tests for categorical variables and Student and Wilcoxon tests for continuous variables.

Multiple logistic regression analyses were used to compare patients in the GP-CM group to GP-Mx and GP-Ho groups for categorical variables and were

adjusted for all variables listed in table 1 to control for potential confounding.

The GP-Mx and GP-Ho groups were compared with the GP-CM group for patients' exposure to antidepressants (ATC codes beginning with N06AB, N06AX, N06AA and N06AF), anxiolytics and hypnotics (ATC codes beginning with N05BA, N05BB, N05BX, N05BE, N05CD, N05CF and N03AE) mood normalisers (N05AN and N03AG) and antipsychotics (ATC codes beginning with N05AK, N05AA, N05AB, N05AC, N05AD, N05AE, N05AG, N05AH, N05AL, N05AX and N07XX) as well as homeopathic preparations specifically prescribed for SADD symptoms.

Analysis of covariance analyses were performed to provide mean scores for the SF-12 mental (MCS) and physical scales (PCS) adjusted for age (<40, 40–60, 60+ years), gender, marital status, employment status, body mass index (BMI), number of associated comorbidities (other than SADD) and finally associated SADD (other than the main diagnose, yes/no). MCS score and PCS score were categorised into quartiles corresponding to: 34.1 (Q1), 42.4 (Q2) and 48 (Q3) for MCS; 39.3 (Q1), 47.3 (Q2) and 54.2 (Q3) for PCS.

Associations between scores from each of the 17 questions of the CAMBI questionnaire and the probability of attending a GP-Mx or GP-Ho as compared to a GP-CM were computed after adjusting for age, gender and educational level. Scores obtained per question, ranging from 1 (totally disagree) to 7 (totally agree), were dichotomised in order to further distinguish participants clearly in favour (scoring 5 to 7) or in disagreement (scoring 1 to 3) with the 17 CAMBI questions. Each of the three subscales scores and the total CAMBI score were then dichotomised according to the 75th percentile (40, 26 and 33, respectively; 96 for the total score).

The possibility of a clustering effect at the practice level was tested using Generalised Estimating Equations multivariate models. All the analyses were performed with SAS software V.9.1 (SAS Institute, Inc, Cary, North Carolina, USA).

The study was approved by the French National Data-Protection Commission and the CNOM. Participating physicians received compensation fees for recruiting patients but not patients.

### RESULTS

A total of 825 GPs participated in the survey. There was no difference between the three groups of GPs for age (mean=50.7 years) but GP-Ho and GP-Mx were more often women than GP-CM (48.9% and 31.5% vs 20.3%, respectively), and less-often salaried (14.3% and 16.9% vs 34.5%, respectively). In addition, GP-Ho were more likely to practise alone than GP-CM and GP-Mx (72.4% vs 51.8% and 55.9%, respectively) (all differences statistically significant). Among the 11 701 patients attending the doctor's office on the survey day, 8652 (73.9%) agreed to participate and complete information was

**Table 1** Characteristics of patients seeking care for SADD according to the type of practice of their regular GP (EPI3 Survey, n=1572)

	GP-CM (n=410)		GP-Mx (n=718)		GP-Ho (n=444)	
	N	weighted %	N	weighted %	N	weighted %
Gender						
Females vs Males	269	64.7	500	68.9	323	72.6*
Age categories (years)						
18–39	92	20.7	195	26.7	131	28.8*
40–59	163	38.9	298	41.3	193	43.6*
60 and over	155	40.4	225	32.0	120	27.6*
Employment status						
Employed	171	39.5	353	48.9	240	53.5*
Educational level						
Secondary school not completed	93	22.1	177	22.9	158	35.2*
Universal Health Insurance coverage (CMU)	36	9.5	65	9.8	26	6.5
Familial status						
Living with children	164	38.1	306	42.5	195	44.1*
Living with a spouse	239	56.6	439	61.2	285	64.0*
Body mass index (%)						
<25	216	52.1	413	57.9	302	67.9*
25–30	124	30.9	186	25.6	106	24.0*
>30	70	17.0	119	16.6	36	8.1*
Tobacco consumption (%)						
Never smoked	195	48.4	365	50.8	251	57.1*
Past smoker	111	26.9	170	23.6	112	24.6*
Current smoker	104	24.8	183	25.6	81	18.3*
Alcohol consumption (%)						
Never	152	37.4	287	40.0	142	32.4
Sometimes	193	46.4	354	49.3	254	56.2
Daily	65	16.3	77	10.7	48	11.4
Physical exercise (%)						
>30 min/day	125	30.7	207	29.3	140	31.6
Number of visits to regular GP during the last year						
None	7	1.7	16	2.3	10	2.2
1–6	228	55.4	405	57.0	296	66.8*
7–12	142	34.6	234	32.1	114	25.6*
12 and over	33	8.4	63	8.7	24	5.4*
Number of visits to a specialist during the last year						
None	105	25.8	200	28.0	113	25.6
1	114	27.0	206	28.6	137	31.2
2	63	15.6	133	18.4	82	18.1
2+	128	31.5	179	25.0	112	25.1
Motive for consultation (ICD-9)						
Anxiety	79	18.8	158	21.2	133	30.2*
Depression	171	41.1	284	39.6	127	28.7*
Sleep disorders	131	32.7	198	28.9	151	34.0
Unspecified	52	12.6	95	12.5	65	14.1
Treatment						
Any psychotropic drugs	266	64.0	404	55.4	138	31.2*
Antidepressants	152	36.0	231	31.5	73	16.5*
Anxiolytics/hypnotics	185	44.8	286	39.3	87	19.8*
Antipsychotics	11	3.1	25	3.5	10	2.4
Normothymics	16	3.9	7	1.1	20	4.6
Other conventional drugs	144	36.0	289	41.2	189	42.7
Homeopathic medicines for SADD	1	0.2	36	4.9	139	30.9*
Other homeopathic medicines	6	1.4	58	7.8	288	67.7*

\*Difference with conventional medicine category statistically significant ( $p \leq 0.05$ ) in logistic regression including all variables.

GP, physician in general practice; GP-CM, general practitioner strictly practising conventional medicine; GP-Ho, general practitioner with a certification in homeopathic care; GP-Mx, general practitioner with mixed practice; ICD, International Classification of Diseases; SADD, sleep, anxiety or depressive disorders.



collected for 8559 (73.1%) patients. Compared to non-participants, participants were more often women (62.7% and 56.8%, respectively), younger (mean age 43.3 and 47.7, respectively) and more likely to consult for a SADD (20.6% and 11.6%, respectively). Of the 6379 who declared the consulting physician as their regular GP, 1572 met the inclusion criteria and were included in the analyses with the following diagnoses: anxiety (n=370), depression (n=583), sleep disorders (n=480) or SADD of undetermined cause (n=139).

Compared to the GP-CM group, patients from the GP-Mx group showed similar characteristics but those from the GP-Ho group were more frequently younger, more educated, employed women living with children or a spouse (table 1). They also had a healthier lifestyle with lower BMI, and were more frequently non-smokers and occasional or non-consumers of alcohol. They

declared, however, less visits to their regular GP in the previous year. Motives of consultation showed more anxiety and less depression in the GP-Ho group than in the two others but the distribution was unremarkable otherwise. Physicians prescribing preferences were confirmed with the GP-Ho group using more homeopathy and less psychotropic drugs than the two other groups. The GP-Mx group, however, did not differ much from the GP-CM group.

Considering the severity of mental health problem, the GP-Mx group had systematically less often an associated SADD comorbidity than in the two other groups but the distribution of comorbidities other than SADD was unremarkable otherwise between groups (table 2). For quality of life, the mental score summary (MCS) of the SF-12 was similar across the three groups with no clinically or statistically meaningful difference (table 3).

**Table 2** Burden of associated comorbidity and other psychological distress in patients with sleep, anxiety, or depressive disorders according to the type of practice of regular GPs (EPI3 Survey, n=1572)

Comorbidities present at the medical visit	GP-CM weighted%	GP-Mx weighted%	Gp-Ho weighted%
Patients with SADD (n=1572)*	n=410	n=718	n=444
Associated SADD comorbidity (other than primary)	7.4	2.6†	5.3
At least one other comorbidity	74.3	68.7	69.5
MSD	27.1	23.8	24.8
Respiratory diseases	16.6	11.7	18.5
Cardiovascular and metabolism disorders	35.1	30.2	22.9†
Diabetes, thyroid and endocrine disorders	12.7	9.6	8.1
Digestive disorders	11.9	11.5	11.5
Patients with depression (n=583)	n=171	n=285	n=127
Associated SADD comorbidity (other than depression)	13.7	3.7†	10.0
At least one other comorbidity	75.2	67.3†	70.6†
MSD	29.2	23.2	28.6
Respiratory diseases	15.3	9.8†	12.8
Cardiovascular and metabolism disorders	36.5	30.4	21.6†
Diabetes, thyroid and endocrine disorders	13.0	10.8	7.9†
Digestive disorders	10.4	9.0	10.6
Patients with anxiety (n=370)	n=79	n=158	n=133
Associated SADD comorbidity (other than anxiety)	12.9	5.7†	13.6
At least one other comorbidity	71.2	72.2	62.2†
MSD	22.5	26.5	25.2
Respiratory diseases	14.3	9.8	14.2
Cardiovascular and metabolism disorders	23.6	31.2†	22.3
Diabetes, thyroid and endocrine disorders	10.7	11.7	9.3
Digestive disorders	18.1	15.0	13.7
Patients with sleep disorder (n=480)	n=131	n=198	n=151
Associated SADD comorbidity (other than sleep disorder)	9.8	3.7	9.7
At least one other comorbidity	71.3	63.6	67.6
MSD	29.7	22.0	21.9†
Respiratory diseases	14.3	12.7	21.2
Cardiovascular and metabolism disorders	37.8	28.9	19.4
Diabetes, thyroid and endocrine disorders	10.4	5.6†	4.4†
Digestive disorders	10.2	10.7	12.1

\*Including missing diagnosis (according to ICD9) values (n=139 patients).

†Difference with conventional medicine category statistically significant ( $p \leq 0.05$ ) in logistic regression including age (<40, 40–60, 60+ years), gender, marital status, employment status, BMI (body mass index: <25; 25–30; >30 kg/m<sup>2</sup>).

GP, physician in general practice; GP-CM, general practitioner strictly practising conventional medicine; GP-Ho, general practitioner with a certification in homeopathic care; GP-Mx, general practitioner with mixed practice; MCS, SF12-Mental component summary score; MSD, musculoskeletal disorders; PCS, SF12-Physical component summary score; SADD, sleep, anxiety or depressive disorders.

**Table 3** Adjusted quality of life (MCS and PCS) of patients visiting their regular GP according to the type of practice (EPI3 Survey, n=1572)

Quality of life SF-12	GP-CM mean (SD)*	GP-Mx mean (SD)*	p Value*	GP-Ho mean (SD)*	p Value*
<b>SADD</b>					
MCS	35.3 (1.0)	35.9 (1.0)	0.64	36.4 (1.0)	0.24
PCS	42.3 (1.0)	42.9 (1.0)	0.58	45.4 (1.0)	<0.001
<b>Anxiety</b>					
MCS	36.7 (1.4)	35.8 (1.2)	0.73	37.3 (1.2)	0.88
PCS	44.1 (1.4)	44.8 (1.2)	0.81	47.4 (1.3)	0.03
<b>Depression</b>					
MCS	34.5 (1.4)	34.6 (1.5)	0.99	34.0 (1.6)	0.92
PCS	40.5 (1.5)	41.9 (1.5)	0.29	44.1 (1.6)	0.006
<b>Sleep disorders</b>					
MCS	34.6 (1.6)	37.0 (1.6)	0.06	35.7 (1.7)	0.64
PCS	44.4 (1.6)	44.3 (1.7)	0.99	47.5 (1.7)	0.03

\*From analysis of covariance adjusted for age (<40, 40–60, 60+ years), gender, marital status, employment status, body mass index, number of associated comorbidities (other than main SADD), SADD comorbidity (yes/no); a higher score indicates better health.

GP-CM, general practitioner strictly practising conventional medicine; GP-Mx, general practitioner with mixed practice; GP-Ho, general practitioner with a certification in homeopathic care; MCS, SF12-mental component summary score; MSD, musculoskeletal disorders; PCS, SF12-physical component summary score; SADD, sleep, anxiety or depressive disorders.

The GP-Ho group, however, had a slightly better physical summary score (PCS) than the two other groups.

The attitudes towards complementary medicine estimated by CAMBI (table 4) showed that patients in the GP-Ho group had a probability of scoring high (favourable to CAM) over three times that of the GP-CM group (OR=3.65, 95% CI 2.94 to 3.77). The result was consistent for each of the three CAMBI subscales with OR=2.08 (95% CI 1.78 to 2.32) for belief in natural treatment, OR=1.43 (95% CI 1.23 to 1.77) for active patient's participation in care, and OR=2.75 (95% CI 2.55 to 3.24) belief in holistic medicine. CAMBI scores from patients of the GP-Mx group were comparable to the GP-CM group, although a slightly higher trust in natural treatment subscale was observed (OR=1.15, 95% CI 1.03 to 1.26).

## DISCUSSION

To our knowledge, the EPI3 study is the first nationwide survey conducted in a large representative sample of patients to provide characteristics and attitudes, as well as the first to quantify quality of life and the burden of SADD in patients seeking care from their regular GPs with different preferences towards CAM and homeopathic practices.

Our results suggest that patients experiencing SADD, and who chose a GP with a clear orientation towards homeopathy, differed in their socio-demographic profile but not in the severity of their mental illness from those attending regular GPs with prescribing preferences towards conventional psychotropic drugs. Patients with SADD attending a GP-Ho in our study were more likely to be female, as previously reported<sup>17–20</sup> except for one

survey,<sup>21</sup> and younger. Association with age been suggested by other authors,<sup>22</sup> although no such association has been described elsewhere.<sup>17 19 21</sup>

Patients seeking care from a GP-Ho and to a lesser extent from GP-Mx had healthier lifestyles as shown by a lower BMI and the higher number of patients that never smoked in this group, a finding that has been noted previously.<sup>23</sup> Greater health awareness might not only be a driver for consulting a CAM provider but also for changing from a GP-CM because of dissatisfaction with care.<sup>24</sup> In these circumstances, health awareness might be a proxy variable to several other motivations including a desire for shared decision-making.<sup>25</sup> As noted by other authors, the directionality of the relation between healthy lifestyle and consulting a GP-Ho could go in the opposite direction, with CAM utilisation<sup>26</sup> and interaction with a CAM practitioner<sup>27</sup> promoting a healthier lifestyle. More longitudinal research is needed to clarify these associations. The higher educational attainment found among patients seeking mixed and homeopathic GPs has also been previously reported in some studies<sup>17 19</sup> but not in others.<sup>20 21</sup> More educated people may be more knowledgeable about the side effects of conventional psychotropic drugs and hence more likely to seek alternative treatments as suggested by Mac Lennan *et al.*<sup>18</sup>

With regard to the medical conditions, the EPI3 survey is one the few studies highlighting that SADD show similar burdens in terms of severity and impact on mental impairment regardless of practice modalities of GPs. As for prevalence, anxiety was confirmed as the most frequent mental health disorder encountered by alternative medicine practitioners, as previously reported.<sup>5 10</sup> Higher prevalence of patients suffering from depression seeking GP-CM might be attributed to the older age structure observed in this

**Table 4** Attitudes of patients with SADD towards complementary medicine as measured by the CAMBI (attitudes towards complementary and alternative medicine beliefs inventory) questionnaire (EPI3 Survey, n=1572)

	Type of practice	
	GP-Mx vs GP-CM OR* (95% CI)	GP-Ho vs GP-CM OR* (95% CI)
1. Treatments should have no negative side effects	1.11 (0.94 to 1.33)	1.70 (1.43 to 1.93)
2. It is important to me that treatments are not toxic	0.85 (0.65 to 1.14)	1.55 (1.41 to 2.03)
3. Treatments should only use natural ingredients	1.07 (0.97 to 1.08)	2.02 (1.87 to 2.47)
4. It is important that treatments boost my immune system	1.12 (0.93 to 1.18)	1.65 (1.38 to 2.11)
5. Treatments should allow my body to heal itself	1.28 (1.13 to 1.38)	2.02 (1.77 to 2.18)
6. Treatments should increase my natural ability to keep healthy	1.05 (1.01 to 1.34)	1.54 (1.64 to 2.27)
7. Treatment providers should treat patients as equals	1.01 (0.89 to 1.17)	1.24 (1.08 to 1.67)
8. Patients should take an active role in their treatment	0.88 (0.81 to 1.06)	1.75 (1.18 to 1.81)
9. Treatment providers should make all decisions about treatment	0.85 (0.74 to 1.07)	1.37 (1.21 to 1.54)
10. Treatment providers should help patients make their own decisions about treatment	0.94 (0.86 to 1.11)	2.43 (1.89 to 2.43)
11. Treatment providers control what is discussed during consultations	1.04 (0.85 to 1.19)	1.37 (1.18 to 1.45)
12. Health is about harmonising your body, mind and spirit	1.08 (0.95 to 1.20)	2.33 (1.55 to 2.45)
13. Imbalances in people's lives are a major cause of illness	1.15 (1.02 to 1.27)	2.07 (1.66 to 2.07)
14. Treatments should focus only on symptoms rather than the whole person	0.82 (0.78 to 1.04)	2.44 (1.75 to 2.45)
15. Treatments should focus on people's overall well-being	1.21 (1.01 to 1.44)	1.53 (1.48 to 1.95)
16. I think my body has a natural ability to heal itself	1.13 (0.95 to 1.22)	2.43 (1.70 to 2.22)
17. There is no need for treatments to be associated to natural healing power	1.00 (0.77 to 1.07)	1.56 (1.33 to 1.81)
CAMBI Total score>Q3	1.05 (0.92 to 1.29)	3.65 (2.94 to 3.77)
CAMBI sub-scores:		
▶ Natural treatment>Q3	1.15 (1.03 to 1.26)	2.08 (1.78 to 2.32)
▶ Patient's participation>Q3	0.95 (0.81 to 1.03)	1.43 (1.23 to 1.77)
▶ Holistic medicine>Q3	1.15 (0.95 to 1.17)	2.75 (2.55 to 3.24)

\*Adjusted for age, gender and educational level.

GP-CM, general practitioner strictly practising conventional medicine; GP-Ho, general practitioner with a certification in homeopathic care; GP-Mx, general practitioner with mixed practice.

group when compared to those consulting GP-Ho: age trajectories observed for depression are often the opposite as those found for anxiety.<sup>28</sup> In spite of the fact that patients with depressive disorders in our study were less likely to seek strictly homeopaths than GP-CM, we must remember that depression is also one of the most commonly treated complaints as previously described for outpatient clinics of homeopathic hospitals in the UK National Health Service.<sup>29</sup>

Studies examining representative samples of general population seeking care for SADD have consistently shown that a large proportion of subjects are not treated with psychotropic drugs.<sup>30-31</sup> Conversely, psychotropic drugs use is frequently reported by subjects without identified psychiatric disorders.<sup>32</sup> This latter observation is probably the reason why there is an increasing trend for patients falling into the mixed category with similar characteristics and SADD. It is as if they sought a combination of both homeopathy and conventional medicines to fulfil individualised and holistic therapies needs and expectations, while being sure that good standards of medical and scientific practice were met.<sup>33</sup> This type of patients seems to be primarily concerned by associating their need for care and adequate treatment. One-third of the patients with SADD consulting a GP-Mx received concomitantly homeopathic medicines and a psychotropic

drug: this might suggest that homeopathic medicines could be prescribed not only as a substitute of unnecessary conventional psychotropic drugs, but could also be viewed as an adjunct to efficient psychotropic drugs;<sup>10 20 34</sup> such combination has been found to potentially help patients to accept and improve their symptoms<sup>35</sup> while avoiding some possible side effects of additional conventional therapies. Although no conclusions can be drawn at this stage on the outcome of consultations to GP-Mx and GP-Ho and whether their patients were given adequate treatment, our study highlights a genuine will from GP-Mx and GP-Ho to tailor therapies to their patients while avoiding unnecessary prescriptions.

High CAMBI scores, representing greater trust and belief in CAM, were found in the GP-Ho group, particularly in the subscales related to belief in natural treatments and holistic medicine and to a lesser degree in the patient's participation subscale. Patients of the GP-Mx group exhibited only a modest preference for natural treatments and holistic medicine with no difference overall towards patients seen by physicians who practise strictly conventional medicine. The different findings might be explained by the fact that GP-Ho operate a labelled practice in France (they must be certified homeopaths) which is not the case for the GP-Mx

group defined specifically for this study. Our results provide interesting evidence of criterion validity for the CAMBI scale outside the UK. As for the quality-of-life scale (SF-12), patients scored similarly on the mental health subscale across all three groups of GPs, a result that was consistent with the similar number of comorbidities declared by treating physicians. Some studies found that patients seeking CAM therapies showed more QoL impairment than patients seeking conventional therapies.<sup>36</sup> Other studies, including ours, suggest that, despite the modality of practice (CAM or conventional therapies), GPs treat patients exhibiting similar mental health problems and disease burden.<sup>37</sup>

Around 75% of patients who sought GPs exhibited additional morbidities in the EPI3 survey. The role of comorbidity in producing further burden from SADD has not been studied in patients attending GPs practising different modalities of treatment.<sup>38 39</sup> Integrating research to understand the role of comorbidity in QoL is challenging due to differences across studies in QoL conceptualisation, validity of QoL measurement, recruitment context (eg, epidemiological, treatment-seeking) and consideration of sociodemographic and clinical predictors. Studies generally account for a limited range of comorbidity attributes, typically the presence versus the absence of comorbidity, which loses the richness of information inherent in psychiatric presentations.

Together with a lower number of visits to GPs and a lower proportion of prescribed psychotropic drugs in the GP-Ho group, our findings may have relevant public health implications. For instance, the National Institute for Health and Clinical Excellence, highlighted recently that the severity of depression at which antidepressants show consistent benefits over placebo is poorly defined, emphasising that, in general, the more severe the symptoms, the greater the benefit.<sup>40</sup> A patient-level meta-analysis demonstrated a lack of efficacy for antidepressants in the majority of patients with anxiety and depressive disorders.<sup>3 4</sup> Thus, the real impact of conventional antidepressants in this population is considerable, with adverse reactions outweighing potential benefits.<sup>41</sup> The patient's dissatisfaction with psychotropic drugs is one of the reasons cited for seeking other treatment options<sup>42</sup> and patients with a history of depression are more likely to seek CAM than those who have never been depressed before.<sup>43</sup>

Under a primary care system designed for acute rather than chronic care, where clinicians 'routinely experience the tyranny of the urgent',<sup>44</sup> our results suggested that the management of SADD by GP-Ho was associated with less visits to the GP in the previous year but no more consultations to specialists than GP-CM. Medico-economic studies are needed to assess the patterns of access to and management by these different practitioners, which would contribute to better plan resource allocation for mental health services and target key groups for interventions in prevention, as far as severity of SADD is concerned.

### Strengths and limitations of the study

The present study examined a relatively large number of primary care practices in order to provide a real-world picture of CAM and homeopathic practice within the French primary-care setting. The main strengths of the EPI3 survey have already been acknowledged elsewhere.<sup>2</sup> These include high representativeness of the patients involved and comparability against other nationwide studies. The weighted geographical distribution of the participating GPs in the survey was similar to the national distribution of GPs in private practice across the 22 French regions surveyed, and the distribution of physicians' individual characteristics regarding age, gender, type of contract with national health insurance and modality of practice differed only slightly from national statistics.<sup>45</sup>

The main limitation of our study relates to its cross-sectional design which does not allow addressing the directionality of the associations described between patients' characteristics and their physician's choice of medical practice. Another limitation relates to the classification of GPs, which relied on self-reporting of CAM prescriptions. The definition of GP-Ho was more accurate and based on their professional certification. Therefore, generalisations of the results must be made cautiously, since our findings represented general practice in France. Nevertheless, this particular setting can be otherwise interpreted also as a strength, because it provided a unique opportunity to compare head-to-head primary-care practices differing only by preferences for homeopathy and CAM, whereas all participant physicians shared similar medical professional status and basic training in conventional medicine. We feel that albeit the context of the study was specific to one country, differences between the groups of patients provided reliable information on the differential utilisation of homeopathy and CAM.

Finally, the fact that the participants were recruited in primary care might have excluded people with severe psychiatric disorders. This potential bias was likely to underestimate the prevalence of psychotropic drug use. However, prescriptions for psychotropic drugs were similar to those found in other French studies.<sup>46 47</sup>

### CONCLUSION

The EPI3 survey is one of the largest studies to date conducted in general practice to describe attitudes and burden of SADD in patients seeking care from GPs with different prescribing preferences towards CAM and homeopathic practices. Our results showed that patients with SADD, while differing principally in their socio-demographic profiles and conventional psychotropic prescriptions, were actually rather similar regarding the severity of SADD in terms of comorbidities and QoL. Further research is needed to explore potential benefits, both in terms of health economics and in terms of care, of consulting GPs that combine CAM and CM daily in the clinical management of SADD.



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