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Measuring use of services for mental health problems in epidemiological surveys

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Abstract

The use of services for mental problems is generally reported as being relatively low. However, the methods used for data collection in surveys may have influenced the quality of self-reported service use. This study compares the information on recourse to physicians for mental problems reported in different sections of a survey conducted in six European countries. Thus, 5545 respondents were asked questions on contacts with physicians at least twice: (1) after the symptoms checklist in any completed diagnostic section, and (2) in a section devoted to use of care for mental problems. Of these 39.3% reported contacts with physicians about mental problems in the diagnostic sections, whereas 29.5% did so in the use-of-care section. Inconsistencies concerned 20.1% of participants, among whom those reporting consultations in diagnostic sections without reporting them in the use-of-care section represented the majority (74.4%). Multiple logistic regression analysis revealed that age, marital status, educational level and country were associated with under-reporting in the use-of-care section, as well as having mood or sleep problems. In conclusion, services used for mental health reasons when measured through a question referring to use of care due to the presence of a mental problem may underestimate the care people received for their problems. *Copyright © 2011 John Wiley & Sons, Ltd.*

Introduction

Many studies on health care use are based on survey data obtained from self-administered questionnaires, or from telephone or face-to-face interviews, in which people provide details on the different services they have used to deal with their health problems, in particular their visits to health professionals. Given the role of such studies in the design of health policy, especially for health care resource allocation and planning, a better understanding of the quality of such information is crucial.

Few studies have assessed the quality of consumer responses to use-of-care surveys and many of them have focused on specific groups of people, such as the elderly (Bush *et al.*, 1989; Carsjö *et al.*, 1994; Glandon *et al.*, 1992; Green *et al.*, 1979; Lubeck and Hubert, 2005; Raina *et al.*, 2002; Rozario *et al.*, 2004; Wallihan *et al.*, 1999), the mentally ill (Byford *et al.*, 2007; Clark *et al.*, 1996; Goldberg *et al.*, 2002; Kashner *et al.*, 1999; Killeen *et al.*, 2004), and the homeless (Calsyn *et al.*, 1997; Pollio *et al.*, 2006), for whom such issues may be particularly pertinent. Some of these studies have assessed the reliability of self-reported data measuring the repeatability of questionnaires on health care use using essentially test–retest or inter-interviewer techniques (Chung *et al.*, 2008; Dubois *et al.*, 2007; Fabricant and Harpham, 1993; Goldberg *et al.*, 2002; Santelli *et al.*, 2002). However, most of these studies have focussed on evidence for validity assessed by consistency with other sources of data such as health insurance claims, medical records or survey data collected from health care professionals.

Validity assessments of this kind generally indicate that survey participants' responses are biased toward under-reporting of use of services (Clark *et al.*, 1996; Jobe *et al.*, 1990; Petrou *et al.*, 2002; Ritter *et al.*, 2001), although there are some exceptions (Kashner *et al.*, 1999). In addition, the validity of self-report may be related to the type of health care services considered, with lower agreement between survey data and administrative or medical data for visits to physicians, and better consistency for events such as emergency room visits and hospitalization (Brown and Adams, 1992; Byford *et al.*, 2007; Mirandola *et al.*, 1999; Petrou *et al.*, 2002; Ritter *et al.*, 2001; Roberts *et al.*, 1996; Ungar *et al.*, 1998), the extent of care use, with a tendency for the discrepancy to increase with the amount of services used (Kashner *et al.*, 1999; Ritter *et al.*, 2001; Roberts *et al.*, 1996), the period of time covered, with less consistency observed when the recall period is longer (Petrou *et al.*, 2002; Roberts *et al.*, 1996), and the time elapsed since the last episode of care, patient reports being less accurate the longer the time between service use and reporting (Clark *et al.*, 1996). Generally, no such association with reporting consistency has been observed for socio-demographic characteristics (Reijneveld and Stronks, 2001; Ritter *et al.*, 2001), with the exception of lower consistency for immigrants (Reijneveld, 2000). In addition, differences in reporting quality were found in individuals with certain mental disorders, poorer consistency being observed, for example, for schizophrenic patients (Clark *et al.*, 1996; Mirandola *et al.*, 1999). No such difference was reported for physical illnesses (Ritter *et al.*, 2001).

Surveys on use of care for mental health problems have traditionally yielded particularly low rates of contact with the health care system for these problems. This has led several authors to study the extent of unmet mental health care needs for those who are the most in need (Alonso *et al.*, 2007; Demyttenaere *et al.*, 2004). As described earlier, in all surveys, self-reported data may be subject to an under-reporting bias. However, we hypothesize that this bias may be more important in mental health surveys, since these surveys require respondents not only to remember their use of services, but also to label their problems as mental. Indeed, information on service use for mental problems is generally collected in a specific section of the questionnaire beginning with a broad question asking participants to report the services they used for their mental problems. This is the case, for instance, in the World Mental Health (WMH) survey in Europe (ESEMeD) on which this article is based. In this survey, similar questions on use of mental health care are present in different sections of the interview. It is possible that information of health care use obtained from the use-of-care section of the interview, which is generally used to provide rates of contact, may yield lower estimates than information derived from the section devoted to the diagnosis of mental disorders. The study presented here, which was restricted for technical reasons to the measurement of physician contacts, evaluated whether inconsistencies could be detected between the diagnostic and use-of-care sections, and assessed possible demographic and health-related factors associated with these inconsistencies.

Method

The ESEMeD survey is part of the World Health Organization (WHO) WMH survey initiative. A detailed description of this survey has been published in Alonso *et al.* (2004). Briefly, ESEMeD is a one-shot cross-sectional survey of non-institutionalized adults aged 18 and over from six European countries selected using a stratified, multistage, clustered area, probability sample design. Eligible individuals were interviewed face-to-face by trained lay interviewers at their homes after they had given consent. The questionnaire, subdivided into 38 different sections, was administered on the same day using computer-assisted interview (CAPI) techniques. Internal sub-sampling was used to optimize the interviewing process and reduce cost by dividing the interview in two parts. Part 1 assessed diagnosis of the most common mood and anxiety disorders, health related quality of life, health services utilization and demographics. Part 2 included, *inter alia*, an in-depth interview about additional mental disorders, self-reported chronic physical conditions, and risk factors. All respondents completed Part 1. All Part 1 respondents who reported more than a pre-specified number of symptoms of specific mood and anxiety disorders, as well as a random 25% of the rest of the sample, were administered Part 2.

Sample

In total, 21,425 individuals were interviewed between January 2001 and August 2003. The overall response rate in the six countries was 61.2%, with the highest rates being observed in Spain (78.6%) and Italy (71.2%) and the lowest in Germany (57.8%), the Netherlands (56.4%), Belgium (50.6%) and France (45.9%). In this analysis, only subjects participating in Part 2 were considered (*n*= 8796). Because the objective of this study was to compare the responses to the questions on use of services for mental health reasons provided at different moments of the interview, we selected the 5545 (40.7%) respondents in the Part 2 sample who completed at least one diagnostic section in which questions on use of services were asked, as well as the use-of-care section of the interview, which was completed by all participants in the survey.

Use of health services for mental health problems

One section of the interview was devoted to the use of care for "problems with emotions or mental health" and was administered to all participants in the survey after the diagnostic sections had been administered. Respondents were first asked if they had consulted for such problems. Individuals reporting any contact with a provider were asked to select whom they had consulted from a list of health professionals (including psychiatrists; non-physician mental health professionals, such as psychologists, psychotherapists, social workers and counsellors; general practitioners; other medical specialists; other health professionals, such as nurses and nutritionists), and of non-health care professionals. In addition, in all diagnostic sections, with the exception of those on post-traumatic stress, substance use, conduct disorder, or separation anxiety, individuals who screened positive for the disorder and who declared sufficiently significant symptoms to complete the whole section had previously reported if they had talked to a physician concerning the symptoms about which they were interviewed. The 5545 respondents we selected for our study gave information on their use of services for mental health reasons in both sections (Table 1).

Table 1 Selected questions about use of services in the ESEMeD project

Diagnostic sections[a]	Use-of-care section
D29. Did you ever talk to a medical doctor about your episodes of sadness or discouragement or lack of interest?	SR1. The next question is about speaking with professionals about problems with emotions or mental health. By "professionals" we mean medical doctors, nurses, psychologists, social workers, spiritual advisors, herbalists, and any other healing professionals. With this definition in mind, did you ever in your life talk to a medical doctor or other professional about any problem with your emotions or mental health? SR2. Did you ever in your life talk to any of the following types of professionals about problems with your emotions or mental health: SR2a. a psychiatrist? . . . SR2c. a general family doctor? SR2d. any other doctor? . . .

[a] Example of the diagnostic section on depression.

Mental disorder status

Information on mental health was collected using the third version of the Composite International Diagnostic Interview (CIDI 3.0), which was developed and adapted by the WHO Coordinating Committee for their WMH survey initiative (Kessler and Ustun, 2004). The diagnostic sections have been expanded in CIDI 3.0 to include a measure of impairment, which allows the severity of any mental disorders to be assessed. The diagnosis of mental disorders was made using the criteria of the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV). A clinical reappraisal conducted in parallel to the main ESEMeD survey showed that diagnoses assigned with the CIDI 3.0 were concordant with clinical diagnoses based on the SCID (Haro *et al.*, 2006). The mental disorders considered in this study, which correspond to the diagnostic sections comprising questions on use of services, were mood disorders (major depression, dysthymia, and pre-menstrual dysphoric disorder), anxiety disorders (panic disorder, specific phobia, social phobia, agoraphobia with or without panic disorder, generalized anxiety disorder, and obsessive-compulsive disorder), eating disorders (anorexia nervosa, bulimia nervosa, and binge-eating disorder), and childhood disorders (attention-deficit/hyperactivity disorder and oppositional defiant disorder). For other disorders (post-traumatic stress, substance use, conduct disorder and separation anxiety), questions about contact with any health care professional were asked, but as it was not possible to discern if a physician had been contacted, these diagnostic sections were not considered in this analysis.

Other variables

In a series of questions about chronic conditions adapted from the US Health Interview Survey, respondents were asked about the presence of chronic pain, including arthritis or rheumatism, chronic back or neck problems, frequent or severe headaches, or any other chronic pain. Information on the use of sedatives was collected through two questions, the first one asking respondents if they had used a sedative or tranquilizer on their own without a doctor's recommendation and the second one asking them if they had used a sedative or tranquilizer that a doctor prescribed for them. A list of sedatives and tranquilizers including the three most commonly prescribed ones in the country was provided as an example.

Statistical analysis

The chi square test was used to evaluate differences in categorical variables between countries. The kappa coefficient was used to evaluate the concordance between reporting in the diagnostic and use-of-care sections of the interview. The closeness of the comparison for the estimated kappa values was determined using the Landis and Koch benchmark (Landis and Koch, 1977). Multiple logistic regression analysis was used to assess the association between socio-demographic and clinical factors, on the one hand, and under-reporting of service use in the use-of-care section of the interview, on the other hand. A probability level of 0.05 was deemed statistically significant.

Data for individual subjects were weighted to account for the known probabilities of selection as well as to restore the age and gender distribution of the population within countries and the relative sample size between countries (Alonso *et al.*, 2004). The Taylor linearized variance estimator was used for statistical inference to take into account the complexity of the sampling design. The statistical analysis was performed using StataSE 9.1 software.

Results

The socio-demographic characteristics of the study sample are presented in Table 2. In all countries, participants were most frequently female (60.1%) and aged 35 to 64 years (51.4%). All other characteristics differed between countries, notably the proportion of individuals with a post-secondary education. Overall, 57.6% of respondents reporting symptoms of mental problems qualified for a diagnosis of mental disorder, this proportion varying significantly ($p < 0.001$) from 46.6% in Italy to 66.8% in France.

The proportion of subjects who reported having sought help from physicians for mental health problems varied significantly between the two sections of the interview (diagnosis sections and use-of-care section), both overall and in each individual participating country (Table 3). In the diagnostic section, 39.3% of participants reported having talked to a physician about mental problems, whereas 29.5% reported visits to physicians for mental health problems in the use-of-care section. The percentage agreement between the two sections and the kappa coefficients were lowest in France and highest in Germany, this range of values corresponding to moderate to substantial agreement.

The inconsistencies observed in self-reported use of care between the two sections are presented in Table 4.

Table 2 Socio-demographic characteristics and mental health status of the sample (%)[a]

Characteristics	Belgium (n=677)	France (n=1105)	Germany (n=780)	Italy (n=1026)	Netherlands (n=748)	Spain (n=1209)	Overall (n=5545)	p
Gender								
Male	41.0	39.3	41.1	39.0	41.0	39.0	39.9	0.926
Female	59.0	60.7	58.9	61.0	59.0	61.0	60.1	
Age								
18–34 years	33.3	32.9	31.6	29.5	31.9	37.9	32.3	0.167
35–64 years	48.9	51.8	53.6	51.3	55.1	44.5	51.4	
≥65 years	17.8	15.3	14.8	19.2	13.0	17.6	16.3	
Marital status								
Married, cohabiting with someone	66.0	67.6	58.6	64.6	70.3	62.2	63.8	<0.001
Separated, widowed, divorced, single	12.9	13.7	17.5	9.6	12.7	11.2	13.6	
Single	21.1	18.7	23.9	25.8	17.0	26.6	22.6	
Income level								
Low	15.6	25.0	19.4	18.6	26.5	17.9	20.9	0.036
Average	69.8	59.1	62.4	65.8	59.2	66.7	62.8	
High	14.6	15.9	18.2	15.6	14.3	15.4	16.3	
Educational level								
Primary, secondary education	54.8	63.4	74.8	58.3	43.9	63.9	64.2	<0.001
Post-secondary education	45.2	36.6	25.2	41.7	56.1	36.1	35.8	
Any mental disorder[b]								
Yes	59.1	66.8	54.3	46.6	66.7	59.9	57.6	<0.001
No	40.9	33.2	45.7	53.4	33.3	40.1	42.4	

[a]Data are presented as percentages. All values were obtained after weighting. For each socio-demographic variable, potential differences in prevalence rates between countries were assessed using the chi square test.

Out of the 5545 participants who replied to at least one diagnostic section as well as the use-of-care section, 20.1% provided contradictory information, this proportion being highest in France (27.6%) and lowest in Germany (15.4%). Moreover, these contradictory responses most often corresponded to a positive answer in the diagnostic sections and a negative answer in the use-of-care section (74.4%).

In order to identify factors associated with under-reporting of medical consultations, multiple logistic regression was used to compare the respondents who reported consultations with physicians for psychological problems in the diagnostic sections only (n=1097) to those who reported their contacts with physicians in both types of sections (n=2105). Only subjects reporting having talked to a physician about mental problems in response to at least one question in the diagnostic section were selected for the analysis, in order to exclude bias from medical consultations for mental problems other than those explored in the diagnostic section (for example, substance use or dependence problems). For this reason, only inconsistencies of the type “yes in the diagnostic section and no in the use-of-care section”, which represent around three-quarters of the contradictory responses observed (74.4%; Table 4), were studied.

This multiple logistic regression analysis identified certain personal and social factors, although sometimes of borderline significance, associated with under-reporting of utilization of services in the use-of-care section of the interview (Table 5). Older age was associated with an increased likelihood of under-reporting, whereas people who were separated, widowed or divorced and those with a better education were less likely to under-report service use. The analysis also identified country as being associated with under-reporting, this being less frequent in Germany, the Netherlands and Spain, and more frequent in France. Italy, where the proportion of contradictory responses was the highest, was the country in which under-reporting was most marked.

When considering health-related factors (Table 6), under-reporting of medical consultations for mental problems in the use-of-care section of the interview was

Table 3 Proportion of respondents who reported having consulted a physician according to the different sections (n=5545)[a]

		Diagnostic sections[b]		Use-of-care section				
Country	n	Percentage	Confidence interval	Percentage	Confidence interval	p	Percentage agreement	Kappa
Belgium	677	46.0	[40.0; 52.0]	37.3	[31.4; 43.6]	0.004	76.4	0.52
France	1105	50.4	[45.8; 54.9]	38.1	[33.9; 42.4]	<0.001	72.4	0.45
Germany	780	33.7	[29.6; 38.1]	27.2	[23.5; 31.2]	<0.001	84.6	0.64
Italy	1026	27.5	[24.5; 30.7]	15.2	[13.0; 17.6]	<0.001	83.0	0.51
Netherlands	748	55.0	[49.1; 60.9]	44.8	[39.5; 50.3]	<0.001	77.4	0.55
Spain	1209	38.8	[34.9; 42.9]	31.0	[27.5; 34.8]	<0.001	82.2	0.61
Overall	5545	39.3	[37.3; 41.3]	29.5	[27.6; 31.3]	<0.001	79.9	0.56

[a] All values were obtained after weighting.
[b] Any diagnostic section.

lowest in participants suffering from mood disorders and in those reporting use of sedative drugs, which can be taken as a proxy of sleep problems.

Discussion

Our study shows first that visits to physicians for mental health problems appear to be less reported in the use-of-care section of the interview when compared to the diagnostic sections. Moreover, some features were found to be associated with a lower prevalence of use in the use-of-care section, notably age and the type of mental symptoms reported. Finally, although the same inconsistency was identified in all countries, the probability of under-reporting in the use-of-care section varied from one country to another.

Most published studies on the validity of responses to use-of-care surveys have noted the issue of under-reporting. In these studies, a clear under-reporting bias exists when data is collected from direct participant response compared with other sources of data, particularly administrative data on health care utilization. In our study, differences in prevalence of use are apparent within the same survey, depending on how the questions are

Table 4 Description of the inconsistencies in responses to the questions on contacts with physicians between the different sections[a]

	Respondents with contradictory responses		Types of inconsistencies in respondents with contradictory results		
				Percentage of[c]	
Country	n	Percentage***[b]	n	Yes in diagnostic sections No in use-of-care section	No in diagnostic sections Yes in use-of-care section
Belgium	677	23.6	185	68.4 (16.2)	31.6 (7.5)
France	1105	27.6	307	72.2 (20.0)	27.8 (7.7)
Germany	780	15.4	148	71.2 (11.0)	28.8 (4.4)
Italy	1026	17.0	243	86.3 (14.7)	13.7 (2.3)
Netherlands	748	22.6	183	72.6 (16.4)	27.4 (6.2)
Spain	1209	17.8	266	71.9 (12.8)	28.1 (5.0)
Overall	5545	20.1	1332	74.4 (15.0)	25.6 (5.2)

[a] All values were obtained after weighting.
[b] Potential differences in prevalence rates between countries were assessed using the chi square test.
[c] Figures in parentheses correspond to prevalence rates in our interviewee population, the size of which being given in the second column.
***$p < 0.001$.

Table 5 Socio-demographic factors associated with the likelihood of under-reporting contacts with physicians in the use-of-care section of the interview[a,b]

Characteristics	Odds ratio	95% Confidence interval
Gender		
Male	1.00	
Female	0.95	[0.72; 1.26]
Age		
18–34 years	1.00	
35–64 years	1.07	[0.74; 1.55]
≥65 years	1.61	[1.00; 2.63]*
Marital status		
Married, cohabiting with someone	1.00	
Separated, widowed, divorced	0.78	[0.56; 1.08]
Single	1.10	[0.78; 1.55]
Income level		
Low	1.21	[0.87; 1.67]
Average	1.00	
High	0.89	[0.61; 1.29]
Educational level		
Primary, secondary education	1.00	
Post-secondary education	0.75	[0.56; 1.02]
Country[c]		
Belgium	0.98	[0.74; 1.30]
France	1.20	[0.96; 1.51]
Germany	0.66	[0.50; 0.88]**
Italy	2.08	[1.65; 2.62]***
Netherlands	0.72	[0.57; 0.91]**
Spain	0.86	[0.70; 1.04]

[a] Multiple logistic regression adjusted for all clinical variables. All values were obtained after weighting.

[b] Participants having reported contacts with physicians in the diagnostic sections and not in the use-of-care section ($n=1097$) versus those having reported contacts with physicians in both sections ($n=2105$).

[c] Compared to the overall mean value.

*$p<0.05$;

**$p<0.01$;

***$p<0.001$.

structured. In particular, physician consultation is less reported in the use-of-care section of the interview compared with other sections dealing with diagnosis of mental disorders.

Several factors may contribute to this difference in reporting sensitivity. Firstly, many studies assessing the reproducibility of responses to questions on use of care have shown that the same question asked twice to a given individual may generate different responses, and that response stability may vary according to the type of questions asked (for example, sentence complexity, time frame, or proposed response modalities) (Fabricant and Harpham, 1993; Santelli *et al.*, 2002) and according to the type of services for which information is collected (Chung *et al.*, 2008; Dubois *et al.*, 2007). Moreover, several reports have highlighted the importance of question wording on the respondent's understanding of the question (Bhandari and Wagner, 2006; Del Boca and Noll, 2000; Schwarz, 1999), which is the case in the present study, where the questions asked in the use-of-care section and in the diagnostic sections of the interview are slightly different (Table 1). Secondly, and perhaps most importantly, in the use-of-care section of the interview, respondents were asked if they had already consulted a physician for any problem with their emotions or mental health. This implies that respondents identify and label mental health problems correctly (Jorm, 2000; Jorm *et al.*, 2006). In our study, the observation that respondents with mood problems have less difficulty reporting consultations in the use-of-care section, compared to respondents with eating disorders is consistent with this interpretation. In the same way, one would have expected that respondents with sleep problems or chronic pain would have more difficulty reporting their medical visits in the use-of-care section since these disorders are generally perceived as physical problems, although they are most often symptoms of a more mental condition. In addition, in the use-of-care section of the interview, respondents are implicitly expected to recognize that they have suffered from a mental health problem. Given the stigma which is attached to these problems, respondents may want to present themselves in a favourable fashion (Del Boca and Noll, 2000) and thus not admit that they have sought help. This is consistent with the fact that in Italy, where discrimination against the mentally ill has been shown to be marked (European Commission, 2006), under-reporting of service use is relatively more frequent. Finally, in the diagnostic sections, talking about symptoms from the outset may help respondents to identify these as mental problems and trigger recall of the care received. It is well known that the context in which questions are asked may have an impact on responses (Bhandari and Wagner, 2006; Del Boca and Noll, 2000; Schwarz, 1999).

Our survey has a number of limitations which should be taken into account when interpreting these results. Firstly, the questions asked regarding visits to physicians in the different sections were not formulated in exactly the same way (Table 1), which may bias to some extent the comparison, given the importance of questionnaire design on participants' responses (Bhandari and Wagner, 2006;

Table 6 Clinical factors associated with the likelihood of under-reporting contacts with physicians in the use-of-care section of the interview[a,b]

Characteristics	Odds ratio	95% Confidence interval
Mood disorders		
Yes	0.44	[0.33; 0.58]***
No	1.00	
Anxiety disorders		
Yes	0.99	[0.73; 1.33]
No	1.00	
Eating disorders		
Yes	1.37	[0.82; 2.27]
No	1.00	
Childhood disorders		
Yes	0.63	[0.33; 1.21]
No	1.00	
Use of sedative drugs		
Yes	0.44	[0.33; 0.59]***
No	1.00	
Chronic pain		
Yes	0.96	[0.74; 1.26]
No	1.00	
Number of years since the last symptoms		
0–5 years	1.00	
6–15 years	0.94	[0.66; 1.34]
>15 years	0.76	[0.45; 1.27]
Number of diagnostic sessions completed		
1	1.00	
≥2	0.90	[0.66; 1.24]

[a] Multiple logistic regression adjusted for all socio-demographic variables. All values were obtained after weighting.

[b] Participants having reported contacts with physicians in the diagnostic sections and not in the use-of-care section ($n=1097$) versus those having reported contacts with physicians in both sections ($n=2105$).

***$p<0.001$.

Del Boca and Noll, 2000; Fabricant and Harpham, 1993; Santelli *et al.*, 2002; Schwarz, 1999). Secondly, the 5545 participants evaluated in the second phase of the survey represent a subset of the Part 2 sample, since they were required to report sufficiently significant symptoms in order to be eligible for the diagnostic sections. Concerning the extent of this potential bias, our 5545 participants include 71.6% of all Part 2 respondents having reported any contact with a physician in the survey, the remaining 28.4% corresponding to individuals who reported contacts with physicians in the use-of-care section only as they were not asked any other question on use of services in the rest of the interview. Thirdly, our results only address visits to physicians and are thus not generalizable to all health care services. Indeed, many previous studies of the quality of survey data, in terms of stability (Chung *et al.*, 2008; Dubois *et al.*, 2007) or agreement with other data sources (Brown and Adams, 1992; Byford *et al.*, 2007; Mirandola *et al.*, 1999; Petrou *et al.*, 2002; Reijneveld and Stronks, 1999; Ritter *et al.*, 2001; Roberts *et al.*, 1996; Ungar *et al.*, 1998), have shown that the quality of the data obtained varies according to the type of services considered. Fourthly, use-of-care data collected in our survey was not validated by any comparison with outside sources of data. In this way, discussion of under-reporting and bias may be considered as inappropriate since it implicitly assumes that when people reported service use in any section, they had effectively received care for their problems. Finally, the participation rate was relatively low in one country (France).

Conclusion

Surveys are generally the only way to identify all care received by a given population for a given problem. For example, insurance claims or prescription databases do not provide information on services which are not covered by health insurance (for example, psychologists in Belgium, France and Italy), and medical records do not provide information on recourse to professionals outside the health care system such as human services. Both situations are particularly frequent when it comes to the care of mental problems (Kovess-Masfety *et al.*, 2007; Kovess-Masfety *et al.*, 2010; Sevilla-Dedieu *et al.*, 2010; Wang *et al.*, 2005). However, the issue of under-reporting in such surveys, which has been extensively documented in the literature, may be particularly relevant to the reporting of care of mental problems due to the large number and wide variety of mental health issues, which are not well known by the lay public. Our study reveals that collecting information on use of services for mental problems through a single question without previously reminding respondents about the different mental disorders or any of their symptoms, which is commonly done in mental health surveys in a section devoted to use of care, seems to underestimate contacts with professionals. Given the impact these estimates may have on the design of health policies, such a bias should be borne in mind when interpreting such data. This kind of consideration has led the WMH to generate a composite variable to measure use of care, bringing together information collected in all sections of the survey interview (i.e. diagnostic and use-of-care sections) (Wang *et al.*, 2007). However, for individuals who do not have enough symptoms to complete questions on use of care in at least one diagnostic section, the use-of-care section might be the only way to assess service use. Therefore, for future research, efforts should be made to improve reporting of use of services in the use-of-care section, for example by making more explicit what is meant by mental health problems, in particular for conditions less likely to be considered as mental problems, such as eating disorders or alcohol problems. In addition, questions on mental health, using at least a brief instrument such as the MH5 (Mental Health 5), even though this deals only with emotions, should be completed by all survey respondents before answering questions on use of care to give them a basic awareness of the range of mental health issues.

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Declaration of interest statement

The authors declare that they have no competing interests.

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