Eric Galam, Valériane Komly, Antoine Le Tourneur and Jérôme Jund

Burnout among French GPs in training:

a cross-sectional study

Abstract

Background
French GPs in training have an important role in making hospitals function and are the future workforce, however burnout among this group is not uncommon.

Aim
To assess burnout among French trainees.

Design and setting
Descriptive, epidemiological, transverse cross-sectional study in France.

Method
All 6309 French trainees attending a meeting to choose their next 6-month placement (March 2011), were invited to complete a written questionnaire including the Maslach Burnout Inventory, items about their health, and how they felt about medical internship.

Results
A total of 4050 anonymous questionnaires were analysed (response rate: 64.2%). The percentage of trainees with high levels of emotional exhaustion was 16.0%, 33.8% had a high score for depersonalisation, and 38.9% had a high score for low personal accomplishment. A total of 41.9% had no high score at all and 6.5% (n = 283) presented three high scores. Notable associations were found between burnout and workload, lack of acknowledgement for trainees' work, working in accident and emergency departments, and lack of time devoted to private life.

Conclusion
This is the first French national survey about burnout in French GP trainees. It confirms the findings of previous French regional studies, which showed an increased rate of depersonalisation but decreased rates of emotional exhaustion. Trainees play an important role in the French health system: they represent tomorrow's doctors, so these results are worrying for the French public-health system. They imply a need for action by doctors, professional bodies, and healthcare organisations. A few preventive measures could be tested, such as creating an employment contract for trainees, helping trainees to assume responsibilities step by step, and putting more thought into training in outpatient clinics.

Keywords
burnout; France; general practice; trainees.

INTRODUCTION

Burnout is a complex,[1] work-related syndrome, defined as 'with high scores on the Maslach Burnout Inventory (MBI)'.[2] Although research is needed about how to interpret Maslach thresholds, the MBI has been used by most researchers in numerous clinical and educational settings all over the world.[3–6] The MBI has three components:

- emotional exhaustion, which corresponds to an intense emotional tiredness;
- depersonalisation, which is a negative and cynical attitude against patients; and
- low personal accomplishment, which corresponds to demotivation, loss of self-confidence, and self-depreciation in relation with work.

In addition to its impact on the quality of care and caregivers' perception of work-life balance,[7,8] burnout reduces the number of practising doctors in France.[9,10] A delayed start to professional life, early retirement, and a frequent desire to abandon a healthcare profession because of the difficulties encountered can be observed. Burnout can result in medical errors[11,12] and have a negative impact on quality of care.[13]

Burnout is largely widespread and studied in different countries.[14–19] Using the MBI test, a European study[20] found that 43% of doctors reported emotional exhaustion, 35% depersonalisation, and 32% reduced personal accomplishment; it showed that no less than 65% of European GPs have at least one high score for burnout and 12% had three high scores. This figure confirms Truchot's studies using the MBI in three regions of France.[21] In France, a large study (not using the MBI) carried out in 2007 by the Parisian Regional Union of Ambulatory Practitioners[22] involving 2243 doctors showed that 60.8% of GPs felt threatened by burnout. It seems that an undercover epidemic exists, marked by paroxysms each time a health professional commits suicide.[23,24]

General practice trainees are confronted with the sudden acquisition of responsibility in patient care, competitiveness, fear of showing vulnerability or being stigmatised if they are not perfect, constraining duty times, being away from family, having to move frequently, and having to undertake necessary scientific work. Several local epidemiological studies were carried out among trainees experiencing burnout. The aim of this epidemiological, descriptive, multicentre, cross-sectional study was to determine burnout frequency and its correlation with the opinions of French GPs in training (trainees) about their 3-year traineeship.

METHOD

A four-page questionnaire was created according to recent French literature on burnout.[22] It was tested by 10 trainees to evaluate its feasibility and clarity, and to

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How this fits in

Burnout syndrome in GPs has been extensively studied and is widespread throughout the world. It can have an effect on quality of care and lead to medical errors and suicide among health practitioners. It also contributes to the decline in the number of practising doctors, especially in France. GP trainees have an important role in making hospitals function and are the future workforce. However, burnout among these trainees is not uncommon. This study identified that the main factors associated with burnout were: heavy workload; training course location; lack of recognition from senior doctors, the medical team, or patients; and dissatisfaction with time for family, friends and leisure. Emotional exhaustion and low personal accomplishment scores were lower than those of practising physicians but similar to those for depersonalisation. This is not only an individual problem but one that may be linked to the organisation of GP training and could be reduced by re-evaluating the course in primary care. This study can inform policy making in France and provide a comparison for GPs and health service providers in other countries.

see how long it would take to be completed (approximately 10 minutes). A few inappropriate questions, or those that were considered too complicated, were removed or rewritten.

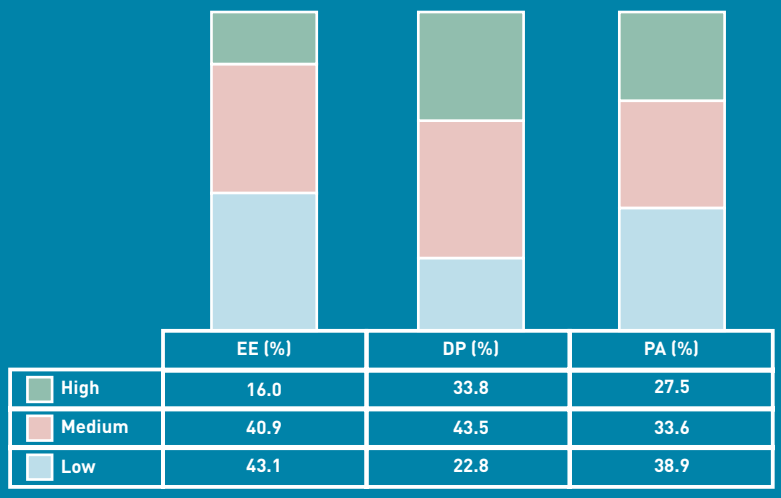
In March 2011, a local representative of the trainees' association in 23 (out of 26) French medical colleges handed the anonymous questionnaires to 6349 French trainees during their biannual meeting to choose their next 6-month placement. In Marseille, Reims, and Caen, the distribution could not take place because there was no local representative to oversee the study. The questionnaires were sent by post to each local representative of the association, together with instructions, a slip of paper to record the number of trainees asked to attend the meeting and how many actually came, and a prepaid return envelope to send the completed questionnaires back to the research team. The questionnaire included epidemiologic, professional, and personal data about health, feelings about the training, the MBI score, and open-ended questions for free comments.

The MBI investigates the frequency of 22 assertions related to three dimensions: emotional exhaustion, depersonalisation, and low personal accomplishment. Results are given as a low, average, or high score for each dimension. In this study, all the trainees presenting with at least two high scores were considered to have high burnout. All data were transcribed manually using Microsoft Access® 2007; comments written by the trainees in the open-ended question were collected and sorted into seven categories. Qualitative variables were analysed according to their frequency and valid percentages; quantitative variables were analysed and the mean, standard deviation, median, minimum, and maximums were calculated. Reliability between burnout score and GP characteristics was assessed using Pearson's χ^2-test (qualitative variables) or with the analysis of variance (ANOVA) test (quantitative variables). Significance was fixed at 5%. All statistics were calculated using SPSS Statistics (version 20). A multivariate analysis was performed to ascertain the link between the number of high scores and trainees' characteristics.

RESULTS

Of the 6349 trainees who were asked to complete the questionnaire, 4050 did so to a satisfactory degree. The average age of responders was 26.4 years, 31.3% were male, 18.3% were working in accident and emergency (A&E), 16.3% in paediatrics or gynaecology, 26.6% in internal medicine, 24.0% in private GP practices (first and second-level, which offer greater autonomy to trainees), and 14.8% were on a course that was not a mandatory part of their traineeship. Of the responders, 39.7% were registered in the first year, 34.0% in second

Figure 1. Burnout syndrome score results.



	EE (%)	DP (%)	PA (%)
High	16.0	33.8	27.5
Medium	40.9	43.5	33.6
Low	43.1	22.8	38.9

Average scores: emotional exhaustion 20.0, SD 9.36; depersonalisation 9.7, SD 5.17; low personal accomplishment: 34.8, SD 6.96. EE = emotional exhaustion. DP = depersonalisation. PA = personal accomplishment. SD = standard deviation.

Table 1. Sample characteristics (*n* = 4050)

Characteristic	Sample, %
Married or part of a couple	65.2
Children	8.8
Works average hours per week	48.9
Works ≥50 hours per week	53.0
On call ≥3 nights per month	49.3
Has ≤2 free weekends per month	55.1
Had ≤2 weeks holiday during current 6-month course	81.2
Devotes sufficient time to family and friends	47.3
Regularly undertakes a leisure activity	41.4
Having children hindered by residency	55.1
General practice chosen by choice	74.9
Will enrol again in medical studies	63.6
Thinks of dropping out of medical school often or regularly	16.7
Feels threatened by burnout	46.5
Drinks >3 glasses of alcohol at least once per week	5.4
Takes sleeping pills at least once per month	9.2
Has been taking antidepressants during residency	6.5
Has received psychological or psychiatric therapy during residency	12.1
Has had suicidal ideas during last 12 months	6.1
Has tried to commit suicide	1.4
Fears making a medical error often or every day	53.1
Worries about patients out of professional context often or every day	29.6
Feels that senior doctor is 'dissatisfied' often	34.8
Receives enough recognition from seniors	64.9
Receives enough recognition from medical team	74.3
Receives enough recognition from patients	79.3
Feels well accompanied	55.8
Feels well recognised (social position, salary, workload)	21.5
High levels of emotional exhaustion	16.0
High levels of depersonalisation	33.8
Low levels of personal accomplishment	38.9
No high scores	41.9
One high score	58.1
Two high scores	24.1
Three high scores	6.5

year, and 26.2% in third year. These figures were representative of the population of trainees registered in general practice at 1 November 2010. The total response rate was 64.2%, ranging from 34.9% (Lyon) to 90.0% (Limoges).

An increase in high scores was associated with working in a city ($P<0.001$). Nice had the highest number of trainees with at least two high scores (43.1%). This city has also the highest workload (78.0% working more than 50 hours a week), the highest number of GP trainees who had tried to commit suicide (4.2%), and the lowest level of general practice chosen by choice (58.3%). In eight cities (Angers, Besançon, Bordeaux, Dijon, Limoges, Paris, Strasbourg, and Tours), 25–30% of trainees had at least two high scores. Clermont-Ferrand seemed to be somewhat 'protected': 62.7% of trainees there had no high score. In total, 16.0% of trainees had a high score of emotional exhaustion, 33.8% a high score of depersonalisation, and 38.9% a low score of personal accomplishment (Figure 1). Of all responders, 24.1% had at least two scores

Table 2. High scores correlated with workplace

	Emergency, %	Internal medicine, %	Free-choice working place, %	Paediatrics or gynaecology, %	Private practice, second level, %	Private practice, first level, %
High emotional exhaustion	19.8	16.5	15.4	16.0	14.7	12.2
High depersonalisation	42.3	32.0	31.8	37.3	27.6	28.3
Low personal accomplishment	41.0	41.0	37.6	38.5	34.6	36.1
No high score	34.4	42.4	44.7	40.4	46.7	45.8
One high score	35.6	33.5	33.2	34.2	32.2	36.4
Two high scores	21.6	17.3	16.1	18.8	15.8	13.3
Three high scores	8.5	6.8	5.9	6.7	5.3	4.5

Table 3. Factors correlating with high scores

	Number of high scores				
Factor	**0**	**1**	**2**	**3**	***P*-value**
All France, %	41.9	58.1	24.1	6.5	
Feels threatened by burnout, *n*					
No	65.5	53.7	35.6	15.8	<0.001
Yes	34.5	46.3	64.4	84.2	
Sex, %					
Female	44.3	34.0	15.8	5.8	<0.001
Male	36.7	34.8	20.6	7.8	
6-month period in progress, %					
Private practice	45.9	35.7	13.7	4.7	<0.001
Hospital	39.7	34.0	19.0	7.3	
Hours worked per week					
Average	47.17	48.72	51.67	54.78	<0.001
Number of nights on call per month, %					
0	48.6	33.2	13.6	4.5	<0.001
1	42.7	35.6	15.9	5.8	
2	39.4	35.8	18.3	6.5	
3	39.0	33.4	20.7	6.8	
4	39.0	35.8	17.6	7.5	
5	39.7	37.2	14.9	8.3	
6	44.1	25.7	20.6	9.6	
7	37.9	36.1	18.9	7.1	
Number of free weekends per month, %					
0	37.1	38.7	17.7	6.5	<0.001
1	30.5	33.8	22.6	13.1	
2	38.3	35.7	18.7	7.4	
3	46.6	33.0	16.4	4.0	
4	49.8	32.9	13.4	4.0	
Devotes sufficient time to family and friends, %					
Do not agree	35.3	33.0	21.7	10.0	<0.001
Agree	49.2	35.8	12.5	2.5	
Regularly undertakes a leisure activity, %					
Do not agree	37.9	34.2	19.2	8.7	<0.001
Agree	47.7	34.3	14.6	3.3	
Residency: obstacle to having children, %					
No	49.2	34.8	12.7	3.3	<0.001
Yes	36.3	33.2	21.6	8.9	
General practice chosen by choice, %					
Yes	44.1	34.2	16.2	5.5	<0.001
No	35.3	34.6	20.8	9.3	

... continued

and were considered to have burnout; only 41.9% presented no high score and could, therefore, be regarded as free of it (Table 1). It must be emphasised that 55 (1.4%) responders said they had already tried to commit suicide (Table 1); in addition, 36.4% reported regretting having started medical studies and 16.7% thought 'often/regularly' about giving up their training (Table 1). Some 9.2% of trainees reported taking hypnotics at least once a month and 6.5% reported taking, or having taken, antidepressants during their residency.

The main factors associated with burnout (univariate analysis) were:

- Sex: males have more high scores than females ($P<0.001$).
- Choosing general practice training as a second choice ($P<0.001$).
- Time spent working: trainees who don't suffer from burnout reported working an average of 47.2 hours per week, compared with 48.7 hours, 51.7 hours, and 54.8 hours respectively for trainees having one, two, or three high scores of burnout ($P<0.001$). This is associated with the number of nights on call and the number of free weekends per month.
- Course location (Table 2): trainees in internal medicine and A&E had higher average high scores for emotional exhaustion, depersonalisation, and lower scores for personal accomplishment. On the other hand, trainees working in private practices in primary care had fewer high scores on average ($P<0.001$).
- Lack of recognition from senior physicians, the medical team, or patients: this was strongly correlated with the number of high scores, and a larger importance was attached to the lack of recognition from senior physicians ($P<0.001$).
- Dissatisfaction with time devoted to

Table 3 continued. Factors correlating with high scores

Regrets having chosen medicine					
No	36.3	33.3	20.7	9.8	<0.001
Yes	45.3	34.9	15.2	4.6	
Fears making a medical error, %					
Never, seldom, sometimes	49.2	33.4	13.3	4.1	<0.001
Often, every day	35.6	35.1	20.8	8.5	
Thinks could make medical errors, %					
Never, seldom, sometimes	44.5	34.4	15.8	5.3	<0.001
Often, every day	22.6	33.3	29.0	15.2	
Receive enough recognition from seniors, %					
No	33.9	33.5	21.7	10.9	<0.001
Yes	46.1	34.8	15.0	4.1	
Receives enough recognition from medical team , %					
No	30.1	34.8	23.4	11.7	<0.001
Yes	45.7	34.2	15.4	4.8	
Receives enough recognition from patients, %					
No	26.0	35.3	26.6	12.2	<0.001
Yes	46.0	34.1	14.9	5.1	
Thinks of dropping out of medical school often or regularly, %					
No	45.0	35.0	15.4	4.6	<0.001
Yes	26.4	30.7	27.1	15.7	
Smokes cigarettes, %					
≤5	42.8	34.1	16.8	6.3	0.028
≥6	35.8	36.0	20.6	7.6	
Drinks >3 glasses of alcohol at least once per week, %					
Never	41.0	36.7	15.5	6.8	<0.001
1/year	46.6	31.6	16.3	5.4	
1/month	43.6	35.1	16.2	5.1	
1/week	42.3	29.7	20.8	7.2	
More	27.8	38.1	22.2	11.9	
Has been taking sleeping pills at least once per month, %					
Never	43.3	34.8	16.5	5.4	<0.001
1/year	39.8	34.3	18.0	8.0	
1/month	37.9	30.8	21.7	9.6	
1/week	30.3	26.3	25.0	18.4	
More	15.8	26.3	29.8	28.1	
Has been taking antidepressants during residency, %					
No	42.3	34.5	17.0	6.2	0.01
Yes	37.1	30.4	22.4	10.1	
Has had psychological or psychiatric therapy during residency, %					
No	42.9	34.4	16.6	6.0	<0.001
Yes	35.0	33.0	22.3	9.8	
Has had suicidal ideas during last 12 months, %					
No	43.1	34.2	17.1	5.6	<0.001
Yes	24.3	35.3	20.2	20.2	
Has tried to commit suicide, %					
No	42.1	34.4	17.2	6.3	<0.001
Yes	28.0	26.0	26.0	20.0	

family and friends and/or leisure: 49.2% of the trainees who did not have burnout were dissatisfied with the time devoted to family/friends and leisure activities. Dissatisfaction increased with the number of high scores, reaching nearly 97.2% for trainees presenting three high scores (P<0.001).

- Feeling that the senior doctor was 'dissatisfied': this accounted for 61.5%, 45.0%, 32.6%, and 28.4%, of trainees who presented with three, two, one, and no high scores respectively.
- Fear of being involved in a medical error (P<0.001).

Some of these factors are outlined in more detail in Table 3.

Multivariate analysis confirmed these results except the course location. Other factors that correlated, to a lesser extent, with the number of high scores were:

- being aged >30 years;
- having consulted a psychotherapist;
- suicide ideation;
- suicide attempts;
- drinking alcohol; and
- taking antidepressants.

There was no correlation between burnout and marital status.

With regard to solutions that were proposed by the researchers, 82.5% of responders said they would agree to reduce their workload, 70.0% would like to get a tutor, and 54.9% would like peer groups. Only 33.8% reported wanting more autonomy and 30.0% a telephone support hotline (data not shown).

A total of 525 free comments were split into seven categories: personal burnout testimonies (n = 162); commentaries on residency and the training courses (n = 126); future prospects (n = 113); thinking about possible solutions (n = 110); family life (n = 68); holidays and salaries (n = 52); others items (n = 73).

DISCUSSION

Summary

Among the French trainees approached, 4050 (response rate 64.2%) completed the questionnaire, which included the MBI. Professional exhaustion, according to the MBI criteria, struck a high proportion of trainees: 58.1% had at least one high score, 24.1% at least two, and 6.5% three.

Strengths and limitations

This study has two limitations. Other researchers have previously used the MBI test but its reliability is unknown and more research is needed about how Maslach's thresholds are interpreted. The use of the MBI is partly supported by the current study's results as, among trainees with no high score, 34.5% believed they had a risk of

Table 4. Studies of burnout among GPs and trainees

Study	Number of participants, % of female	GPs/trainees	Place of the study	Response rate, %	Burnout, %	Emotional exhaustion, % (average score)	Depersonalisation, % (average score)	Personal accomplishment, % (average score)
Shanafelt, 2002[11]	115 (53)	Trainees	University of, Washington, US	76	76	26.4	12.7	36.2
Michels, 2003[26]	350 (32)	Trainees	South Carolina, US	75	NG	19.53	9.55%	38.68
Willcock, 2004[27]	117 (44)	Trainees	Sydney University	94	Emotional exhaustion and depersonalisaton: 28 (T1) — 61 (T6)	17.57	6	36.74
Guinaud, 2005[28]	692 (62.6)	Trainees	Île de France	92	NG	24.1 (22.1)	42 (10.6)	48.6 (33.7)
Dyrbye, 2006[18]	545 (54.6)	Trainees	Minnesota, US	50	45	34.4	26.9	28.2
Pittaco Legay, 2008[29]	205 (50)	Trainees	Île-de-France/interns emergency room	84	45	16 (18.1)	50 (10)	33 (36.2)
Barbarin, 2008[30]	114 (74.6)	Trainees	Nantes, France	57.9	44.7 (emotional exhaustion or depersonalisation)	16 (19.72)	35 (9.76)	21 (37.38)
Ernst, 2009[31]	161 (64)	Trainees	Strasbourg, France	71	46 (emotional exhaustion or depersonalisation)	19.2 (19.8)	38.5 (10.4)	21.7 (37.4)
Vaquin-Villeminey, 2007[32]	221 (18.5)	GPs	France	16.1	51.6	27.1 (21.0)	32.6 (9.5)	27.1 (37.1)
EGPRN, 2008[20]	1393 (45.4)	GPs	12 European countries	41	31.5 (emotional exhaustion, depersonalisation or personal accomplishment)	43	35	32

NG = not given. T1 = first 6-month training period. T6 = sixth 6-month training period.

burnout compared with 84.2% of those who had three high scores. The second limitation relates to the length of the questionnaire. The MBI could have been inserted simply to achieve a higher response rate.

The conditions of the survey were difficult. The meeting during which each intern chooses his or her next course is particularly stressful (much regarding the quality of training, personal life, and what happens in the long and short term depends on it) and the 10 minutes requested to fill out the questionnaire required a true effort from trainees. Nevertheless, this is the first national survey among trainees to be undertaken.

The issue of burnout is likely to be of interest to trainees given that 64.2% of those approached, and 23 of the 26 faculties, took part in the study. This interest contrasts with the fact that burnout remains a taboo subject, which is seldom publicly approached by trainees. The majority of health professionals do not allow themselves the right to be 'sick',[25] especially for psychiatric issues. The fact that the questionnaire was anonymous made it easier for participants to freely express themselves; this factor could contribute to the strong response rate.

Comparison with existing literature

This study's results are similar to those found in previous studies (Table 4) carried out at a regional level or about qualified French GPs. The results also confirm recent analysis[33] and emphasise that burnout is not only an individual problem. Working conditions have also been shown to be a cause of doctors' professional distress and consequences of that can have a negative impact on patients. It is difficult to understand how burnout affects such large numbers of young people, most of whom have not been in the profession for very long; this seems to show that burnout is linked to the quality of working conditions, rather than practice settings or time. These findings are worthy of further discussion and analysis. In particular, it is important to ascertain whether training is leading to harm or whether the recruitment process attracts a high proportion of people who are vulnerable.

A large proportion of French trainees appear to suffer as a result of their working conditions, which has consequences on their health. Some 9.2% of trainees reported taking hypnotics at least once a month, compared with 5–7% listed in the French general population,[34] and 6.5% reported

taking, or having taken, antidepressants during their residency, compared with 3.5% of the French general population aged >15 years old and 5% of French GPs.[35]

Average scores are similar for all studies of trainees. However, the scores of the EGPRN study with practising physicians shows higher emotional exhaustion scores, similar depersonalisation scores, and higher personal accomplishment scores.[20] Several assumptions can be drawn to explain this difference between trainees and practising doctors: lack of experience; constraints related to the way residency is organised; and social evolution of the status of doctor, which relates mostly to the younger generation. Becoming a doctor assumes one must overcome medical school, which means working hard, making difficult decisions, experiencing competition, and permanently renewing one's medical knowledge.

Implications for practice

A few simple measures to prevent burnout could be considered, such as: talking openly about the aim of perfection, which is a part of the 'hidden' curriculum;[36] counselling students involved in medical errors;[37] and learning how to speak with patients. There may also be a need to review the course in private practices by increasing the number of 6-month courses in primary care during the 3 years of residency; at present, this is a maximum of two courses, which constitutes one of the 3 years of training. In addition, better communication between trainees and senior supervisors, through tutoring and obligatory regular appointments during the 6-month course, could increase recognition of trainees' efforts, thereby supporting their personal achievement and boosting their self-confidence. An employment contract for trainees, helping trainees to assume responsibilities step by step, and putting more thought into training in outpatient clinics may also add benefit. Finally, it is necessary to help trainees lead fulfilling lives outside of their profession; reducing the workload, which can be excessive in certain training courses; and taking into account the difficulties of housing and commuting to and from certain hospitals.

This was a large study, the conclusions of which may be found alarming by senior GP leaders and health-service policymakers. These findings should be taken into consideration by anyone thinking about the future workforce. As stated by Thomas *et al*:

'Somehow we have to change the environment in which we are teaching future physicians'.[38]

In the current context, the French health system must undergo deep reorganisation due to a strong increase in care demands (for example, as a result of an ageing population and new therapies); stagnation in the number of practising doctors (for example, due to budgetary restrictions); and changes in the relations between doctors and population. It appears urgent and necessary to intervene so that future trainee GPs can practise to the best of their ability.

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Ethical approval

Questionnaires were anonymous and participants were informed that they were part of a national study. Ethical approval was not required and informed consent was not necessary.

Provenance

Freely submitted; externally peer reviewed.

Competing interests

The authors have declared no competing interests.

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