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

Lamiae Grimaldi-Bensouda,1,2 Pierre Engel,2 Jacques Massol,3 Didier Guillemot,4,5 Bernard Avouac,2 Gerard Duru,6 France Lert,7 Anne-Marie Magnier,8 Michel Rossignol,9,10 Frederic Rouillon,11 Lucien Abenhaim,12,13 Bernard Begaud,14 for the EPI3-LA-SER group

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.

ARTICLE SUMMARY

Article focus
- Up to 20% of patients attending primary healthcare 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.

Key messages
- Our results suggest that patients experiencing sleep, anxiety and depressive disorders (SADD) 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 of 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.

INTRODUCTION
Mental health problems such as sleep, anxiety or depressive disorders (SADD) are responsible for considerable disability worldwide, resulting in serious quality-of-life impairment and are often associated with high use of medical services. It is estimated that up to 20% of patients attending primary
healthcare in developed countries suffer from the often-linked disorders of anxiety and depression. A high prescription rate of conventional therapies, particularly antidepressants, 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.

Evidence of effectiveness of these therapies compared to conventional psychotropic drugs is still limited. 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. In a previous study, 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).

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, phyotherapy, 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).

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, 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. 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. 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 were coded by a trained archivist using the ninth revision of the International Classification of Diseases (ICD). 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 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. 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 χ² 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%, 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) N, weighted % | GP-Mx (n=718) N, weighted % | GP-Ho (n=444) 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 5.8 |
| **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<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

| 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<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/m²).
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.
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 (favorable 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 for belief in natural treatment, OR=3.65, 95% CI 2.94 to 3.77). The result was consistent among patients seeking mixed and homeopathic GPs, although a slightly higher trust in natural 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, except for one survey, and younger. Association with age has been suggested by other authors, although no such association has been described elsewhere.

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. 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. In these circumstances, health awareness might be a proxy variable to several other motivations including a desire for shared decision-making. 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 and interaction with a CAM practitioner 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 but not in others. 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.

With regard to the medical conditions, the EPI3 survey is one of 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. Higher prevalence of patients suffering from depression seeking GP-CM might be attributed to the older age structure observed in this table.

**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* |
|----------------------|-----------------|-----------------|----------|-----------------|----------|
| SADD                 |                 |                 |          |                 |          |
| 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   |
| Anxiety              |                 |                 |          |                 |          |
| 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     |
| Depression           |                 |                 |          |                 |          |
| 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    |
| Sleep disorders      |                 |                 |          |                 |          |
| 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 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.
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 | GP-Ho vs GP-CM |
|------------------|----------------|----------------|
|                  | OR* (95% CI)   | 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 1.38) | 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.

Grimaldi-Bensouda L, Engel P, Massol J, et al. BMJ Open 2012;2:e001498. doi:10.1136/bmjopen-2012-001498
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. 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.

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. 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. A patient-level meta-analysis demonstrated a lack of efficacy for antidepressants in the majority of patients with anxiety and depressive disorders. Thus, the real impact of conventional antidepressants in this population is considerable, with adverse reactions outweighing potential benefits.

The patient’s dissatisfaction with psychotropic drugs is one of the reasons cited for seeking other treatment options and patients with a history of depression are more likely to seek CAM than those who have never been depressed before.

Under a primary care system designed for acute rather than chronic care, where clinicians ‘routinely experience the tyranny of the urgent’, 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. 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.

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.

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 sociodemographic 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.
Contributors The work presented here was carried out with the involvement of every author. LG-B, BB, FL, FR, JM, DG, BA, GD, A-MM, MR and LA conceived both the research theme and the methods, analysed the data and interpreted the results. LG-B implemented the trial in France, analysed the data, and together with FL, PE and LA drafted and revised the paper. All members of the EP13-LA-SER group designed the study. A Fabre and PE analysed the data. All authors have contributed to, read and approved the final manuscript. LG-B is guarantor for the study. LG-B, PE and LA had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

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