

The epidemiology of generalized anxiety disorder in Europe[☆]

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Abstract

The objective of this paper is to provide a review on available data to date on the epidemiology of GAD in Europe, and to highlight areas for future research. MEDLINE searches were performed and supplemented by consultations with experts across Europe to identify non-published reports. Despite variations in the design of studies, available data suggest that (a) about 2% of the adult population in the community is affected (12-month prevalence), (b) GAD is one of the most frequent (up to 10%) of all mental disorders seen in primary care, (c) GAD is a highly impairing condition often comorbid with other mental disorders, (d) GAD patients are high utilizers of healthcare resources, and (e) despite the high prevalence of GAD in primary care, its recognition in general practice is relatively low. Marked data deficits are: lack of data from eastern European countries, lack of information about the natural course of GAD in unselected samples, the vulnerability and risk factors involved in the aetiology of GAD and lack of data about adequate and inappropriate treatments in GAD patients as well as the associated and societal costs of GAD.

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1. Introduction

Generalized Anxiety Disorder (GAD) is usually described as a “severe” and “chronic” anxiety disorder, which is treatable. Prior to 1980, when the diagnosis of GAD was first conceptualized in the DSM-III (APA, 1980), patients with GAD-like symptomatology were usually grouped along with patients with panic disorder-like manifestations under the diagnostic term “anxiety neurosis” — a diagnosis that is still more familiar to many clinicians than GAD in Europe. Since the inclusion of GAD in DSM-III, this

diagnosis has received considerable fundamental and clinical research interest (see e.g. Heimberg et al., 2004) and has also been studied in various epidemiological investigations in Europe. Furthermore, several psychological and pharmacological treatments for GAD have been developed and tested in clinical trials (see for review Huppert and Sanderson, 2002; Sussman and Stein, 2002) and a number of drugs have been approved for treatment of GAD (Ballenger et al., 2001).

Research progress, however, has been somewhat impeded by the changing diagnostic criteria for GAD over the past several decades. Specifically, diagnostic criteria of GAD have been changed substantially since 1980 in the subsequent DSM revisions, and even the current DSM-IV and the ICD-10 criteria for GAD differ considerably. These differences have had profound impact on findings from epidemiological studies, as will be discussed below. Changes to the content of the diagnostic criteria have occurred in the majority of domains, including: (i) the duration criterion for core symptoms have shifted from an initial 1-month (DSM-III, 1980) to a

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stricter 6-month criterion in DSM-III-R and DSM-IV (APA, 1994), (ii) the definition of anxious worrying as a core criterion is increasingly strict, and (iii) the type and number of associated GAD symptoms was considerably revised in DSM-IV (i.e., instead of a long list of predominant anxiety symptoms, there are now only a few symptoms mostly describing symptoms of hypervigilance, hyperarousal, and tension; symptoms reflecting autonomic hyperactivity were deleted). It should be noted, however, that this change was not made in the ICD-10, which continues to use a much broader spectrum of symptoms. The diagnostic hierarchy exclusion criteria used in DSM offer another source of potential confusion. These rules require that, when another Axis I disorder is present, the diagnosis of GAD should be made only when the focus of the anxiety is unrelated to the other disorder. In addition, GAD symptoms may not be due to the direct physiological effects of a substance or general medical condition, and they do not occur exclusively during a mood disorder, a psychotic disorder, or a pervasive developmental disorder.

Currently, the most widely used diagnostic criteria for GAD in clinical and research settings are DSM-IV. DSM-IV requires excessive and uncontrollable anxieties, worries, or tension about a number of everyday events; the anxious worrying must be associated with at least 3 vigilance or motoric symptoms and the symptoms must cause clinically significant distress or impairment in important areas of daily functioning. In addition, the DSM-IV exclusion criteria apply (see above). It should be noted that DSM-IV allows the GAD-diagnosis also to be made in children, requiring however only one – instead of three as required for adults – of the additional associated symptoms. In DSM-III and DSM-III-R, GAD in children and adolescents was labeled “overanxious disorder.” This diagnosis was removed from the DSM-IV and GAD is applicable to all age groups.

2. Aims and methods

This paper reviews European contributions to the epidemiology of GAD after to 1980, highlighting prevalence and incidence, as well as risk factors, comorbidity, associated impairment and treatment rates in community and clinical settings. Studies were identified using a MEDLINE search and with consultations with experts throughout Europe to identify additional studies. Studies were included if conducted after 1980, and if established diagnostic instruments based on criteria from DSM-III onwards or ICD-10 were used. It should be noted that since older DSM-III-based studies rely only on 1-month duration criteria, we report those DSM-III findings in brackets. The review also used unpublished data that have been provided from the EBC epidemiological panel (Wittchen and Jacobi, 2005).

3. Results

3.1. Lifetime and 12-month prevalence of GAD in the community

Table 1 summarizes the lifetime and 12-months prevalence findings for GAD for a total of 15 studies from 15 countries across the EU, of which one combines finding from several countries (ESEMeD). This table provides diagnostic criteria, instruments used, sample size and prevalence estimates, as well as gender ratio. Prevalence estimates are reported for three time frames (i.e., lifetime, 12-month, and/or point prevalence). Point prevalence is reported only for a few studies.

Beyond the consistent finding of the preponderance of GAD among females, there appears to be some degree of heterogeneity in results across studies. Most of this variability is due to the use of different instruments and conventions across studies, although the majority used either the DIS or the CIDI. Taking these methodological differences into account, results show that studies using the short 1-month DSM-III criteria have extremely high lifetime rates of 19% and 21%. These two studies were conducted in Belgium (Baruffol and Thilmany, 1993) and Iceland (Stefansson et al., 1991) and they provided an interesting example of the dramatic effects of the shorter 1-month duration GAD definition when compared to the narrower 6-months' definitions of GAD in subsequent versions DSM-III-R/DSM-IV. Nevertheless, there is still remarkable variation between DSM-III-R- and DSM-IV-based studies when the longer 6-months requirement is considered. Excluding the Italian study due to use of a different instrument, the lifetime prevalence estimates of the remaining studies (including also the Wacker Study which applied additionally to DSM-IV the ICD-10 criteria) range between 0.1% and 6.4%. In contrast, DSM-III-R/DSM-IV 12-month prevalence/point estimates appear to be more consistent with the vast majority reporting rates between 0.8% to 2.1%. A similar degree of variability is evident for the four ICD-10-based studies, where 12-months/point estimates vary between 0.2% and 3.1%. The 12-month median across all studies is 1.7%, which could be considered as a best 12-month estimate. For lifetime prevalence, the female to male ratio ranges from 1.2 to a high of 13.8 and for 12-month prevalence from 1.2 to 3.9. Overall, these findings indicate a two- to three-fold increased risk of GAD for women compared to men.

3.2. Prevalence in primary care

GAD is among the few conditions which has also been studied in primary care settings. The international WHO multi-center study on Psychological Problems in General Health Care (PPGHC; 14 sites, Üstün and Sartorius, 1995), which included 6 EU-states revealed that approximately 7.9% of all consecutive primary care attenders met

Table 1
Prevalence of generalized anxiety disorder in European population surveys — among adults

Country	Study	Diagnostic criteria	Assessment instrument	Sample size	Age (years)	Lifetime prevalence (%)	12-Month prevalence (%)	Point prevalence (%)	LT (F/M)
Austria	expert statement “in range Germany”						1.5		
Belgium, France, Germany, Italy, Netherlands and Spain	ESEMeD/MHEDEA Investigators (2004)	DSM-IV	WHM-CIDI	21 425	18+	2.8	1.0	–	3.6/2.0
Belgium	Ansseau and Reggers (1999) ^a	DSM-IV	CIDI	1046	15–85+	1.8	–	–	2.2/1.4
	Ansseau et al. (1999) ^b	DSM-IV	CIDI	1244	18–54	0.1	–	–	–
(Belgium)	Baruffol and Thilmany (1993)	DSM-III	DISSI	235	25–45	18.7	8.9 (6 months)	–	20.2/17.2
Czech Republic	Dragomirecka (unpubl.)	DSM-IV	CIDI	1497	18+	–	0.1	–	–
Finland	Pirkola et al. (in press)	DSM-IV	M-CIDI	6005	>30	–	1.3	–	1.3/1.3
Germany—bundesweit	Carter et al. (2001)	DSM-IV	CIDI	4181	18–65	–	1.5	–	–
Germany—Lübeck Region	Meyer et al. (2001)	DSM-IV	CIDI	4075	18–64	0.8	–	–	1.1/0.5
Hungary	Szadoczky et al. (2000)	DSM-III-R	DIS	2953	18–64	4.6	2.1	1.0 (1 month)	6.8/1.8
(Iceland)	Stefansson et al. (1991)	DSM-III	DIS	862	55–57	21.7	–	–	32.2/11.8
Italy	Faravelli et al. (1989)	DSM-III-R	SADS-L	1110	14+	3.9	–	2.0	–
	Faravelli et al. (2004)	DSM-IV	FPI	2363	14–80+	6.9	–	–	9.5/3.8
Ireland	McConnell et al. (2002)	ICD-10	SCAN	307	18–64	–	0.2	0.2 (1 month)	–
Luxembourg									
Netherlands	Bijl et al. (1998)	DSM-III-R	CIDI	7076	18–64	2.3	1.2	0.8 (1 month)	2.9/1.6
Norway	Kringlen et al. (2001)	DSM-III-R	CIDI	2066	18–65	4.5	1.9	–	6.1/2.4
Switzerland	Wacker et al. (1992)	ICD-10/DSM-III-R	CIDI	470	18–65	6.4/1.9	–	–	–
United Kingdom	Meltzer et al. (1995)	ICD-10	CIS-R	10 108	16–64	–	–	3.1 (1 week)	3.4/2.8

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diagnostic criteria for DSM-III-R GAD. A recently published reanalysis of the WHO-data further revealed that 25% of these patients presented with pure GAD in the absence of any comorbid mental disorder (Maier et al., 2000). Overall, the WHO study found that GAD was the 2nd most common of mental disorder seen in primary care, following depression. In a subset of almost 2000 persons attending five of the European centers in this study, 22% of all consecutive primary care attenders who complained of an anxiety-related problem were diagnosed with GAD using the CIDI (Weiller et al., 1998). Similar high cross-sectional prevalence rates resulted from the large-scale German “Generalized Anxiety and Depression in Primary Care study” (GAD-P; Wittchen et al., 2002) in which 4% of the patients fulfilled DSM-IV criteria for GAD with an additional 1.3% meeting DSM-IV criteria for GAD, with the exception of the 6-month duration requirement. These studies also consistently highlighted that the majority of GAD-patients are not recognized as having GAD, and only a minority receives appropriate treatment (see below).

3.3. Incidence, age of onset, and prevalence by age groups

There is some evidence across a number of studies that GAD, diagnosed using DSM-IV criteria, is a relatively rare disorder in the first two decades of life. Data from the

German National Health Interview and Examination Survey (GHS–MHS; Carter et al., 2001) consistently indicate increasing 12-month prevalence rates with increasing age (i.e., 18–24 years: 1.0%; 25–34: 0.7%; 35–44: 1.5%; 45–54: 2.0%; >55 years: 2.2%). Other European population surveys report the same overall trend, although some report the highest prevalence rates for the females of the youngest age groups (e.g., France and Netherlands). All data are consistent with the finding that GAD may occur at any point in life, based on retrospective data on the age of first onset.

Prospective studies that might inform us about age-specific periods of risk by gender are not available. To date, only two European population-based studies have provided data on age-specific incidences. The German Early Developmental Stages of Psychopathology (EDSP) study (Wittchen et al., 1998; Lieb et al., 2000) prospectively followed 3021 14 to 24-year-olds over 4 years. In contrast to other anxiety disorders, age-specific cumulative incidence rates of DSM-IV GAD in this sample suggest that GAD is in fact relatively rare before age of 20 with the vast majority of onsets occurring among females after age 20. Even in younger samples, women have a two- to three-fold higher risk for the first manifestation of GAD compared to men (Hazard Ratio women vs. men=2.7). The Netherlands NEMESIS study, which assessed 7076 18- to 64-year-olds

(Bijl et al., 1998; Kessler et al., 2002), is the second European study reporting cumulative probabilities for first-onset of GAD. Results showed that risk of GAD onset increases during the teen years and progresses in a relatively linear fashion through the mid-fifties.

In direct contrast to the conceptualizations of GAD as similar in nature to personality disorders, which usually begin early in life and persist across the lifespan (Tyrer et al., 1997), there is little epidemiological evidence that GAD begins early or is even common among children and adolescents. To examine this issue in a more rigorous fashion, we identified five European epidemiological studies from Germany, Netherlands, Spain, and Switzerland, fulfilling the above mentioned inclusion criteria (Table 2), which examined GAD among adolescents and young adults. Across all studies, the lifetime estimates were fairly low and ranged between 0.4% and 0.9%, with the exception of the Dresden study which examined exclusively young women (aged 18–24 years: lifetime prevalence of 2.7%). This study also showed that GAD does not appear to be a very stable disorder, at least among young women (Hoyer et al., 2003).

In summary, European data to date, in combination with non-European data, suggest that unlike other anxiety disorders, GAD is most common among older age groups. The impressive proportion of GAD sufferers among the older population has also been reported in the Longitudinal Aging Study Amsterdam, which found that GAD may be the most common anxiety disorder among adults age 55 and older (Beekman et al., 2000). Still, few data are available on the age of onset, stability, and course of GAD among adults in Europe.

3.4. Comorbidity

High rates of comorbidity among adults with GAD have consistently been documented in epidemiological and clinical studies. In Europe, 12-month rate of comorbidity rates with GAD reported in the ESEMeD study were extremely high (ESEMeD/MHEDEA 2000 Investigators, 2004), as they were in The Netherlands NEMESIS study (De Graaf et al., 2003) and in the German GHS–MHS study (Carter et al., 2001). Yet, it should be noted that the comorbidity rates for GAD were found not to be consider-

Table 3

Proportions of comorbid DSM-IV disorders among GHS–MHS respondents with 12-month DSM-IV GAD

DSM-IV disorder	%
Alcohol abuse/dependence	6.4
Nicotine dependence	14.0
Drug abuse/dependence	1.4
Any depressive disorder	70.6
Major depression	59.0
Dysthymia	36.2
Any anxiety disorder	55.9
Panic disorder	21.5
Agoraphobia w/o panic	11.3
Social phobia	28.9
Specific phobia	29.3
Phobia NOS	10.6
OCD	10.0
Any somatoform disorder	48.1
Any eating disorder	2.5
Any of the above	91.3
One	19.7
Two	40.6
Three or more	32.7

Adapted from Carter et al. (2001).

ably different from comorbidity patterns observed for other diagnoses, such as unipolar or bipolar depression or panic disorder. As shown by detailed analyses by Wittchen et al. (1994), Kessler et al. (1999), and De Graaf et al. (2003) there is little evidence that the proportion of comorbidity is considerably greater among those with GAD, compared with mood or other mental disorders.

In the GHS–MHS study, only 6.9% of subjects with 12-month GAD had GAD without comorbidity. 93.1% met 12-month criteria for at least one other disorder and almost one third (32.7%) of the subjects met criteria for three or more comorbid mental disorders. With the exception of substance use disorders, there was a statistically significant association between GAD and all mental disorders presented in Table 3 (Odds Ratio ranging from 3.0 to 25.9; see Carter et al., 2001). A more detailed examination of the disorder-specific pattern of comorbidity show the highest rates for depressive disorders (70.6%), followed by somatoform disorders (48.1%). In the recently published data from the ESEMeD study (ESEMeD/MHEDEA 2000 Investigators, 2004), 70% of the 12-month GAD cases had at least one additional

Table 2

Prevalence of generalized anxiety disorder in European population surveys – among adolescents and young adults

Country	Study	Diagnostic criteria	Assessment instrument	Sample size	Age (years)	Lifetime prevalence (%)	12-month prevalence (%)	Lifetime (F/M)
Germany								
Munich region	Wittchen et al. (1998)	DSM-IV	CIDI	1395	14–17	0.9	0.5	1.7/0.2
		DSM-IV	CIDI	3021	18–24	0.8	0.5	0.8/0.8
Dresden region	Hoyer et al. (2002)	DSM-IV	DIPS	2064 women	18–24	2.7	–	–
Bremen region	Essau et al. (1998)	DSM-IV	CIDI	1035	12–17	0.4	–	0.3/0.5
Netherlands	Verhulst et al. (1997)	DSM-III-R	DISC-C	780	13–18	–	6 months: 0.6	–
Spain ^a	Canals et al. (1997)	DSM-III-R	SCAN	290	18	–	0.0	–
Switzerland	Steinhausen et al. (1998)	DSM-III-R	DISC-P	1964	7–16	–	6 months: 0.6	–

^a Applying ICD-10 criteria, 12-month prevalence was 2.4%.

mood, anxiety, or alcohol use disorder. Similar to the GHS–MHS study, GAD was associated with almost all mental disorders included in the analyses: social phobia (OR=13.5), PTSD (OR=15.1), agoraphobia (OR=25.7), panic disorder (OR=20.3), major depression (OR=33.7), alcohol abuse (OR=2.5), and alcohol dependence (OR=11.2). These findings are similar to those from the NEMESIS study (De Graaf et al., 2003; which confirmed high comorbidity with mood disorders) and to secondary analyses of the NCS data in the US, which showed that 80% of persons with lifetime DSM-III-R GAD had at least one comorbid lifetime mood disorder (Judd et al., 1998). In the NCS analyses, unipolar depressive disorders were found among 67% of persons with GAD (Judd et al., 1998).

Several recent studies have also demonstrated that GAD appears to be associated with somatic complaints, e.g. chest pain, chronic fatigue syndrome, irritable bowel syndrome, and chronic medical illnesses (hypertension, diabetes, and heart disease; Maier and Falkai, 1999; Sherbourne et al., 1996), in addition to comorbid mental disorders. This pattern was also indicated by results from the GHS–MHS data in which persons with GAD reported higher rates of respiratory symptoms, endocrine diseases, metabolic syndrome, neurological illness, and muscle or skeleton diseases (Hoyer et al., 2003).

3.5. Impairments and disabilities

There is abundant evidence from numerous studies showing that GAD is associated with a considerable degree of impairment and disability, as well as a reduced quality of life. The degree of the burden associated with GAD is somewhat variable, but is typically similar to, or even larger than, that observed for depression. None of the available studies, however, has been able to partial out the effects of comorbidity on impairment.

In the WHO Primary Care study, 27% of patients with GAD reported moderate or severe social disability, with a mean loss of 4.6 work days due to disability in the month before the assessment (Weiller et al., 1998). When GAD was accompanied by major depression, the mean number of lost work days increased to 8.0 days in the past 4 weeks. In addition, Maier et al. (2000) reported that social disability associated with GAD is as severe as that in chronic somatic diseases. These results were recently confirmed in the pan-European ESEMeD study. This study found that GAD is associated with substantial level of disability as well as a loss of quality in life in the community (ESEMeD/MHEDEA 2000 Investigators, 2004). In the Dresden study, subjects with comorbid GAD reported the lowest psychosocial functioning (in terms of lower scores in the global assessment of functioning, GAF) when compared with other anxiety disorders. Likewise, pure GAD could be shown to be associated with remarked reduced psychosocial functioning when compared to healthy subjects. The reduced functioning was comparable in size when compared to

subjects suffering from other anxiety disorders (Hoyer et al., 2002).

3.6. Health care utilization and detection of GAD in primary care

The difference between a fairly low 12-month prevalence rate in the community and the high point prevalence of about 10% of all consecutive attenders in primary care, suggests that patients with GAD are likely to be high utilizers of the primary health care system (Maier et al., 2000). The German GAD-P study (Wittchen et al., 2001), which includes a nationally representative sample of 558 doctors and more than 20 000 patients, revealed that patients with pure GAD reported a two-fold higher number of primary care visits, compared with the average number. Compared with depressed patients, GAD patients had significantly more visits to non-mental health specialists in the 12 months preceding the assessment. Although this study revealed that primary care doctors recognize that patients have some form of mental problem, it also found that they recognized the presence of GAD in less than one third of patients with GAD. Comparable results have been reported from the WHO primary care study by Weiller et al. (1998). Specifically, 51.2% of the GAD cases had been recognized by the general practitioners (GP) as a “psychiatric case”; this rate was higher among GAD cases with comorbid depression (72.2%). This suggests that the majority of GAD patients are not specifically diagnosed and not treated for their disorder.

Beyond these primary care data, the data from the GHS–MHS (Jacobi et al., 2004) community survey indicate that about 60% of respondents with a 12-month DSM-IV GAD received at least a “minimal intervention” because of mental problems, defined as “having sought any kind of treatment due to mental health problems or having been recommended by a doctor to do so”. Results from this German study also showed that treatment rates appear to increase incrementally, depending on the number of comorbid mental disorders. 55% of the pure and 76% of the highly comorbid cases (at least 3 comorbid diagnoses) reported at least minimal intervention. It should be noted, however, that it is not known whether the GAD cases received adequate treatment. It is also not known how many years after the first manifestation of GAD the subjects received any intervention. European data about speed of entry into treatment after having developed GAD are not available. Additionally, there is a lack of data about patterns of treatment seeking behavior among people with GAD in Europe. Data from population samples in the US suggest that the speed of first treatment contact after the first manifestation of GAD is inversely related to the age of onset of GAD. Specifically, one study showed that about one third of people with GAD search for professional treatment in the year of the onset of the disorder, while the average delay in initial treatment contact is more

than 10 years among people who delay beyond the first year (Olfson et al., 1998). These data suggest that a fast referral from the primary care doctor is of utmost importance.

3.7. Vulnerability and risk factors

Although there are a number of findings suggesting that certain genetic, biological, psychological, and psychosocial factors may be involved in the development of GAD (for overview see Hudson and Rapee, 2004), knowledge about the etiology of GAD is still extremely limited. Research on the etiology of GAD is still in its relative infancy. This is predominantly the case due to the fact that (1) surprisingly few studies have focused specifically on pathways into GAD; and (2) there are almost no community studies which have investigated the development of GAD using prospective-longitudinal research designs (see Eaton et al., 2002), which is required for the identification of etiologic factors. Because of the limited research available on the etiology of GAD, no conclusive disease model could be offered yet. In order to gain a better understanding of the development of disorder-specific prevention and treatment strategies, the challenge of future research will be to identify factors that play a causal role in GAD, and to identify the periods across lifespan when these factors play a pathogenetic role.

3.8. Economic costs of GAD in Europe

We could find only one European study which provided data on the economic cost for patients with GAD. This study was conducted in France by Sou  tre et al. (1994) and is a cross-sectional 3-months retrospective assessment of the resource use and costs for GAD-patients with and

without comorbidity ($N=604$ with and $N=395$ without comorbidity). Hospitalizations and loss of productivity were the two major components of costs both in patients with and without comorbidity. Health care utilization rates were higher among those with comorbid GAD patients compared with pure GAD. The results of this study provide estimates that total cost ranges from \$ US 733 to \$ US 1208 per patient per 3 months for GAD, without and with comorbidity, respectively (Fig. 1). The presence of comorbid mental disorders increases costs by approximately 65% for GAD (in France). The increase in costs for GAD with vs. without comorbidity is about the same for each cost component including direct medical costs and indirect costs (short-term absence from work). The indirect costs were \$ US 243 vs. \$ US 416 for GAD patients without and with comorbidities, respectively.

4. Discussion

From a European perspective, studies cumulatively suggest that GAD – as defined by the current DSM-IV criteria – is a relatively rare disorder in the community with a 12-month prevalence of threshold GAD of about 2%. There are few indications of tremendous variations due to regional or cultural aspects; however, the lack of southern eastern EU studies is a limitation.

There are a number of characteristics that make GAD unique, relative to other anxiety disorders: (1) The current prevalence of 2% may be artificially low, as suggested by considerably higher lifetime rates and a few studies that examined incidence patterns. As such, it appears that adults with GAD chronically suffer from a waxing and waning course without full remission. This stipulation is consistent with the extremely higher rates using shorter duration

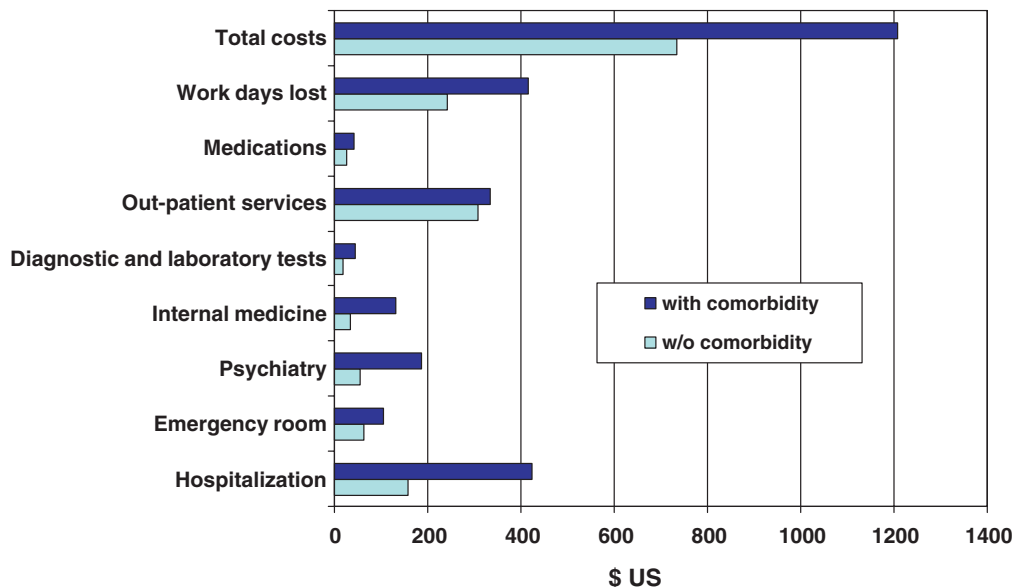


Fig. 1. Total cost per patient per 3 months (\$ US, from Sou  tre et al., 1994).

criteria (e.g., the 1-month duration in DSM-III); (2) GAD patients are high utilizers of healthcare resources and account for a disproportionately high number of primary care visits; (3) Recognition of GAD in primary care is relatively low and – despite high contact rates – GAD patients are rarely treated.

The ongoing discussion around the differential diagnostic exclusions and in particular, the debate as to whether a diagnosis of GAD is justified in the presence of comorbid depression, reflects the ongoing controversy on the nosological status of GAD. At the center of these concerns is the frequent observation in clinical samples that GAD is usually comorbid with other disorders and seldom presents in treatment settings in its pure form. However, as Kessler and other have shown in epidemiological samples, GAD in non-treatment settings is not associated with greater comorbidity rates than many other disorders (Kessler et al., 2001). Moreover, there is increasing evidence that the characteristics of GAD onset, symptoms, clinical course, and impairment associated with GAD is sufficiently different from other disorders to support the conceptualization of GAD as a separate disorder (Brown et al., 1998; Rogers et al., 1999; Yonkers et al., 2000).

Based on these considerations additional research efforts are needed in the following areas:

- Examination of the prevalence of GAD in the community and primary health care in Eastern European countries.
- Natural course and incidence of GAD across lifespan to examine especially patterns of onset and course in old age and adolescents.
- Risk factors and etiology. To date, few longitudinal studies exist informing us about risk factors and their influence on onset and natural course of GAD. Longitudinal studies that examine the course of GAD and its relationship with psychosocial, genetic, economic, and other environmental determinants are recommended.
- Data on the degree of met and unmet needs for treatments of patients with GAD. These studies should also inform about the costs associated with adequate in- and outpatient interventions, as well as the costs of inappropriate treatment.

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