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Service utilisation for anxiety in an Australian community sample

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Abstract *Background* Anxiety is common. Symptoms that meet criteria for an anxiety disorder are also common, disabling and treatable, yet the majority of people who experience symptoms do not seek treatment. This study aimed to examine the rates and correlates of treatment seeking, and the perceived barriers to care among individuals experiencing symptoms of anxiety in the community. *Methods* The study identified persons who reported anxiety as their principal complaint from the Australian National Survey of Mental Health and Well-being (N = 10641). Multivariate logistic regression was used to examine clinical and sociodemographic correlates of service utilisation, effective intervention and perceived need for care. *Results* Rates of consultation, specialist consultation and perceived need for care were low. Disability, neuroticism and presence of mental disorders were stronger determinants of consultation and perceived need than sociodemographics. Panic disorder was the only anxiety disorder associated with consultation, specialist consultation and effective treatment. Consultation with a mental health specialist as opposed to another health professional was associated with effective treatment for anxiety. The most common reason for not consulting was “I preferred to manage myself”. *Conclusions* Although the more severely symptomatic and comorbid individuals seek treatment for anxiety, a significant number of disabled individuals do not consult. While treatment coverage for panic disorder was better than for the other anxiety disorders, coverage could be improved across all the anxiety disorders. Given the relationship between specialist consultation and effective treatment, it is important that general practitioners are able to treat persons with mild to mod-

erate anxiety competently and refer more disabled individuals to mental health specialists. The findings call for continued efforts to educate both health professionals and the public about the management of anxiety.

Key words Service utilisation – anxiety – anxiety disorders

Introduction

Symptoms of anxiety in the general population are common. Previous reports have focused only on persons whose symptoms meet criteria for an anxiety disorder. Sub-threshold and threshold anxiety disorders have not been reported together, despite the dimensional nature of diagnostic classification (Andrews 2000). Service use in particular is rarely examined among sub-threshold cases even within the context of an imperfect match between perceived need for care, diagnosis and service use (Meadows et al. 2000). The present study reports the rates and correlates of treatment seeking, effective intervention, perceived need for care and barriers to care amongst persons experiencing symptoms of anxiety in the Australian population.

Reports that have focused on symptoms that meet criteria for an anxiety disorder have determined that the prevalence of anxiety disorders in the community is high (Kessler et al. 1994; Jenkins et al. 1997; Andrews et al. 2001a). The costs of impairment are substantial both to the individual and to society (Leon et al. 1997; Mendlowicz and Stein 2000), and recovery is significantly aided if people receive appropriate care. Both cognitive behavioural treatment and medication have been shown to significantly improve outcome for anxiety disorders in the short and long term (Andrews et al. 1998; Nathan and Gorman 1998). Despite this, several national surveys have shown that the rates of consultation for anxiety disorders are less than 50% and rates of specialist mental health care are much lower (Magee et al. 1996; Bebbington et al. 2000a, b). The Australian Survey of Mental

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Health and Wellbeing (Andrews et al. 2001a) found that while consultation was generally higher amongst those with anxiety and depression than amongst other disorder groups (Parslow and Jorm 2000), almost 60 % of people with a current and principal diagnosis of an anxiety disorder did not see any health professional for mental health problems in the 12 months prior to interview (Andrews et al. 2001b). When the types of interventions received were considered in conjunction with access to care, both the Australian survey and the United Kingdom Household Survey found that few people with anxiety disorders receive interventions that have been shown to be effective (Andrews et al. 2001b; Bebbington et al. 2000b). Data from the Australian survey indicate that the situation for people with sub-threshold yet disabling symptoms is no better (Andrews et al. 2001b).

In countries like Australia and the United Kingdom with a national health insurance scheme the issue of access to care is assumed to be a function primarily of equity and proportionality (Bebbington et al. 2000a, b). That is, severity and disability are stronger determinants of consulting than socio-economic or demographic characteristics. The National Household Survey in the United Kingdom determined that severity of disorder was the major determinant of treatment seeking, despite the presence of sociodemographic influences. Andrews et al. (2001b) reported that despite low uptake, disability and comorbidity were major determinants of consulting in the general population. Studies on the determinants of consulting for anxiety disorders have found that disability (Thompson et al. 1988; Magee et al. 1996), severity of symptoms (Bebbington et al. 2000a), socio-demographic characteristics (Bebbington et al. 2000a; Thompson et al. 1988; Segee et al. 1999) and individual perception of need (Wittchen et al. 2000) are associated with consultation. The evidence also suggests that service use is not uniform across the anxiety disorders. In general, panic disorder and generalised anxiety disorder are associated with higher rates of service utilisation than agoraphobia and obsessive compulsive disorder (Klerman et al. 1991; Wittchen et al. 1994; Magee et al. 1996; Kessler et al. 1998; Karno and Golding 1991).

We have elsewhere argued that inter-country differences in health system organisation, responsiveness and funding do not explain the uniformly low consulting rates for mental disorders observed across countries (Andrews et al. 2001b). Examination of the personal attributes of those who consult as well as the perceived barriers to care among those who do not may help to explain why consulting is low and, in turn, guide public health efforts aimed at increasing the numbers of people who receive effective treatment (Wells et al. 1994). Given the burden of and the cost-effectiveness of treatment for anxiety, increasing treatment coverage is highly desirable.

The present analysis, therefore, aimed to determine the rates and correlates of consultation, potentially effective intervention, perceived need for care and perceived barriers to care among people experiencing

symptoms of anxiety in the community. Specifically, it aimed to model the relationship between sociodemographic characteristics, diagnosis, comorbidity, disability and use of services for anxiety, use of specialist services for anxiety, receipt of the two interventions shown to be effective for anxiety (cognitive behaviour therapy: CBT and medication; see Nathan and Gorman 1998; Mendlowicz and Stein 2000 for reviews) and perceived need for care among those who did not seek treatment. It was hypothesised that within the context of small numbers of people receiving effective care, like Bebbington et al. (2000a, b) the principles of equity and proportionality would apply. That is, the proportion of treated cases would be higher among those who actually met criteria for an anxiety disorder, than among sub-threshold cases and that, regardless of whether respondents actually met criteria for a disorder, disability and comorbidity would be stronger determinants of service use, perceived need and effective treatment than sociodemographic characteristics.

Subjects and methods

■ Survey design and sample

The Australian National Survey of Mental Health and Wellbeing was a nationwide household survey of adults conducted in 1997 to determine the prevalence of both ICD-10 and DSM-IV mental disorders in the community and to describe associated disability and service utilisation. The overall design and methodology of the survey has been described elsewhere (Andrews et al. 2001a). The sample consisted of 10641 persons over the age of 18, a response rate of 78.1 %. The sample was weighted to match the age and sex distribution of the Australian population and to account for probability of selection.

■ Measurement of diagnosis

The Composite International Diagnostic Interview (CIDI Version 2.1 WHO 1997) was used to determine the presence of DSM-IV and ICD-10 diagnoses of anxiety, affective and substance use disorders in the past 12 months and screening questionnaires were used for somatoform and personality disorders. Consistent with our earlier work on service utilisation among this sample, the present analysis reports DSM-IV diagnoses only (Andrews et al. 2001b). The sample includes all persons who answered 'yes' to the cardinal symptom questions for any of the anxiety disorders. Some of these respondents met criteria for an anxiety disorder and some for other mental disorders but all endorsed at least one anxiety disorder criterion. All respondents in the survey who reported symptoms of a mental disorder were asked about consulting a health professional for mental health problems. They were not asked for which problem they had consulted. If respondents had experienced symptoms of more than one disorder during the year, it was not possible to determine directly which consultations were for which symptoms. Therefore, in order to focus on service use for anxiety, the sample was restricted to respondents who reported symptoms of anxiety as either their only or their principal complaint. Survey respondents who reported symptoms of more than one disorder were asked to nominate their most clinically significant symptom, or the problem that "troubled them the most". Thus, of the 2953 respondents who endorsed at least one anxiety disorder criterion, 2005 reported anxiety as their only or principal complaint, and they are the focus of the present analysis.

■ Measurement of disability and neuroticism

Disability was measured using the Medical Outcomes Study Short Form 12 (SF-12; Ware et al. 1996), a measure of disablement or health status. It has two regression-weighted scales, a mental health and a physical health summary scale, both scored such that the mean is 50 and the standard deviation is 10. Higher scores indicate less disability. Neuroticism was measured using a 12-item neuroticism scale (Eysenck et al. 1985) where higher scores indicate higher neuroticism.

■ Measurement of service utilisation

Respondents were asked about service utilisation in the 12 months prior to interview (Carter 1998), with a focus on the type of professional consulted and whether the consultation was for “mental problems such as stress, anxiety, depression or dependence on drugs or alcohol”. Respondents who reported service use for mental health problems were also asked about the interventions they received for these problems, and in particular for their principal complaint. Three variables were of interest for this analysis. The first was the number of people who saw any health professional for mental health problems in the 12 months prior to interview (consultors). The second was the number of people who saw a mental health professional (defined as a psychiatrist, psychologist or mental health team) for mental health problems in the same period (specialist consultors), and the third was the number of people who reported receiving an intervention known to be effective, for their principal complaint – in this case for anxiety – and defined as cognitive behavioural therapy (CBT) or medication. CBT was described to respondents as “learning how to change your thoughts, behaviours, and emotions”. Medication was described as “medicines or tablets”. It was not possible to determine which medications had been prescribed or whether they had been prescribed at optimal doses. Moreover, it was not possible to determine for any intervention whether the respondent had adequately completed a course of treatment. For this reason the term ‘effective intervention’ in this report refers to interventions that have the potential to be effective but for which the true ‘effectiveness’ is not known. It will, therefore, be an overestimate.

■ Measurement of perceived need for care

The Perceived Need for Care Questionnaire (PNCQ; Meadows et al. 2000b) was used to measure perceived need for care among all respondents who reported symptoms of at least one mental disorder. Of particular interest to this analysis was the presence of perceived need for care and perceived barriers to care among respondents who did not seek any treatment for anxiety. Thus, the analysis focused only on the presence of perceived need and the reasons for not seeking help for this particular group. It did not include the full set of questions from the PNCQ that were posed to other respondents.

■ Sociodemographic information

Respondents’ age, sex, marital and employment status, highest level of education attained, country of birth, language used at home, household composition and whether the residence was located in a metropolitan or rural region were collected as part of the survey.

■ Analysis

Four multivariate logistic regression analyses were conducted with the service use and perceived need variables as dependent variables: 1. Any mental health consultation in the whole sample; 2. Any mental health consultation with a mental health specialist among consultors; 3. Any evidence-based intervention received among consultors; 4. Any perceived need for care among non-consultors (Fig. 1). All models were screened for adequacy of expected frequencies and for the presence of multicollinearity (Tabachnick and Fidell 1996). For all analy-

ses, a process of backward elimination was used to remove variables that did not significantly contribute to model fit (Wald χ^2 , $p < 0.05$). Odds ratios (OR) presented are, therefore, from final models where non-significant variables have been removed. Standard errors around proportions and confidence intervals around ORs were calculated using jackknife repeated replication (Kish and Frankel 1974) to account for the complex sampling design. The SUDAAN software package, designed specifically for use with complex survey samples was used for all analyses (Shah et al. 1997). All analyses were conducted using the November 1999 version of the Confidentialised Unit Record File, supplied by the Australian Bureau of Statistics (ABS 1998).

Results

■ Description of sample (N = 2005)

Over half the sample were women (59.8%; SE = 1.1). The mean age was 41.4 (SE = 0.3) with more than a third of the sample aged 35–54 years (42.2%). Just under a quarter of the sample had never been married (23.2%; SE = 1.1) and 13.2% (SE = 0.9) had been separated, widowed or divorced. Around half had completed a qualification other than secondary school (54%; SE = 1.5) and over a third were unemployed (36.7%; SE = 1.1) at the time of the survey.

■ Rates of service utilisation

Rates of service utilisation in the whole sample are reported in Table 1 and illustrated for the groups of interest in Fig. 1. One-fifth (21.3%) of respondents with a principal complaint of anxiety reported at least one consultation with a health professional for a mental problem in the 12 months prior to interview, of whom just under a third saw a mental health specialist (6.5%). Just over half (52%) of those who consulted (or 11% of the whole sample) reported receiving either medication or CBT, interventions known to be effective for anxiety disorders (if the drug type, dosage and/or course of treatment were appropriate). Rates of service use, specialist service use and ‘effective intervention’ were higher among those who met criteria for an anxiety disorder than among sub-threshold cases. However, of the 79% of respondents in the sample who did not seek treatment, 20.1% (SE = 1.7) reported either significant disability (less than 40 on the mental health scale of the SF-12, Ware et al. 1996), at least one comorbid disorder, or both. Among this disabled and/or comorbid group, the rate of consultation with any health professional was 43.4% (SE = 3.4).

The correlates of consultation and ‘effective intervention’ among respondents with anxiety as their principal complaint are presented in Table 2. All chi-square statistics and ORs quoted are from final multivariate models. Sex, education, employment status, ethnicity, urban vs rural location and the presence of a physical disorder were not significant in any tested models and are, therefore, not presented in the tables.

Fig. 1 Consultation for mental health problems, receipt of effective intervention and perceived need for care amongst persons with anxiety as their principal complaint.

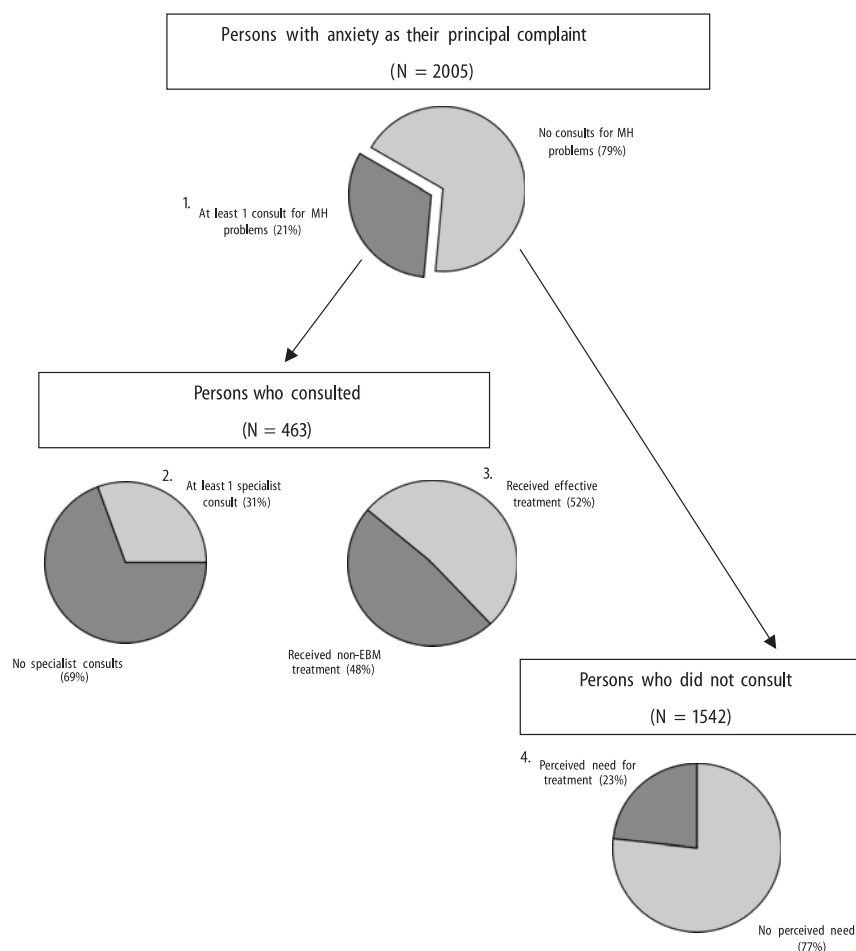


Table 1 Consultation for mental health problems among respondents with anxiety as their principal complaint (N = 2005)

	Anxiety as principal complaint		
	Any sub-threshold anxiety disorder N = 1468 % (se)	Any anxiety disorder N = 537 % (se)	Any sub-threshold or threshold anxiety disorder N = 2005 % (se)
Type of health professional			
General practitioner only ¹	7.3 (0.9)	10.8 (1.8)	8.2 (0.8)
Mental health professional ²	3.0 (0.7)	16.6 (2.1)	6.5 (1.0)
Other health professional ³	4.1 (0.8)	13.6 (1.6)	6.5 (0.7)
Any health professional	14.4 (1.2)	41.0 (2.2)	21.3 (1.1)
Type of intervention⁴			
Information about illness and treatment	10.7 (2.5)	30.5 (4.4)	20.5 (2.0)
Medicine or tablets	36.9 (3.1)	50.5 (4.5)	43.7 (2.6)
Psychotherapy	9.5 (3.0)	17.5 (4.1)	13.5 (3.0)
Cognitive behavioural therapy	7.9 (2.4)	23.5 (2.5)	15.6 (1.8)
Non-specific counselling	48.1 (4.5)	49.8 (4.1)	48.9 (3.1)
Social support	11.2 (3.2)	18.1 (2.4)	14.7 (1.9)
Disability and comorbidity			
SF-12 mental health scale (mean)	49.9 (0.3)	42.1 (0.7)	47.9 (0.3)
Proportion with any other DSM-IV disorder ⁵	13.4 (1.7)	45.0 (2.9)	21.6 (1.2)

¹ Respondent saw a general practitioner but did not see any other health professional for mental health problems

² Respondent saw a psychiatrist, psychologist, or mental health team for mental health problems and may or may not have seen another health professional

³ Respondents saw a welfare worker or other counselor or a non-psychiatric medical specialist for mental health problems but did not see a mental health specialist

⁴ Percentages are calculated as a proportion of those who consulted in each group

⁵ Represents the proportion of respondents in each group who have any DSM-IV disorder, other than an anxiety disorder

Table 2 Correlates of consultation and receipt of effective intervention among respondents with symptoms of anxiety as their principal complaint

	1. At least 1 consult for MH problems		2. At least 1 consult with MH specialist		3. Receipt of effective treatment	
	OR ¹	(95% CI)	OR ¹	(95% CI)	OR ¹	(95% CI)
Sociodemographics						
Age						
18–24	1.00	–	–	–	–	–
25–34	2.08	0.82–5.29	–	–	–	–
35–44	2.47	0.63–9.67	–	–	–	–
45–54	2.45*	1.04–5.78	–	–	–	–
55–64	1.75	0.32–9.46	–	–	–	–
> 64	1.19	0.33–4.29	–	–	–	–
χ^2 (p)	12.57	0.028	–	–	–	–
Material status						
Married/de facto	1.00	–	1.00	–	–	–
Separated/divorced/widowed	1.72*	1.23–2.41	0.74	0.41–1.34	–	–
Never married	1.33	0.84–2.11	2.42*	1.07–5.48	–	–
χ^2 (p)	12.26	0.002	9.09	0.011	–	–
Disability						
SF-12						
Mental Health Scale	0.63**	0.55–0.73	–	–	–	–
χ^2 (p)	40.31	< 0.001	–	–	–	–
Physical Health Scale	–	–	0.81*	0.67–0.97	–	–
χ^2 (p)	–	–	5.48	0.019	–	–
Neuroticism						
EPQ-N score	1.31*	1.12–1.54	–	–	–	–
χ^2 (p)	11.86	0.001	–	–	–	–
Mental disorders						
Any anxiety disorder	2.10**	1.55–2.86	1.99*	1.08–3.67	2.11*	1.35–3.31
χ^2 (p)	–	–	–	–	–	–
Type of anxiety disorder						
Panic disorder	6.41**	2.88–14.26	3.81*	1.29–11.30	3.09*	1.17–8.15
Agoraphobia ²	2.20	0.57–8.46	–	–	0.83	0.06–11.71
Social phobia	2.79*	1.34–5.83	1.44	0.63–3.31	1.63	0.95–2.82
Generalised anxiety disorder	2.04*	1.03–4.07	1.28	0.61–2.70	1.53	0.78–3.00
Obsessive compulsive disorder	0.80	0.30–2.18	3.47	0.39–31.02	0.88	0.22–3.45
Post traumatic stress disorder	3.86*	1.72–8.67	0.89	0.29–2.71	2.66	0.87–8.13
Number of disorders ³						
No disorders	1.00	–	1.00	–	1.00	–
1 disorder	1.77*	1.06–2.93	2.54*	1.09–5.94	1.16	0.63–2.14
2 disorders	2.69*	1.49–4.87	1.68	0.64–4.42	1.38	0.68–2.82
3 or more disorders	4.28**	2.18–8.40	5.13**	1.83–14.34	2.14*	1.06–4.33
χ^2 (p)	21.23	< 0.001	12.67	0.005	5.13	0.162
Provider type						
Type of professional seen						
GP only	–	–	–	–	1.39	0.79–2.47
Mental health specialist	–	–	–	–	2.28*	1.17–4.43
Other health professional	–	–	–	–	1.00	–
χ^2 (p)	–	–	–	–	6.75	0.034

¹ The ORs presented are from final models where non-significant variables have been removed

² Agoraphobia was not included in the analysis of specialist consultation due to small cell sizes

³ Includes number of anxiety, affective, personality, substance use disorders and neurasthenia

* $p < 0.05$

** $p < 0.001$

■ Consultation with any health professional

Sociodemographics

Age and marital status were the only demographic variables that remained in the final model. Respondents who were widowed, separated or divorced were 1.7 times more likely to consult than those who were in a married or de facto relationship. Age showed a moderate rela-

tionship with consultation with respondents aged 45–54 reporting significantly higher rates (OR 2.45). While sex did not remain in the final model, it did approach significance ($p = 0.057$). When examined more closely, rates of consultation were significantly higher among females than males for respondents with sub-threshold symptoms (15.4% vs 8.7%; $\chi^2 = 6.2$, $p = 0.019$), but were similar among females and males for respondents with a mental disorder (39.7% vs 31.9%; $\chi^2 = 2.1$, $p = 0.157$). Ad-

ditionally, when consultation was examined by anxiety disorder type, it was found that rates were similar for males and females for most disorders.

Disability and neuroticism

Disability on the mental health scale of the SF-12 made the strongest contribution to the model ($\chi^2 = 40.31$, $p < 0.001$), with respondents who were more disabled more likely to report consultation (OR 0.63 – higher scores on the SF-12 indicate *less* disability). Neuroticism was also a significant correlate with higher neuroticism significantly associated with service use (OR 1.31).

Mental disorders

The presence of an anxiety disorder was significantly associated with service use among this group (OR 2.10). When the relationship between individual anxiety disorders and service use was examined, panic disorder, social phobia, GAD and PTSD were all significant correlates of consultation (ORs 2.04–6.71), with the strongest relationship among respondents with panic disorder (OR 6.71). Corresponding rates of consultation were 68% (SE = 7.3) among respondents with panic disorder, 61.6% (SE = 6.1) for social phobia, GAD, 58.9% (SE = 4.6) and PTSD, 65.4% (SE = 5.8), in contrast to lower rates among those with agoraphobia (42.1%, SE = 11.1) and OCD (41.7%, SE = 12.2). Comorbidity was significantly associated with consultation, with ORs increasing for respondents with one, two, or three or more disorders (ORs 1.77, 2.69, 4.28).

■ Consultation with a mental health specialist

Sociodemographics

Marital status was the only sociodemographic variable that remained in the final model, with those in the never-married category more likely to report specialist consultation than respondents who were in a married or de facto relationship (OR 2.42).

Disability and neuroticism

The physical health scale of the SF-12 but not the mental health scale remained in the final model of specialist consultation, with higher disability associated with consultation (OR 0.81). The group as a whole had a mean of 47.02 (SE = 1.31) on the physical health scale which is in the mild range, compared with a mean of 41.00 (SE = 0.88) on the mental health scale which is almost one standard deviation below the normal population mean. The difference in means on the physical health scale of the SF-12 between those who consulted a specialist and those who did not was very small (45.3, SE = 1.88 vs 47.8, SE = 1.07), despite the statistically significant contribution of this variable to the regression model. Neuroticism was not a significant correlate.

Mental disorders

The presence of any anxiety disorder was significantly associated with mental health specialist use among this group (OR 1.99). When individual anxiety disorders were examined the only anxiety disorder that made a significant contribution to the model was panic disorder (OR 3.81). The specialist consultation rate among those with panic disorder was 38.4% (SE = 11.2) which represented just over half (56.5%) of all those with panic disorder who had consulted a health professional. Although OCD failed to reach significance in the model (OR 3.47; CI 0.39–31.02), around two-thirds of those with OCD who consulted any health professional saw a mental health specialist (60.7%, SE = 15.0). This is despite the fact that rates of consultation with any health professional were lower among persons with OCD than for the other anxiety disorders (41.7%, see Consultation with any health professional). Among the other anxiety disorders, rates of specialist consultation ranged from 20.3% (SE = 10.2) among respondents with agoraphobia to 27.5% (SE = 6.4) among those with social phobia and all were lower than for panic disorder. Comorbidity was significantly associated with specialist consultation, with the largest ORs observed for those with three or more disorders (OR 5.13).

■ Receipt of 'effective intervention'

Sociodemographics

None of the tested sociodemographic variables were significantly associated with receipt of 'effective intervention' among consultors.

Disability and neuroticism

Neither disability on the SF-12 nor neuroticism scores were significant correlates of 'effective intervention'.

Mental disorders

The presence of an anxiety disorder was significantly associated with receiving 'effective intervention' (OR 2.11) and one in four respondents in the sample who met criteria for an anxiety disorder reported receiving an 'effective intervention' (25%, SE = 1.9). When specific anxiety disorders were examined, persons with panic disorder were significantly more likely to report receiving an 'effective intervention' (OR 3.09). Almost three-quarters of those with panic disorder who consulted reported receiving 'effective treatment' (76.3%, SE = 8.0), which represents just over half of all those with panic disorder (51.8%), and is considerably higher than the proportion of consultors in the whole sample who had received an 'effective intervention' (31%, Fig. 1). Around a third to a half of all respondents with PTSD (46.2%, SE = 6.3), social phobia (39.4%, SE = 6.4), or GAD

(37.1 %, SE = 5.6) reported receiving ‘effective treatment’ compared with a quarter of those with OCD (25.4 %, SE = 11.6) and a fifth of those with agoraphobia (20 %, SE = 12.5). Comorbidity was not a significant correlate once provider type was entered into the model, presumably because of the strong relationship between comorbidity and specialist consultation observed in model 2.

Provider type

The type of health professional seen was a significant correlate of intervention type, with respondents who had seen a mental health specialist more likely to report having received an ‘effective intervention’ (OR 2.14), controlling for the presence of mental disorders.

■ Perceived need for care

When non-consultors were considered separately, the majority (77 %) perceived no need for treatment. Although perceived need was higher among those who met criteria for an anxiety disorder, less than half perceived a need for treatment (44 %). Similarly, when analysis was restricted to those individuals who reported significant disability (less than 40 on the mental health scale of the SF-12), at least one comorbid disorder, or both, less than half perceived a need for treatment (44.5 %, SE = 4.8). Of those who did report a need for treatment, 58.5 % reported a need for counselling (non-specific counselling or CBT) and 15.2 % for medication (Table 3). When respondents who perceived a need for treatment were asked why they did not seek it, over half (54.9 %) replied that they preferred to manage

themselves. In total, 72.7 % of non-consultors endorsed an attitudinal reason for not seeking treatment (“I preferred to manage myself”, “I didn’t think anything could help”, “I was afraid to ask for help”) compared with 36.8 % who endorsed reasons such as “I couldn’t afford the money”, or “I asked but didn’t get the help”, which might be considered more structural barriers to care (respondents could endorse more than one reason for not consulting).

The correlates of any perceived need for care among those who did not seek treatment (N = 1538) are presented in Table 4.

Sociodemographics

None of the tested sociodemographic variables were significantly associated with perceived need for care.

Disability and neuroticism

Respondents who were more disabled on the mental health scale of the SF-12 were significantly more likely to report a perceived need for care (OR 0.69), as were respondents with higher scores on the neuroticism scale (OR 1.31).

Mental disorders

The presence of any anxiety disorder was significantly associated with a perceived need for care (OR 2.12). Respondents with a diagnosis of social phobia were significantly more likely to report a need for treatment than those without (OR 3.52). The number of disorders was also a significant correlate of perceived need with ORs

Table 3 Perceived need for treatment and reasons for not consulting among respondents with anxiety as their principal complaint who did not consult (N = 1542)

	Anxiety as principal complaint		
	Any sub-threshold anxiety disorder N = 1241 % (se)	Any anxiety disorder N = 301 % (se)	Any sub-threshold or threshold anxiety disorder N = 1542 % (se)
Any perceived need	18.4 (1.5)	44.0 (4.2)	23.4 (1.7)
Type of intervention ¹			
Medicine or tablets	12.3 (3.0)	20.1 (3.7)	15.2 (2.6)
CBT or non-specific counselling ²	53.6 (3.4)	66.9 (5.1)	58.5 (3.1)
Information about illness and treatment	24.0 (4.2)	42.4 (5.2)	30.7 (2.8)
Social support	42.4 (4.7)	31.2 (3.8)	38.3 (3.2)
Reason for not seeking help ¹			
I preferred to manage myself	52.8 (6.1)	58.4 (6.2)	54.9 (5.4)
I didn’t think anything could help	11.4 (5.9)	13.8 (3.1)	12.2 (3.6)
I did not know where to get help	12.8 (2.9)	15.8 (4.0)	13.9 (2.3)
I was afraid to ask for help, or of what others would think of me	5.2 (2.1)	19.5 (3.8)	10.4 (1.8)
I couldn’t afford the money	9.9 (2.5)	–	7.8 (2.2)
I asked but didn’t get the help	–	–	3.7 (1.0)
I got help from another source	15.7 (3.2)	9.8 (3.3)	13.5 (2.4)

¹ Percentages are calculated for non-consultors who perceived a need for treatment

² Includes CBT as well as general counselling and psychotherapy

Note: respondents could nominate more than one type of intervention and more than one reason for not consulting

Table 4 Correlates of perceived need for care for persons with symptoms of anxiety as their only or main problem who did not consult

	Perceived need for treatment	
	OR ¹	(95 % CI)
Disability and neuroticism		
Neuroticism		
EPQ-N score	1.31**	1.12–1.54
χ^2_1 (p)	12.21	< 0.001
Disability		
SF-12 Mental Health Scale	0.69**	0.59–0.80
χ^2_1 (p)	26.57	< 0.001
Mental disorders		
Any anxiety disorder	2.12**	1.54–2.92
χ^2_1 (p)		
Type of anxiety disorder		
Panic disorder	1.61	0.35–7.35
Agoraphobia	1.41	0.17–11.94
Social phobia	3.59*	1.44–8.93
Generalised anxiety disorder	3.17	0.91–11.02
Obsessive compulsive disorder	3.56	0.60–21.16
Post traumatic stress disorder	2.11	0.82–5.41
Number of disorders ²		
No disorders	1.00	–
1 disorder	2.18**	1.56–3.05
2 disorders	2.53*	1.29–4.98
3 or more disorders	3.82*	1.56–9.34
χ^2_3 (p)	35.85	< 0.001

* $p < 0.05$; ** $p < 0.001$

¹ The ORs presented are from final models where non-significant variables have been removed

² Includes number of anxiety, affective, personality, substance use disorders and neurasthenia

for one, two and three disorders 2.18, 2.53 and 3.82, respectively.

Discussion

Among persons experiencing symptoms of anxiety in the community, rates of service use for mental health problems, especially mental health specialist consultation, are low. Perceived need for care among those who do not seek treatment is also low. Within this context, however, disability, neuroticism and the presence of an anxiety disorder are stronger determinants of consultation and perceived need for care than the sociodemographic characteristics examined in this analysis. Service use was not uniform across the anxiety disorders with panic disorder the strongest correlate of consultation with any health professional, consultation with a mental health professional and receipt of CBT or medication. Consultation with a mental health specialist as opposed to another health professional was one of the few variables associated with receipt of effective treatment for anxiety.

In line with the first hypothesis, the principle of proportionality appears to operate within the Australian system of care for people experiencing symptoms of anxiety in the community. A greater proportion of people who meet criteria for an anxiety disorder seek treat-

ment than those who do not meet criteria, that is those with fewer anxiety symptoms. One in seven people who report symptoms of anxiety as their principal complaint, but who do not meet criteria for an anxiety disorder, seek treatment with a health professional, one in 33 with a mental health professional. We have elsewhere observed that across mental disorders in general there are low rates of service use for mental health problems among those who do not meet criteria for a mental disorder (Andrews et al. 2001b). Andrews et al. (2001b) reported that 10.6% (SE = 0.9) of those with any sub-threshold mental disorder had sought treatment for it in the 12 months prior to interview, a figure not dissimilar to that reported here. Given the strong relationship observed between disability and service use in the present analysis, those who seek treatment probably represent the more disabled of the sub-threshold cases. As such the present study provides some evidence that the majority of individuals with sub-threshold anxiety disorders probably make reasonably appropriate choices about whether or not to consult.

The second stated hypothesis relates to the correlates of treatment seeking and effective intervention – is there equity in access to service and treatment for persons experiencing symptoms of anxiety? The strongest correlate of consultation with any health professional for mental health problems was mental health related disability. It made a stronger contribution to the model than diagnosis, comorbidity, neuroticism and sociodemographic characteristics of respondents. The strongest correlate of consultation with a specialist among those who sought treatment was the presence of an anxiety disorder, or meeting criteria for more than one disorder. Other data on service use among the anxiety disorders have shown similar results, despite differences in systems of health care (Magee et al. 1996) and different definitions of severity (Bebbington et al. 2000a). Taken together the results from this and other studies indicate that consultation for anxiety is largely a function of the severity of symptoms and their associated disability.

However, unlike previous studies, demographics, particularly age and sex, are not strong determinants of consulting among this group. Marital status was the only factor that was significantly related to health care utilisation in more than one model, with probability of consulting higher among the previously married and among the never married, a result that has been observed elsewhere (Wells et al. 1994; Bebbington et al. 2000a; Andrews et al. 2001b). Bebbington et al. (2000a) have postulated that the higher rates of consulting found among those who are not in a married or de facto relationship may in fact be appropriate given that social isolation may be taken to indicate higher levels of need. However, the fact that this finding persists even after controlling for disability and comorbidity could also indicate that those in a married or de facto relationship are less likely to seek treatment, even when their symptoms are disabling.

In the present study, rates of service use were in fact

higher among women than men (24% vs 18%); however, after controlling for diagnosis and disorder, sex just failed to reach significance. Similarly, rates of service use were higher among those aged 35–54 but in final models, this too played only a minor role. When the effect of sex was examined more closely, it was observed that the differences in service utilisation were mainly present among the sub-threshold cases where women reported higher rates of consultation. Data on service use for mental disorders from the US Epidemiologic Catchment Area Study (Howard et al. 1996), the US National Comorbidity and Ontario Health Surveys (Katz et al. 1997), the UK Household Survey (Bebbington et al. 2000a) and the Australian National Mental Health Survey (Andrews et al. 2001b) have shown that females are significantly more likely to consult, controlling for all other factors. However, with the exception of the Bebbington et al. paper, the above analyses did not look at sex differences for specific disorder groups. Thompson et al. (1988) reported service utilisation rates from the ECA study for persons with and without phobia and found that sex was not a significant correlate of consulting, once other factors were controlled for. Leon et al. (1995) also reporting ECA data found similar rates of service use for males and females with panic disorder or obsessive compulsive disorder. In the present study, all respondents with symptoms of more than one disorder had nominated anxiety as their most clinically significant problem. It is possible that the men in this sample had a lower threshold for seeking treatment because they recognised anxiety as something that troubled them. Within this context it is worth noting that the data do not suggest that consultation rates are high among either men or women, merely that they are equally low among both groups.

Among those who sought treatment, the presence of an anxiety disorder, in particular panic disorder, was associated with receipt of CBT or medication. However, the type of professional seen also made a strong contribution to the model. Mental health professionals, but not general practitioners, were more likely to deliver 'effective treatments' to persons presenting for treatment for anxiety. In other words, professionals who were trained to deliver effective interventions for mental health problems did so regardless of whether or not the individuals presenting actually met criteria for a diagnosis. The need to educate health professionals, in particular general practitioners, about recognition and treatment of mental disorders has been the subject of much discussion in the literature (Goldberg et al. 1980; Andrews and Hunt 1999). Recent discussions in Australia have also focused on the lack of incentives for general practitioners to provide longer consultations (required to deliver interventions such as CBT) under current funding arrangements, as well as the inability of clinical psychologists to provide services to patients 'free of charge' under the Australian National Health Insurance Scheme. The findings of this study confirm the need for appropriate recognition and treatment of anxiety by primary care practitioners, as well as for appropriate refer-

ral of more disabled or comorbid individuals to the specialty sector. It is likely that such improvements will require both budgetary and educational initiatives.

Service utilisation for mental health problems was not uniform across the anxiety disorders. Odds ratios for consultation were highest for panic disorder, lower for GAD, PTSD and social phobia and non-significant for OCD and agoraphobia. Panic disorder was the only individual anxiety disorder that was associated with treatment seeking, mental health specialist consultation and effective intervention. High rates of consultation among individuals with panic disorder have been observed in previous studies (Klerman et al. 1991; Kessler et al. 1998). The lifetime probability of consulting for panic disorder has previously been reported as around 70%, as opposed to just over 30% for individuals with phobia (Kessler et al. 1998). In this study, people with panic disorder were not only more likely to seek treatment but were also more likely to get to specialist care and to receive effective intervention. There is a continued need to address help seeking among individuals with the less commonly recognised, but equally treatable anxiety disorders.

In summary then, what are the implications of these data for delivery of effective care to individuals with anxiety? Eighty per cent of respondents who nominated anxiety as their principal complaint did not seek treatment for it from any health professional. We have argued that, in general, as severity, disability and comorbidity were the strongest determinants of consulting, many individuals with anxiety probably consult appropriately. As such, many of those who do not do so would probably benefit from self-help material, support groups and other low-cost interventions (Gould and Clum 1993; Finch et al. 2000). Indeed, some of these respondents may be remitted cases and, as such, their need for treatment would be considerably lower (Meadows et al. 2000a). However, one in four non-consultors reported either moderate or severe disability, comorbidity or both. These individuals should probably be the target of health services. Only 44% of these disabled individuals perceived a need for treatment and when asked why they did not seek it, the most common response was "I preferred to manage myself". The UK Household Survey reported a similar response (Meltzer et al. 2000). Data from New Zealand and from the US also confirm that a preference to manage one's own mental health problems without professional help is common (Wells et al. 1994). Wells et al. (1994) distinguished between barriers to care that they considered to be objective structural factors, such as cost and convenience of services, and those related to an individual's beliefs about the appropriateness and effectiveness of treatment. Wells et al. (1994) concluded that attitudinal barriers are often more important than structural barriers to seeking help. The results of the present study lend support to this argument. Almost three-quarters of those who perceived a need for treatment but did not seek it endorsed an attitudinal rather than a structural barrier to care. In the present

study, only a small proportion of those who did not seek treatment perceived a need for medication or tablets (15.2%) yet among those who did seek treatment, almost half reported receiving medication (43.7%). This discrepancy between beliefs about the helpfulness of an intervention and how frequently that intervention is actually used was recently explored in some detail by Jorm et al. (2000), the authors concluding that interventions preferred by professionals are not frequently used by the public. The need for increased mental health literacy in the general public is an issue that has received considerable attention in the literature (Jorm 2000). Given the cost-effectiveness of treatment for anxiety disorders, there is clearly a need for continued public education about recognition and management of anxiety.

■ Limitations

For this study, reports of services used, interventions received and perceived need for care were based on retrospective self-report only. No corroborative information on health care utilisation for this sample was available. Within this context the most substantial threat to the validity probably relates to respondents' reports of interventions received. In this study CBT was defined as "learning how to change your thoughts, behaviours and emotions". Non-specific counselling was defined as "help to talk through your problems". If one assumes that respondents could not differentiate between these interventions, including non-specific counselling in the effective intervention category raises the proportion of people receiving it from 11 to 16% for the whole sample, and from 25 to 31% for those who meet criteria for an anxiety disorder. The difference is not substantial, presumably because many people who reported receiving CBT also reported receiving non-specific counselling. As such it is unlikely that incorrect reporting of interventions received substantially influenced the results. Instead, given that it was not possible to examine whether 'effective intervention' as reported by respondents had been optimally prescribed or delivered, the true rates of receipt of effective intervention may in fact be lower. Diagnostic and disability information was also based on self-report of symptoms and functioning. However, both the SF-12 (Ware et al. 1996) and the CIDI (Andrews and Peters 1998) have been shown to have good reliability and validity and as such do not represent a substantial threat to the validity of these data.

Conclusions

Consultation for mental health problems among people experiencing symptoms of anxiety in the community appears to be primarily a function of severity and disability, with relatively small contributions from other factors. Despite this, there are still significant numbers of disabled and symptomatic individuals who do not

seek treatment for their anxiety. Moreover, panic disorder is the only disorder significantly associated with specialist consultation and with self-reported interventions likely to be effective. Persons experiencing symptoms of other anxiety disorders, in particular agoraphobia and OCD, should be the focus of efforts to improve treatment coverage for anxiety. Although it is the more symptomatic and disabled individuals who seek treatment from the specialty sector, consultation rates with specialists are still low, particularly in the light of the relationship between mental health specialist consultation and effective treatment. It is particularly important that general practitioners are able to treat persons experiencing mild to moderate anxiety effectively and refer more disabled individuals or those with comorbid disorders to mental health specialists, a task that requires both educational and budgetary initiatives. This study confirms the importance of attitudinal as opposed to structural barriers to help seeking and calls for continued efforts to educate the public about the management of anxiety.

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