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The Costs Associated with Generalized Anxiety Disorder

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A Thesis

In

The Department

Of

Psychology

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For the Degree of Masters of Arts at
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Abstract

The Costs Associated with Generalized Anxiety Disorder

Naomi Koerner

The present study aimed to assess the extent to which individuals with generalized anxiety disorder (GAD) report health care use and occupational disability. Twenty-three adults with a primary diagnosis of GAD and 23 adults recruited from the general population were interviewed about their health care utilization and their work performance in the previous three months. Relative to nonclinical participants, individuals with GAD were more likely to report consultations with general practitioners and medical specialists and were more likely to use prescription and alternative medications. Individuals with GAD also reported that anxiety symptoms had interfered with their work productivity. The costs associated with health care use and work impairment were four times greater in the GAD group than in the nonclinical group. The present study confirmed that relative to the general nonclinical population, GAD is associated with excessive use of certain types of health care, and to a lesser extent, functional interference in the workplace.

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The Costs Associated with Generalized Anxiety Disorder

There has been a growing interest in the evaluation of the costs associated with psychological disorders for several reasons. First, the identification of cost-driving physical and psychological disorders is of primary interest to health providers and policymakers because of the growing trend toward cost containment in North American health care systems. Second, it has become increasingly critical for mental health professionals in particular to demonstrate that psychotherapies are cost effective, in order to further promote their dissemination in the health care system. If it can be shown that psychosocial interventions diminish the costs associated with a disorder in the long-run, this is a solid argument for increasing their accessibility to the public and integration in primary care settings. Among psychological disorders, the anxiety disorders are being given increased recognition in the cost of illness literature, because they are highly prevalent and frequently misdiagnosed and mistreated. It is for these reasons that it has been suggested that this class of disorders should be treated as a public health problem (Costa e Silva, 1998).

Anxiety disorders have been recognized as potential cost drivers because they are associated with a significant degree of health care use, particularly in primary care settings. In a sample of 1,000 patients presenting to outpatient clinics over a 3-year period, Kroenke et al. (1994) observed that those presenting with chest pain, fatigue, headaches, insomnia, and abdominal pain frequently met criteria for an anxiety disorder. Studies conducted in Quebec and Ontario have also revealed that anxiety disorders or severe anxiety symptoms are associated with a high degree of service use (Demers, 1995).

Fournier, Lesage, Toupin, & Cyr, 1997; McCusker, Boulenger, Boyer, Bellavance, & Miller, 1997; Ohayon, Shapiro, & Kennedy, 2000).

The presence of an anxiety disorder has also been shown to be associated with increased role impairment and decreased quality of life (Leon, Portera, & Weissman, 1995). According to Fifer (1994), the functional impairment associated with untreated anxiety disorders has been estimated to be of the same magnitude as that seen in chronic physical conditions such as diabetes or congestive heart failure (as cited in Lydiard, 2000).

Use of health care services and diminished work productivity impose considerable costs to society and to the sufferer. Among all mental disorders, costs associated with anxiety disorders were highest in the United States in 1990, amounting to approximately 47 billion dollars (Rice & Miller, 1998). Using data from a health maintenance organization and the National Comorbidity Survey, Greenberg et al. (1999) calculated the costs associated with anxiety disorders per individual and arrived at an annual estimate of \$1.542 per sufferer.

While the anxiety disorders as a class have been recognized for their potential as cost drivers, the economic burden of generalized anxiety disorder (GAD) remains understudied (Hofmann & Barlow, 1999). The study of GAD should be given increased attention in the cost-of-illness research because it is highly prevalent in primary care sectors worldwide (Maier et al., 2000; Roy-Byrne, 1996). Contrary to its original conceptualization as a "mild" disorder, GAD is a chronic condition that, when severe, is associated with substantial disability in personal, occupational and social domains. Furthermore, the few existing data suggest that GAD is associated with an increased

incidence of inappropriate and unnecessary use of non-mental health related services, which translates into considerable costs.

Description and Prevalence of Generalized Anxiety Disorder

Generalized anxiety disorder (GAD) is defined as a common, chronic and debilitating condition in which the cardinal feature is excessive and uncontrollable worry and anxiety that occur most days for at least six months. The anxiety and worry are associated with somatic symptoms such as restlessness or feeling “on edge,” fatigue, difficulty concentrating, irritability, muscle tension, and sleep disturbances. The anxiety, worry, or somatic symptoms by definition cause significant distress or impairment in social, occupational, or other important areas of functioning (Diagnostic and Statistical Manual of Mental Disorders, Text Revision: DSM-IV-TR, American Psychiatric Association, 2000).

This definition of GAD represents an important departure from earlier descriptions of GAD as a disorder characterized by generalized, persistent anxiety that was associated with a multitude of nonspecific somatic symptoms and that led to only mild impairment in social and occupational domains. Although the current description of GAD more clearly delineates this disorder from other anxiety disorders, diagnosing it accurately based solely on DSM-IV criteria remains a challenge, particularly for nonmental health professionals.

According to the results of the National Comorbidity Survey conducted between 1990 and 1992, the one-year prevalence of GAD was 3.1%, making it less common than simple phobia and social phobia, but more prevalent than panic disorder (Hofmann & Barlow, 1999). According to Maier et al. (2000), while lifetime prevalence rates of GAD

in epidemiological studies generally hover between 1.2% and 6.4%, GAD appears much more frequently in primary care settings, where one-month prevalence rates have been reported to be as high as 7.9% worldwide. In a study of heavy users of general health care, the lifetime prevalence of GAD in the sample was very high, at 40.3% (Katon et al., 1990).

Clinical Presentation of GAD

Chronicity. It is known that GAD symptoms tend to be chronic in course (Brown, O'Leary, & Barlow, 2001). One study of 164 GAD patients revealed a mean duration of GAD of 20 years and a probability of remission of only 15% at one year and 25% at two years (Yonkers, 1996). It has also been suggested that GAD symptoms persist even when comorbid disorders remit. In view of this chronicity, it has been proposed that GAD may not be an independent, genuine disorder; rather, that it may be better conceptualized as a vulnerability state that promotes the development of other mood or anxiety disorders such as major depression and panic disorder (Roy-Byrne & Katon, 1997). Roy-Byrne and Katon (1997) put forth the idea that GAD is a vulnerability state that may actually be the major factor determining long-term use of health care services and resources, long after comorbid major depression is treated, as is often the case in primary care.

The notion that GAD is a vulnerability state is compelling; however, there is ample research showing that GAD is a disorder in its own right, despite its chronic course. Proponents of this latter view maintain that GAD is not a characterological disturbance, nor a manifestation of a "neurotic personality" ; rather that it is an independent disorder characterized by specific processes, and symptoms that wax and wane (Ladouceur & Dugas, 2002).

Comorbidity. In any analysis of the financial burden of GAD, the impact of comorbidity must be addressed. As mentioned before, GAD is often conceptualized as a disorder that precedes or coincides with the development of other anxiety and mood disorders. This comorbidity is believed to be associated with elevated impairment in all life spheres and is also associated with increased medical utilization. Specifically, GAD patients with comorbid disorders are more likely to seek treatment, are more likely to take medication for their symptoms, and are considered overall more severely impaired than individuals with “pure” GAD (Noyes, 2001; Sou tre et al., 1994).

Other research, however, has shown that GAD is severe in and of itself, regardless of the concurrent presence of other disorders (Kessler, DuPont, Berglund, & Wittchen, 1999; Wittchen & Hoyer, 2001). An analysis based on the World Health Organization study on “Psychological Problems in Primary Care” conducted in 14 countries revealed that 25% of individuals presenting with GAD were actually “pure,” noncomorbid cases, representing a substantial proportion of total GAD cases. The same study also found that “pure” GAD was associated with marked social impairment in most cases, which was as severe as that associated with chronic medical illnesses such as diabetes, cardiovascular disease, and cancer (Maier et al., 2000).

Somatic symptomatology. Patients with GAD frequently seek help for their somatic symptoms, unaware of the connection between their excessive and uncontrollable worry and their somatic symptoms of anxiety (Brown, O’Leary, & Barlow, 2001; Dugas, 2002). Individuals with GAD present with a highly salient somatic profile that extends beyond the six symptoms described in the DSM-IV. For example, research has shown that gastrointestinal problems such as nausea and diarrhea may be

especially marked in GAD patients (Brawman-Mintzer, 1994; Lydiard, 1997).

Individuals with GAD also report experiencing chest pain and tension headaches, and feeling generally “stressed out.” Because primary care physicians are typically not trained to identify, diagnose and treat GAD, individuals with GAD will consult recurrently with nonmental health professionals.

Concepts in Health Economics

Basic concepts in health economics must be defined before proceeding with a discussion of the costs associated with GAD. Two broad categories of costs are examined in the calculation of the economic burden, or total costs of a mental illness: direct and indirect costs (DuPont et al., 1996; Greenberg et al., 1999; Hargreaves, Shumway, & Hu, 1999; Hofmann & Barlow, 1999; Rice & Miller, 1998).

Direct costs refer to costs associated with the use of health care resources. Typically, these include psychiatric or psychological service costs (e.g., psychotherapy, hospitalization), medical costs not related to mental health (e.g., emergency room visits, and consultations with general practitioners, medical specialists, alternative health care providers, etc.), and costs of prescription medication. Costs are also assigned to the actual time spent consulting with health professionals (including waiting time).

Indirect costs typically refer to costs incurred due to lost productivity for the individual with a mental illness. These costs can arise from absenteeism from the workplace as well as reductions in productivity in the workplace. Other variables that factor into indirect costs include financial dependence (e.g., receipt of disability payments or social assistance payments) (Leon, Portera, & Weissman, 1995) and caregiver burden (Booth, Zhang, Rost, Smith, & Smith, 1997).

The distinction between social and personal costs should be noted. Social costs refer to expenditures that are incurred as a result of an individual's consumption of societal, or public resources (e.g., the health care system). Health researchers are typically interested in determining the social costs of a disorder, as these data are used to inform decisions that influence health policy. On the other hand, a comprehensive cost analysis research can also yield interesting information regarding the personal, or out-of-pocket costs associated with a disorder (e.g., costs associated with the use of over the counter herbal remedies and vitamins and nontraditional health care). If a treatment can reduce the social and personal costs associated with a psychological disorder, than this is can be seen as an incentive for health care providers and individual sufferers alike.

Costs Associated with Generalized Anxiety Disorder

Health care use and direct costs. Despite the high prevalence rates of GAD in the primary care sector, very few studies have reported health care utilization and the direct costs associated with this disorder (Hofmann & Barlow, 1999). The extant research from the United States and Europe suggests that individuals with GAD are consuming health care services at a rate that is higher than was once thought and that is at least equivalent to that seen in other anxiety disorders, such as panic disorder.

Research has shown that individuals with GAD tend to consult initially with general practitioners before seeking help from mental health professionals. In a study conducted by Dugas et al. (1998), sociodemographic and clinical variables were analyzed in patients with a primary diagnosis of GAD and patients with other anxiety disorders. An examination of consultation history revealed that 57% of GAD patients had consulted

initially with a general practitioner for their symptoms, compared to 37% of patients with other anxiety disorders.

Individuals with GAD have also been known to consult with medical specialists concerning their somatic symptoms. Logue et al. (1993) asked 300 patients with DSM-III-R defined panic disorder or GAD participating in a clinical drug trial to provide information on their histories of medical evaluations for possible cardiac symptoms. Panic disorder patients were expected to have had more evaluations for cardiological symptoms than those with GAD because panic attacks can be mistaken for signs of a heart attack. Contrary to this hypothesis, 48% of panic disorder patients and 49% of GAD patients had consulted a physician for "heart problems." GAD patients were also as likely as panic disorder patients to have visited a cardiologist and to have consulted at an emergency room for physiological symptoms. Similarly, one other study showed that the presence of chest pain was associated with a diagnosis of GAD (Carter & Maddock, 1992).

GAD patients also frequently present to primary care providers with irritable bowel syndrome (IBS), a common gastrointestinal disorder characterized by recurrent abdominal pain or discomfort that is not organic in origin. Lydiard (1997) administered the Structured Clinical Interview for DSM-III-R to 96 patients presenting with irritable bowel syndrome. The results indicated that 94% of the patients had a lifetime history of a psychiatric illness, and of these, 34% had GAD. Similarly, Kennedy and Schwab (1997) found that GAD patients consulted with gastroenterologists more often than patients with any other anxiety disorder.

Similar trends in health care use have been observed in Canadian research. A survey of 893 residents from a Montreal catchment area showed that individuals with GAD used the services of family physicians and medical specialists at a higher rate than those with a diagnosis of panic disorder, major depression, dysthymia, or substance-related disorders (Fournier et al., 1997).

Functional impairment and indirect costs. Less is known about the morbidity and associated indirect costs of GAD, compared to what is known about health care utilization and the associated direct costs. Studies of the functional status of individuals with GAD have yielded conflicting results. Perhaps this is because for a long time, individuals with GAD have been thought to be less functionally impaired than individuals with other anxiety disorders (Roy-Byrne, 1996). Early conceptualizations of GAD described the associated impairment in social and occupational functioning as "rarely more than mild" (American Psychiatric Association, 1980, 1987). There is some indication, however, that the level of impairment is not as minor as was once believed for all persons with GAD.

For example, the Epidemiologic Catchment Area study showed that participants with GAD tended to have at least one other comorbid disorder, to be separated or divorced, to have received disability payments at some point, and to have very low annual incomes (Mendlowicz & Stein, 2000). Results from the National Comorbidity Survey revealed that respondents with GAD tended to be unemployed, divorced or separated, report considerable interference with their lives, and had a high degree of treatment seeking from primary care providers (Wittchen et al., 1994).

In a study of work-productivity losses conducted by Kessler et al. (as cited in Kessler, Keller, & Wittchen, 2001), impairment associated with GAD was compared to that associated with other mental disorders such as major depression and substance use disorders, and chronic physical health conditions in a community sample of 3,000 adults. Impairment was defined as work-productivity loss, which included the number of whole or partial work days missed due to ill health or a substantial reduction in workplace productivity, in the previous month. The results showed that respondents with GAD had the highest number of work-impairment days (6 days), which was higher than any of the mental disorders studied and higher than respondents suffering from arthritis, hypertension, asthma and diabetes. Greenberg et al. (1999) also found that GAD was associated with significant impairment in workplace performance, defined by the number of work cutback days in the previous 12 months.

Finally, results from the World Health Organization collaborative study on psychological problems in primary care conducted in 14 countries revealed that disability, defined as occupational role impairment, mean number of disability days in the previous month, and self-reported physical disability was strongly associated with GAD (Ormel et al., 1994).

Limitations in the Current Literature

The need for a Canadian focus. The data reviewed in this paper reveal that the costs associated with anxiety disorders are high, and that a closer examination of the financial impact of GAD is overdue. The little that is known about the costs associated with GAD comes from research in the United States; Canadian data are relatively scarce. Although the U.S. data are informative and important, the results are not directly

generalizable to Canadians. One obvious reason is that direct and indirect costs in the cost of illness literature are always discussed in terms of U.S. dollars. Furthermore, American and Canadian health care systems are not comparable. For example, cost of illness data are often obtained from the databases of health maintenance organizations, a system that does not exist in Canada, where all residents have reasonable access to medically necessary insured services without being directly charged.

Canadian researchers, however, are beginning to make strides in costs research. A report on the financial burden of mental health problems in Canada in 1998 was published by Health Canada (Stephens & Joubert, 2001) to address the limitations of a 1993 report on the costs of illnesses in Canada (Moore, Mao, Zhang & Clarke, 1997), by providing an assessment of the financial burden associated specifically with psychological problems. The authors of the more recent report acknowledged, however, that their analysis had a number of shortcomings. Aside from some methodological issues, the analysis was not exhaustive: it was restricted to major depression and a nonspecific measure of anxiety termed "distress." The actual DSM-IV defined anxiety disorders were not accounted for. Nevertheless, the results of this valuable study suggest that the costs associated with mental illness (including anxiety) are very high in Canada, estimated at approximately 14.4 billion dollars per year, which has direct implications for the promotion of mental health research and the dissemination of mental health related services within the Canadian health care system.

Nontraditional health-related services. Nontraditional health-related services have been identified as a potential direct cost category that has not yet been quantified in the cost-of-illness literature, implying that there is a need to explore the use of these services

in greater detail (Greenberg et al., 1999). Examples of alternative health care providers include homeopaths, massage therapists, chiropractors and acupuncturists. Examples of alternative medicines include hypericum (St. John's Wort), over-the-counter herbal remedies, vitamins, and dietary supplements.

Recent research indicates that the use of alternative medicine is not uncommon. Data from a large-scale national household telephone survey in the United States (Unutzer et al., 2000) indicated that 16.5% (1,576 out of a total of 9,566 respondents) reported use of alternative medicine in the last 12 months. Moreover, users of alternative medicine were more likely to meet criteria for an anxiety disorder or mood disorder.

It appears that Canadians are also consumers of alternative drugs and therapies. In their annual report on health care in Canada published in 2000, Statistics Canada reported that approximately two million Canadians had used nontraditional health-related services, complementary to or instead of using traditional medical practices and medications. Among Canadians with mental health problems, those suffering from anxiety disorders report using the services of alternative medical providers. One study examining use of health services in Quebec in a sample of 235 individuals receiving treatment for an anxiety disorder revealed that 30% had reported seeking help from an alternate practitioner in the previous 12 months (McCusker et al., 1997).

The amount Canadians are spending on alternative medicine (Statistics Canada, 2000) remains to be determined. In addition, the prevalence of alternative health care use according to diagnostic category has yet to be clarified. Given that individuals with GAD experience muscle tension, frequency of visits to massage therapists and chiropractors is worth assessing, as it may be particularly elevated in this group.

The need for a nonclinical control group. Existing research suggests that GAD may be associated with “excessive and inappropriate” health care use. Interestingly, few studies have actually compared health care use in individuals with GAD with service use in the general, nonclinical population. Before contending that health care use and associated costs are excessive, it needs to be ascertained that individuals with GAD are indeed heavier users of services than individuals in the general population.

The Current Study

The present study attempted to address some of the limitations of research on the costs associated with GAD. First, this study is one of few known Canadian studies that has as its primary objective, the examination of the costs associated specifically with GAD. Second, use of alternative medicine was assessed as a cost category, which as Greenberg (1999) has stated, is frequently overlooked in studies examining health care use associated with psychological problems. Finally, a nonclinical sample was recruited as a comparison group.

The goals of the present study were (1) To compare health care use and work impairment in individuals with GAD, relative to individuals from the general, nonclinical population; and (2) To compare the costs associated with health care use and work impairment in both groups.

The present study had four hypotheses. First, it was expected that relative to nonclinical participants, individuals with GAD would report significantly greater use of health care services. Second, it was expected that more work loss days and a higher degree of self-perceived work impairment would be reported in the GAD group compared to the nonclinical control group. Third, it was hypothesized that the costs

associated with use of health care services (direct costs) would be greater for participants with GAD relative to nonclinical participants. Finally, it was postulated that the costs associated with work impairment (indirect costs) would be higher among those with GAD, compared with nonclinical participants.

Method

Participants

A total of 46 adults participated in the present study. The sample consisted of two groups: 23 individuals who met criteria for a primary diagnosis of DSM-IV-defined generalized anxiety disorder (GAD group), and another 23 individuals who did not meet criteria for a current anxiety disorder, mood disorder, somatoform disorder or substance use disorder (Nonclinical Control group).

GAD group. The GAD group consisted of 10 men and 13 women. The mean age of the group was 35.74 years ($SD= 9.09$) and the mean number of years of education was 15.83 ($SD= 3.56$). Seventy-five percent of individuals in this group were reportedly employed in the last 3 months. All participants had a primary diagnosis of GAD, meaning that GAD was the most severe diagnosis at intake. The mean severity of GAD, as assessed with the 9-point scale (0-8) of the Anxiety Disorders Interview Schedule for DSM-IV (Di Nardo, Brown, & Barlow, 1994) was 6.35 ($SD= 0.78$) with a range of 5 to 8, and the mean duration of GAD was 15.24 ($SD=14.71$) years. Of the 23 participants, 15 had one or more comorbid diagnoses at intake. There was a total of 24 additional DSM-IV diagnoses in the sample. The comorbid disorders were: panic disorder ($n=7$); panic disorder with agoraphobia ($n=3$); specific phobia ($n=6$); social phobia ($n=2$);

obsessive compulsive disorder ($n=2$); hypochondriasis ($n=1$); dysthymia ($n=2$) and major depressive disorder ($n=1$).

Nonclinical control group. The nonclinical control group also consisted of 10 men and 13 women. The mean age of the group was 31.04 years ($SD= 13.07$) and the mean number of education years was 17.15 ($SD= 1.44$). Sixty-two percent of individuals in this group were reportedly employed during the last 3 months.

Although the groups were not explicitly matched based on age, number of years of education, employment status and number of medical conditions, there were no significant between-group differences on these variables.

Measures

All participants signed an informed consent form and were subsequently interviewed using the Anxiety Disorders Interview Schedule for DSM-IV and the Social Costs Interview. The Mini International Neuropsychiatric Interview was administered initially with all participants in the GAD group. Following the interviews, all participants completed the Beck Depression Inventory-II, the State-Trait Anxiety Inventory-Form-Y-2, as well as a demographic questionnaire.

The Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) is a brief structured diagnostic interview designed for use in clinical settings by psychiatrists and general practitioners. This modularized instrument assesses current presence of 17 DSM-IV Axis I disorders. Excellent interrater reliability and very good test re-test reliability have been demonstrated for most diagnoses (Sheehan et al., 1998).

The Anxiety Disorders Interview Schedule for DSM-IV (ADIS-IV; Di Nardo: Brown, & Barlow, 1994) comprehensively assesses all anxiety disorders and screens for

mood disorders, somatoform disorders, psychoactive substance use disorders, psychotic disorders and medical problems. The interview yields information on the presence of Axis I disorders with severity ratings on a 9-point scale (0-8). Good to excellent interrater agreement ($\kappa = .67$ to $.86$) has been shown for most diagnoses (Brown, DiNardo, Lehman, & Campbell, 2001).

The Social Costs Interview (SCI; Roberge, Marchand, Cloutier, & Reinhartz, 2000) includes 20 items that assess health care use and work performance in the previous 3 months. Items related to health care use (used to calculate direct costs) include frequency of visits to general practitioners, medical specialists, and nonpsychiatric mental health professionals, use of complementary and alternative therapies (e.g., chiropractors, crisis hotlines, massage therapists), and use of prescription medication and alternative medicines and remedies (e.g., St. John's Wort, multivitamins).

Items reflecting work performance and lost wages (used to calculate indirect costs) include employment status, number of absenteeism hours and self-perceived impairment in the workplace during the previous 3 months. The Social Costs Interview has been used in studies examining the efficacy of group cognitive behavioural therapy for panic disorder and social phobia (LeBlanc, Cloutier, Vilandré, & Marchand, 2001).

The Beck Depression Inventory -II (BDI-II; Beck, Steer, & Brown, 1996) is used to assess the severity of depression symptoms in clinical and nonclinical populations. The questionnaire consists of 21 items, each rated on a 0-3 scale with a global score that ranges from 0 and 63. The BDI-II has been found to have a high level of internal consistency ($\alpha = .91$) and a strong correlation with the first edition of the BDI ($r = .93$). Factor analysis of the BDI-II revealed a two-factor structure that remained stable after

cross-validation in a second sample (Dozois, Dobson, & Ahnberg, 1998). Confirmatory factor analysis in a large sample of undergraduate students revealed two underlying factors reflecting cognitive-affective symptoms and somatic symptoms, consistent with results reported by Beck and colleagues.

The Spielberger State-Trait Anxiety Inventory Form Y-2 (STAI Form Y-2; Spielberger, 1983) consists of 20 items that assess chronic anxiety. Responses to each item are indicated on a 4-point Likert scale. Convergent and divergent validity has been demonstrated with this instrument (Ray, 1984).

Procedure

GAD group. Participants were recruited from the regular patient flow at the Anxiety Disorders Clinic of Sacré-Coeur Hospital in Montreal, the only clinic in Quebec that focuses exclusively on the assessment and treatment of anxiety disorders. More than 300 assessments are conducted yearly, with 15% resulting in a diagnosis of GAD, which facilitated recruitment. All participants were recruited as part of an ongoing clinical trial and were assessed over three sessions. In the first session, all participants were interviewed by one of two psychiatrists using the MINI. If a diagnosis of GAD was arrived at, participants were asked to return for a second interview, the ADIS-IV, with one of two trained, Ph.D. level graduate students. The ADIS-IV was administered to confirm a diagnosis of GAD, and to yield a severity rating on a 9-point scale. Upon completion of the MINI and the ADIS-IV, a case conference with the entire research team was held to assess diagnostic reliability. A primary diagnosis in this study was defined as the most severe disorder at intake. If a primary diagnosis of GAD was not agreed upon, the participant was excluded from the study. If a primary diagnosis of GAD

was agreed upon, participants were asked to return for a third assessment using the SCI, and were asked to complete the demographic questionnaire, the BDI-II, and the STAI Form Y-2.

Nonclinical control group. Nonclinical control participants were recruited one of two ways. Most participants (69.6%) responded to advertisements posted at two universities. The rest were recruited through the GAD group. Specifically, participants in the GAD group were asked if they had family members or friends who would be interested in taking part in the current study. There was no screening phase, i.e. potential participants were not screened for Axis I disorders prior to being accepted to participate in the present study. All participants were interviewed using the ADIS-IV and the SCI, after which they were asked to complete the demographic questionnaire, the BDI-II, and the STAI Form Y-2. A total of 31 people completed the study; however, only 23 were retained for statistical analyses. The remaining eight participants were excluded from statistical analyses because they met criteria for a mood disorder or anxiety disorder according to the ADIS-IV.

Calculation of Direct and Indirect Costs

The calculation of direct and indirect costs was based on data collected using the SCI.

Direct costs. The costs associated with visits to general practitioners and medical specialists, and prescription medications were obtained from price lists of the Quebec provincial medicare program, the Régie de l'Assurance Maladie du Québec (RAMQ). Service and prescription drug costs reflect 1999 rates.

Costs associated with the services of nonmedical health professionals were obtained directly from the participants. The costs of alternative medications were not obtained, as most participants using such products were unable to accurately recall where they purchased the products and how much they cost.

To account for the costs associated with time lost due to visits with all health professionals, minimum wage per hour in 1999 (\$6.90) was multiplied by time lost (which included time spent in waiting rooms).

Indirect costs. To account for the costs associated with time lost due to workplace absenteeism, minimum wage per hour in 1999 (\$6.90) was multiplied by the number of hours absent from work due to health problems, stress or fatigue. Costs associated with self-perceived work impairment were not calculated.

Total costs. The grand total was calculated by summing the direct and indirect costs.

Results

Overview of Statistical Analysis

Chi-square tests of independence were performed to evaluate the first two hypotheses that (1) relative to nonclinical participants, individuals with GAD would be more likely to report consultations with general practitioners, medical specialists, nonphysician health care providers, and use of prescription and alternative medications in the previous three months, and (2) compared to the nonclinical group, participants with GAD would be more likely to be unemployed, to report work absenteeism, and to report that anxiety had interfered with their performance at work in the previous three months.

Pearson product-moment correlations were performed to assess the relationships between health care and work performance variables, and the following variables that could potentially be associated with increased health care use and diminished work productivity in the GAD group: number of comorbid Axis I diagnoses, number of comorbid medical conditions, severity of GAD at intake, chronicity of GAD, severity of depression and trait anxiety.

A one-way between-groups multivariate analysis of variance (MANOVA) and follow-up one-way between groups Analyses of Variance (ANOVAs) were performed to test the third hypothesis that direct costs (costs associated with health care use) would be significantly higher in the GAD group, relative to the control group. A one-way between groups ANOVA was also applied to test the fourth hypothesis that indirect costs associated with workplace absenteeism due to factors such as illness, stress and fatigue would be significantly higher in the GAD group than in the nonclinical group.

Finally, Pearson product-moment correlations were performed to assess the relationships between the costs of health care use and work absenteeism, and the following variables that could potentially be associated with increased costs in the GAD group: number of comorbid Axis I diagnoses, number of comorbid medical conditions, severity of GAD at intake, chronicity of GAD, severity of depression and trait anxiety.

Significance levels were set at .05 for all tests.

Statistical Analysis

Clinical characteristics. As expected, participants with GAD ($M = 14.65$, $SD = 9.75$) scored significantly higher than did the nonclinical control participants ($M = 3.74$, $SD = 5.06$) on the BDI-II, $t(44) = -4.76$, $p < .001$. Similarly, participants with GAD

($M= 54.16$, $SD= 7.47$) scored significantly higher than did the nonclinical participants ($M= 30.04$, $SD= 6.31$) on trait anxiety as measured by the STAI-Form-Y2, $t(44) = -11.83$, $p < .001$.

Health care use and work performance. Frequencies and percentages for health care use in both groups are presented in Table 1.

Consistent with the first hypothesis, relative to the nonclinical control group, participants with GAD were significantly more likely to report having consulted with general practitioners [$\chi^2(1, N = 46) = 4.57$, $p = .032$, $\phi^2 = .10$] and medical specialists [$\chi^2(1, N = 46) = 8.85$, $p = .003$, $\phi^2 = .19$] in the previous 3 months. Types of medical specialists reported by both groups are presented in Table 2. On the contrary, participants in both groups were not significantly different in their report of visits to nonphysician health care providers, although GAD participants reported use of these services in slightly greater proportions. Types of nonphysician health care providers reported by both groups are presented in Table 3.

In terms of medication use, relative to the nonclinical group, participants with GAD were significantly more likely to have used prescription medication in the previous 3 months [$\chi^2(1, N = 46) = 7.56$, $p = .006$, $\phi^2 = .16$], with 61% reporting use of antidepressants or anxiolytics. A nonsignificant trend was observed indicating use of alternative medications in this group as well. Examples of alternative medications mentioned by individuals with GAD were St. John's Wort, various over-the-counter stress-reducing vitamins, and herbal teas.

Table 1

Health Care Use Reported by Participants with GAD (n = 23) and Nonclinical Control

Participants (NC: n=23)

Variable	GAD		NC	
	n	%	n	%
General Practitioners	18	78.26	11	47.82
Medical Specialists	15	65.22	5	21.74
Nonphysician Health Care Providers	13	56.52	11	47.83
Prescription Medication	19	82.61	10	43.48
Alternative Medications	15	65.22	9	39.13

Table 2

Consultations with Medical Specialists Reported by Participants with GAD (n = 23) and Nonclinical Control Participants (NC; n=23)

Medical Specialist	GAD		NC	
	n	%	n	%
Cardiologist	1	4.3	0	-
Dermatologist	2	8.7	1	4.3
Endocrinologist	1	8.7	2	8.7
ENT	1	4.3	1	4.3
Neurologist	2	8.7	0	-
Ophthalmologist	1	4.3	2	8.7
Orthopedist	1	4.3	0	-
Physiatrist	2	8.7	0	-
Psychiatrist	10	43.5	0	-
Surgeon	1	4.3	0	-

Table 3

Consultations with Nonphysician Health Care Providers Reported by Participants with GAD (n = 23) and Nonclinical Control Participants (NC; n=23)

Variable	GAD		NC	
	n	%	n	%
Alternative Health Care Provider				
Acupuncturist	2	8.7	0	-
Chiropractor	2	8.7	2	8.7
Dietician	0	-	1	4.3
Hotline	1	4.3	1	4.3
Massage Therapist	4	17.4	2	8.7
Osteopath	1	4.3	0	-
Support Group	1	4.3	0	-
Mental Health Professionals				
Psychologist	3	13.0	1	4.3
Psychotherapist	1	4.3	0	-
Other Health Care Providers				
Dentist	7	30.4	4	17.4
Nurse	0	-	1	4.3
Optometrist	1	4.3	2	8.7
Physiotherapist	1	4.3	0	-

In terms of work performance, chi square analyses revealed that in the previous three months, participants with GAD were as likely as nonclinical participants to have been employed and to have been absent from work. However, 71% of participants in the GAD group reported that anxiety symptoms had interfered with their performance at work, while none of the nonclinical control participants reported such interference.

Pearson product-moment correlations performed between health care and work performance variables, and factors that could potentially influence these variables in the GAD group, revealed that severity of depression as measured by the BDI-II, trait anxiety as measured by the STAI-Form-Y2, number of medical conditions and chronicity of GAD were not significantly associated with health care use, employment status, workplace absenteeism, and self-perceived work performance. On the other hand, greater severity of GAD showed a moderate correlation with the presence of visits with general practitioners ($r_{pb} = .38$, $p = .07$) and was significantly correlated with use of prescription medications ($r_{pb} = .51$, $p = .01$). In addition, greater number of comorbid mood and anxiety disorders was significantly correlated with the presence of visits with general practitioners ($r_{pb} = .44$, $p = .04$) and showed a moderate relationship with interference in workplace productivity as reported by participants ($r_{pb} = .46$, $p = .07$).

Cost analysis. Means and standard deviations for direct, indirect and total costs in the GAD and nonclinical control groups are shown in Table 4. The results indicate that the mean total costs associated with health care use and work absenteeism incurred over a 3-month period by individuals with GAD amounted to \$ 528, which was approximately four times greater than the total costs incurred by nonclinical participants (\$ 135).

Table 4

Means and Standard Deviations for Direct and Indirect Costs (in Canadian dollars)
Incurred over a 3-Month Period by Participants with GAD (n = 23) and Nonclinical
Control Participants (NC; n=23)

Variable	GAD		NC		E (1, 44)
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	
Direct Costs					
General Practitioners	28.22	30.25	15.17	23.14	2.70
Medical Specialists	54.58	57.43	10.36	36.18	9.76***
NonPhysician Health Care Providers [†]	202.00	310.08	67.08	123.19	3.76*
Consultation Time	43.94	41.71	17.70	19.59	7.45***
Prescription Medication	67.12	150.62	21.37	48.36	1.92
Indirect Costs					
Lost Salary due to Missed Work Hours	132.00	361.04	3.05	10.60	2.93*
Total Costs	527.86	692.49	134.73	135.98	7.14**

Note. *p < .10. **p < .05. ***p < .01.

[†] Includes costs associated with visits to nonpsychiatric mental health professionals,

alternative health care providers, and dentists, nurses, optometrists, and physiotherapists

A one-way between-groups MANOVA was performed on the five dependent variables reflecting direct costs: the costs of visits to general practitioners, the costs of visits to medical specialists, the costs of visits to nonphysician health care providers, the costs associated with time spent consulting with all health professionals (including waiting time) and the costs of prescription medications. As mentioned earlier, costs associated with use of alternative medications and remedies were not obtained and therefore not included in this analysis.

Wilks' criterion revealed a significant effect of group, $F(5, 40) = 2.58, p = .041, \eta^2 = .24$. Univariate between-group ANOVAs were used to examine the effect of group membership on each of the dependent variables reflecting direct costs. The results showed that costs associated with visits to medical specialists and time spent consulting with health professionals were both significant contributors to the composite dependent variable differentiating the GAD and nonclinical groups [$F(1, 44) = 9.76, p = .003, \eta^2 = .18$ and $F(1, 44) = 7.45, p = .009, \eta^2 = .15$, respectively], while a statistical trend was observed for costs of visits with nonphysician health care providers [$F(1, 44) = 3.76, p = .059, \eta^2 = .08$]. Mean costs of visits with medical specialists, time spent consulting with health professionals, and visits with nonphysician health care providers were all greater for participants in the GAD group.

Pearson product-moment correlations performed in the GAD group only, revealed that severity of depression as measured by the BDI-II, trait anxiety as measured by the STAI-Form-Y2, number of medical conditions, and chronicity of GAD were not significantly associated with the costs of health care use (direct costs) and workplace absenteeism (indirect costs). Consistent with the correlations reported earlier, greater

severity of GAD and greater number of comorbid mood and anxiety disorders were significantly correlated with the costs associated with visits to general practitioners ($r = .47, p = .02$ and $r = .69 < .001$, respectively).

To address the final hypothesis, a one-way between groups ANOVA was performed to compare the GAD and nonclinical control groups on the costs associated with missed work hours due to illness, fatigue, or stress, which corresponded to indirect costs. A statistical trend was observed [$F(1, 44) = 2.93, p = .094$] with GAD participants incurring greater indirect costs.

Discussion

The present study was a preliminary survey of health care use and work disability, and their associated costs in individuals with GAD. Overall, the results showed that individuals with GAD were more likely than individuals from the general nonclinical population to use certain types of health care services and to report that anxiety was hindering their performance at work. As predicted, the total costs associated with health care and work impairment were greater for individuals with GAD. The total costs per individual over a 3-month period for those with GAD was estimated at \$528, which was approximately four times the costs incurred by nonclinical control participants. Given that not all cost categories were assessed, this is likely an underestimate of the actual financial burden of this disorder.

The first hypothesis, that individuals with GAD would be more likely to report health care use over a 3-month period relative to nonclinical control participants, was partly confirmed. Participants with GAD were more likely than the comparison group to report having consulted with general practitioners in the previous three months, which is

consistent with other research showing that GAD is associated with increased contact with primary care providers (Dugas, 1998; Maier et al., 2000). Individuals with GAD were also more likely to have consulted with medical specialists relative to nonclinical participants. Interestingly, aside from psychiatrists, no other medical specialist prevailed, which contrasts with other studies that have shown that GAD patients tend to consult with specific specialists such as gastroenterologists (Kennedy & Schwab, 1997) and cardiologists (Logue et al., 1993). The fact that in the present study, 44% of participants with GAD reported having consulted with a psychiatrist in the last 3 months is noteworthy, since studies on health care utilization in anxiety disorder patients conducted in the United States have shown that consultations with psychiatrists are not as common as one would expect (Kennedy & Schwab, 1997).

The most apparent explanation for the discrepancy relates to this study's methodology. The GAD participants in this sample were all recruited from a specialized anxiety disorders clinic, which makes it more likely that these individuals had had previous contact with mental health professionals. The frequency of consultations with psychiatrists might not be as elevated in a community sample or a sample drawn from a medical clinic, for example. Alternately, this discrepancy might reflect differences in Canadian and American health care systems, in that access to psychiatrists is likely to be facilitated under the Canadian policy of universal health care.

As expected, participants with GAD were also more likely to have used prescription medication in the previous three months compared with nonclinical participants. A notable 61% of GAD participants reported use of antidepressants or anxiolytics in the previous three months. Perhaps the most intriguing finding is the trend

pointing to the relationship between GAD and use of alternative medications such as herbal based remedies and vitamins. In the current study, participants were not asked to explain their use of alternative medications; possible reasons for their use can only be speculated on.

One possibility is that use of alternative health care might represent a less stigmatizing option than traditional health care for individuals with GAD. Alternately, individuals with GAD might be using alternative health care complementary to traditional health care as a preventive measure. This is a reasonable hypothesis since it has been found that health is reported as a prominent worry theme in this population (Dugas et al., 1998). Further research is needed to disentangle these possible explanations.

The study's results also confirmed the second hypothesis that individuals with GAD would report greater work impairment relative to nonclinical participants, but not in a manner which was consistent with previous literature. There were three indices of work performance in this study: employment status (employed versus unemployed); work hours missed due to illness, fatigue or stress; and self-perceived work impairment. Contrary to previous research, individuals with GAD were as likely as nonclinical control participants to have been employed and to have missed work in the past three months. Although both groups did not differ on these objective indices of work productivity, they did differ in their subjective impressions of their work performance. Among employed GAD participants, most (71%) reported that anxiety symptoms had interfered with their productivity at work, whereas none of the nonclinical participants reported such

interference, which complements research showing that individuals with GAD frequently worry about their work competency (Dugas et al., 1998).

This finding highlights an important methodological caveat that pervades the existing literature on the relationship between mental health and work performance. Indices of work productivity in cost analysis research are typically limited to employment status, absenteeism, and work loss days, whereas more informative indices such as degree of satisfaction (Krupnick, 1999), and the sufferer's perception of their own productivity at work (Lecubrier, 2001) are often overlooked.

On the other hand, perhaps subjective indices of work productivity are not relied on because they are prone to inaccuracy, particularly with a GAD population. More specifically, excessive and uncontrollable worry is associated with a selective attention or bias for threat (Aikens & Craske, 2001), which likely decreases perceptions of self-efficacy. Perhaps individuals with GAD are more apt to overstate the impact of anxiety on their functioning at work as a result. The present study underscores the need to include objective and subjective measures of work productivity to obtain a more balanced assessment of occupational role disability associated with GAD.

The last two hypotheses that direct costs and indirect costs would be significantly elevated in participants with GAD relative to the nonclinical group were partly confirmed. Participants with GAD incurred significantly greater direct costs, and to a lesser extent, indirect costs related to work absenteeism. The finding that indirect costs were substantially greater in the GAD group despite a similar likelihood to have been absent from work, suggests that when individuals with GAD miss work, they tend to be absent for a longer period.

This study has some notable methodological limitations. The first limitation concerns the small sample sizes used to conduct the cost analysis. As stated earlier in this paper, the impact of comorbidity is usually considered in any analysis of the financial burden of a psychological disorder, as comorbidity is believed to inflate costs. Indeed, in the present study, greater number of comorbid psychiatric disorders was associated with the presence of consultations with general practitioners and with a subjective impression of workplace impairment. An additional post hoc analysis was attempted to determine the impact of comorbidity on costs. Direct and indirect costs were compared in individuals with “pure” GAD (n=8) and individuals with at least one other comorbid disorder (n=15), which revealed no significant between group differences. However, given the small sample sizes and large standard deviations, these results are difficult to interpret, as meaningful differences might have been obscured by inadequate power.

While the impact of psychiatric comorbidity is typically seen as an influence that should be eliminated methodologically or statistically, a counterargument can be made against this practice. Attempts to “eliminate” or control for the effects of comorbidity threaten ecological validity, as GAD cases in real world clinical settings tend not to be pure. This is an important consideration given that cost analysis data are used by health care providers and policymakers to make decisions about the dissemination of mental health services in the health care system.

Due to the limited sample size, it was also not possible to compare “subtypes” of GAD based on anxiety symptom profiles. Although the main characteristic of GAD is excessive and uncontrollable worry, the disorder is associated with a host of anxiety

symptoms that extend beyond the conventional ones that are described in the DSM-IV. Given that GAD is a heterogeneous disorder, it is likely that certain symptoms are associated with greater costs than others. For example, patients who experience chest pain and gastrointestinal distress may incur greater direct costs (e.g., visits to medical specialists, emergency room consultations) compared with individuals who have less physically salient symptoms such as irritability, feelings of agitation, and fatigue.

A second methodological limitation in this study concerns the instrument that was used to gather the information on health care use and work performance. As was mentioned earlier, the total costs associated with health care use and work impairment were unquestionably underestimated. The Social Costs Interview only covers a limited number of cost categories. Ideally, a more comprehensive assessment of direct costs would have accounted for quite literally every single aspect of the patient's contact with physicians, including the costs associated with laboratory tests, hospital infrastructure, training of health professionals etc. Likewise, a more complete account of indirect expenditures would have captured the costs associated with all aspects of lost productivity including caregiver burden, for example. The instrument is also limited in accuracy because of its retrospective design, its sole reliance on participant self-report, and its restricted time frame. It is likely that further revisions will be made to this fairly new instrument to increase its breadth, as a better understanding of which cost categories are pertinent to the anxiety disorders emerges.

The present study also has an important conceptual limitation. The main issue that has been recognized in the literature is that it is often impossible to draw a causal connection between a psychological disorder and health care use, as there are a multitude

of complex factors that influence health care utilization (Kennedy & Schwab, 1997; Simon, Ormel, VonKorff, & Barlow, 1995). The problem is two-fold: recognition of anxiety by primary care providers is made difficult because GAD patients tend to present uniquely for their somatic symptoms. Further, the patients themselves do not even recognize that their health problems are manifestations of worry and anxiety, and is it often left to the researcher to make this plausibly inaccurate inference.

Overall, the present study addressed the limitations discussed earlier in this paper. It contributes to the scarce Canadian database on costs associated with psychological problems. Although this study is restricted in scope, it provides a preliminary estimate of the burden of a common disorder that is frequently misdiagnosed and mistreated in primary care settings, and provides a methodological framework for future cost-effectiveness studies. The results of this study need to be replicated with a larger sample to verify their stability. It remains to be determined if the provision of treatment for GAD diminishes the social and personal costs associated with this disorder in the long-run. The results of this study support the notion that individuals with GAD are not merely the “worried well;” this group might be more appropriately referred to as the “walking wounded.” in that they are more debilitated than they appear to be.

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Appendix A
Consent Form
GAD group

FORMULAIRE D'INFORMATION ET DE CONSENTEMENT

Titre de l'étude: Le traitement psychologique du trouble d'anxiété généralisée:
comparaison de la thérapie cognitive à la thérapie comportementale

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1. Nature et objectif de l'étude

Dans le cadre de la présente étude, la thérapie cognitive sera comparée à la thérapie comportementale pour le traitement du trouble d'anxiété généralisée (TAG). Ces deux formes de traitement sont reconnues comme étant efficaces pour les gens souffrant du TAG. Le but principal de cette étude est de comparer l'efficacité à court et moyen terme de ces deux types de traitement. Le but secondaire de l'étude est d'identifier les facteurs prédictifs de l'efficacité des traitements et du maintien des progrès thérapeutiques.

Un total de 102 adultes présentant un diagnostic primaire de TAG participeront à cette étude. Ils seront tous recrutés et traités à la Clinique des troubles anxieux de l'Hôpital du Sacré-Cœur de Montréal.

2. Déroulement de l'étude et méthodes utilisées

Vous participerez d'abord à une entrevue diagnostique d'une heure avec un psychiatre. Cette entrevue préliminaire nous permettra d'évaluer si vous rencontrez les critères de sélection de l'étude. Si tel est le cas, vous participerez à une deuxième entrevue diagnostique avec un psychologue. Si la deuxième évaluation confirme que vous rencontrez les critères d'inclusion pour l'étude, vous serez alors invité(e) à y participer.

Si vous acceptez de participer à l'étude, vous serez assigné(e) au hasard à l'une des trois conditions suivantes: (1) la thérapie cognitive, (2) la thérapie comportementale, ou (3) la liste d'attente. Les sujets dans la condition liste d'attente seront assignés au hasard à la thérapie cognitive ou à la thérapie comportementale après une période d'attente de 12 semaines. Tous les sujets recevront donc un traitement reconnu comme étant efficace pour le TAG. De plus, au cours des 12 semaines d'attente, les sujets sur la liste d'attente seront contactés à toutes les trois semaines pour vérifier si leur état nécessite une intervention plus urgente. Dans de telles circonstances, ils seront retirés de l'étude pour recevoir un traitement approprié.

Les deux types de traitement seront administrés par des psychologues expérimentés. Ces traitements exigent des rencontres hebdomadaires de 60 minutes pendant douze semaines. Entre les rencontres, vous aurez des lectures à faire et des exercices à pratiquer. Des rencontres de suivi 6 et 12 mois suite au traitement sont aussi prévues.

À différents moments de l'étude (avant le traitement, après le traitement, et aux rencontres de suivi de 6 et 12 mois), vous aurez à compléter certains questionnaires. Ceci est essentiel car vos réponses aux questionnaires nous permettront d'évaluer l'efficacité des traitements.

3. Risques, effets secondaires et désagréments

Si vous recevez un médicament de votre médecin ou de votre psychiatre au moment du début de l'étude, cela demeure la responsabilité de ce dernier pendant la durée du traitement. Cependant, nous vous demandons seulement de ne pas augmenter le dosage de votre médication ou de modifier le type de médicament sans en avertir préalablement votre thérapeute.

Il est possible que quelques uns des exercices prescrits par votre thérapeute provoquent certains malaises à court terme. Ceux-ci sont temporaires et disparaissent habituellement avec la pratique répétée de ces exercices.

4. Bénéfices et avantages

Les deux types de traitement offerts sont efficaces pour le TAG. Ainsi, votre participation à cette étude devrait vous aider à diminuer significativement votre anxiété et vous aider à retrouver un meilleur fonctionnement personnel, social et/ou professionnel. Parallèlement, vous allez nous aider à mieux évaluer l'efficacité de ces traitements et ainsi contribuer à l'avancement des connaissances en participant à cette étude. Compte tenu qu'il existe différents traitements reconnus comme efficaces pour le TAG, il est actuellement crucial de comparer l'efficacité de ceux-ci afin d'identifier la psychothérapie de choix.

5. Autres moyens thérapeutiques possibles

Si vous décidez de ne pas participer à cette étude, d'autres formes de traitement sont disponibles pour le TAG. Ceux-ci comprennent la psychothérapie, la pharmacothérapie (traitement médicamenteux) ou une combinaison de psychothérapie et de médicament.

6. Versement d'une indemnité

Les sujets ne recevront aucune rémunération relative à leur participation à cette étude.

7. Confidentialité

Les rencontres de traitement seront enregistrées sur bande audio. Une seule assistante de recherche expérimentée écoutera l'enregistrement des rencontres afin de s'assurer de la qualité des interventions que vous aurez reçues. Tout comme les questionnaires que vous complétez au cours de cette étude, les cassettes ne seront identifiées que par un numéro de code.

Tous les renseignements recueillis à votre sujet au cours de l'étude, incluant les bandes audio, demeureront strictement confidentiels, dans les limites prévues par la loi, et vous ne serez identifié(e) que par un code afin de préserver l'anonymat. Aucune publication ou communication scientifique résultant de cette étude ne renfermera quoi que ce soit qui puisse permettre de vous identifier. Lorsque cette étude sera terminée, les questionnaires seront détruits et les bandes audio seront effacées.

Cependant, à des fins de contrôle du projet de recherche, votre dossier pourra être consulté par une personne mandatée par le comité d'éthique de la recherche de l'hôpital ainsi que par des représentants de l'organisme subventionnel (Instituts de recherche en santé du Canada) et des organismes gouvernementaux de santé autorisés. Tous ces organismes adhèrent à une politique de stricte confidentialité.

8. Indemnisation en cas de préjudice

Si vous deviez subir quelque préjudice que ce soit par suite de l'administration des traitements à l'étude, vous recevrez tous les soins médicaux nécessaires, sans frais de votre part.

En acceptant de participer à cette étude, vous ne renoncez à aucun de vos droits ni ne libérez les chercheurs ou les institutions impliqués de leurs responsabilités légales et professionnelles.

9. Participation volontaire et retrait de l'étude

Votre participation à cette étude est volontaire. Vous êtes donc tout à fait libre de refuser d'y participer. Vous pouvez également vous retirer de l'étude à n'importe quel moment sans avoir à vous justifier, en faisant connaître votre décision au chercheur ou à l'un(e) de ses assistant(e)s. Toute nouvelle connaissance acquise durant le déroulement de l'étude qui pourrait affecter votre décision de continuer d'y participer vous sera communiquée sans délai.

Votre décision de ne pas participer à l'étude ou de vous en retirer n'aura aucune conséquence sur les soins qui vous seront fournis par la suite ou sur vos relations avec votre médecin et les autres intervenants.

Le chercheur responsable de l'étude peut aussi décider de vous retirer de l'étude sans votre consentement si vous débutez une médication qui n'est pas autorisée par l'étude, si votre participation au traitement n'est pas assidue ou que votre état psychologique se détériore. Si vous le désirez, ou si on vous recommande, vous pouvez obtenir un suivi approprié à la clinique.

10. Personnes à contacter

Si vous avez des questions au sujet de cette étude, s'il survient un incident quelconque ou si vous désirez vous retirer de l'étude, vous pouvez contacter en tout temps le chercheur ou un cochercheur de cette étude à Clinique des troubles anxieux au (514) 338-4201 (selon les heures de bureau).

Si vous avez des questions concernant vos droits en tant que participant à un projet de recherche, ou si vous avez des plaintes ou des commentaires à formuler, vous pouvez communiquer avec Huguette Gervais, à la Direction Générale, au (514) 338-2222, poste 2730.

CONSENTEMENT

La nature de cette étude, les procédures utilisées, les risques et les bénéfices que comporte ma participation à cette étude ainsi que les aspects relatifs à la confidentialité des informations qui seront recueillies au cours de l'étude m'ont été expliqués.

J'ai eu l'occasion de poser toutes les questions concernant les différents aspects de cette étude et on y a répondu de façon satisfaisante.

Je reconnais qu'on m'a laissé le temps voulu pour prendre ma décision.

J'accepte volontairement de participer à cette étude. Je demeure libre de m'en retirer en tout temps sans que cela ne nuise aux relations avec mon médecin ou les autres intervenants et sans préjudice d'aucune sorte.

Je recevrai une copie signée de ce formulaire d'information et de consentement.

_____	_____	_____
Nom du sujet	Signature	Date
_____	_____	_____
Nom du chercheur	Signature	Date
_____	_____	_____
Nom du témoin	Signature	Date

Appendix B
Consent Form
Nonclinical Control Group

Formulaire de Consentement

Je, _____, déclare que j'accepte de participer à une étude à l'Université Concordia, dirigée par Naomi Koerner, candidate à la maîtrise en psychologie (848-2229), et Michel Dugas, Ph.D.

A. But de l'Étude

J'ai été informé(e) que le but de cette étude est d'évaluer les coûts de la santé chez les individus sains et d'approfondir nos connaissances des facteurs associés aux coûts de la santé.

B. Procédures

J'ai été informé(e) que l'étude implique les procédures suivantes: Toutes les activités de recherche auront lieu en une session à l'Université Concordia. Je participerai d'abord à une entrevue diagnostique d'environ 45 minutes. Cette entrevue préliminaire vous permettra d'évaluer si je rencontre les critères de sélection de l'étude. Si tel est le cas, je participerai à une deuxième entrevue qui porte sur les coûts de la santé, qui dure environ 30 minutes. Ensuite, j'aurai à compléter deux questionnaires portant sur mes pensées et mes émotions, ainsi qu'une questionnaire sociodémographique. Je comprends qu'il me faudra deux heures pour compléter les tâches décrites ci-dessus. Sur l'accomplissement des entrevues et questionnaires, je recevrai une rémunération de 20 dollars pour mon déplacement. Il n'y a aucune déception et l'étude ne comprend aucune autre tâche que celles qui sont décrites ci-dessus.

C. Conditions de Participation

- Je comprends que je peux refuser de participer à l'étude sans subir de conséquences négatives.
- Je comprends que je peux me retirer de cette étude en tout temps sans subir des conséquences négatives.
- Je comprends que les entrevues seront enregistrées sur bande audio. Une seule assistante de recherche expérimentée écoutera l'enregistrement des entrevues afin de s'assurer de la qualité des entrevues.
- J'ai été informé(e) que tous les résultats des entrevues et questionnaires seront traités de manière tout à fait confidentielle et seront codifiés par numéro dès leur réception. Ainsi mon nom ne pourra en aucun temps être associé aux données dans les entrevues et questionnaires.
- Seuls les membres de l'équipe de recherche auront accès aux données. De plus, les entrevues et les questionnaires seront gardés dans un local fermé à clef et réservé à cette fin. Ce formulaire de consentement sera récupéré et entreposé séparément des entrevues et questionnaires afin qu'il ne soit pas possible d'établir de lien entre les deux.
- Je comprends que les données de cette étude peuvent être publiées.
- Je comprends les objectifs de cette étude et sais qu'il n'y a aucun motif caché dont je n'ai pas été informé(e) au complet.

J'AI PRIS CONNAISSANCE DES DIFFERENTS ELEMENTS DE CETTE ETUDE ET
J'ACCEPTÉ D'Y PARTICIPER.

NOM _____
SIGNATURE _____
TEMOIN(E) _____

DATE _____

Appendix C

**Social Costs Interview
(Entrevue sur les Coûts de la Santé)**

Entrevue sur les coûts de la santé

Nous allons maintenant vous poser quelques questions sur votre utilisation de services de santé au cours des trois derniers mois. Cette période débute le _____ et se termine le _____.

1. Au cours des trois derniers mois, avez-vous consulté un médecin? Il peut s'agir par exemple d'un omnipraticien ou d'un spécialiste tel qu'un cardiologue, un psychiatre ou un dermatologue.

- a) Oui
b) Non → PASSER À LA QUESTION 7

2. Parmi vos consultations médicales, avez-vous consulté un médecin généraliste?

- a) Oui
b) Non → PASSER À LA QUESTION 3

Note à l'évaluateur : Pour chaque consultation, veuillez d'abord encrer le chiffre correspondant à l'endroit de la consultation. Ensuite, indiquez brièvement le motif de la consultation ainsi que les examens effectués (électrocardiogramme, radiographie, examen gynécologique, biopsie...), puis inscrivez une estimation de la durée de la consultation et du temps d'attente (en minutes).

ENDROIT	DESCRIPTION DE LA CONSULTATION MÉDICALE
1 Hôpital (urgence)	Motif :
2 Hôpital (externe)	Examens/traitements :
3 CLSC	Durée de la consultation : Temps d'attente :
4 Clinique médicale	
1 Hôpital (urgence)	Motif :
2 Hôpital (externe)	Examens/traitements :
3 CLSC	Durée de la consultation : Temps d'attente :
4 Clinique médicale	
1 Hôpital (urgence)	Motif :
2 Hôpital (externe)	Examens/traitements :
3 CLSC	Durée de la consultation : Temps d'attente :
4 Clinique médicale	

3. Avez-vous consulté un ou des médecin(s) spécialiste(s) au cours des trois derniers mois ?

- a) Oui → ENCERCLER LES SPÉCIALISTES DANS LA LISTE
 b) Non → PASSER À LA QUESTION 4

- | | | |
|-----------------------|--------------------|--------------------|
| 01 Cardiologue | 08 Interniste | 15 Psychiatre |
| 02 Chirurgien | 09 Microbiologiste | 16 Pneumologue |
| 03 Dermatologue | 10 Néphrologue | 17 Psychiatre |
| 04 Endocrinologue | 11 Neurologue | 18 Radiologiste |
| 05 Gastro-entérologue | 12 Ophtalmologiste | 19 Radio-oncologue |
| 06 Gynécologue | 13 Orthopédiste | 20 Rhumatologue |
| 07 Hématologue | 14 ORL | 21 Autres: |

Note à l'évaluateur : Veuillez noter le numéro du spécialiste (voir liste) dans la colonne de gauche. Si la personne est référée à un autre spécialiste pour un examen ou traitement particulier, veuillez décrire cette consultation séparément. Lorsqu'un examen médical est exécuté par un technicien, veuillez l'inscrire comme s'il s'agissait d'un spécialiste. Les chirurgies d'un jour doivent aussi être inscrites dans cette section.

TYPE	ENDROIT	DESCRIPTION DE LA CONSULTATION MÉDICALE
	1 Hôpital (urgence)	Motif :
	2 Hôpital (externe)	Examens/traitements :
	3 CLSC	Durée de la consultation : Temps d'attente :
	4 Clinique médicale	
	1 Hôpital (urgence)	Motif :
	2 Hôpital (externe)	Examens/traitements :
	3 CLSC	Durée de la consultation : Temps d'attente :
	4 Clinique médicale	
	1 Hôpital (urgence)	Motif :
	2 Hôpital (externe)	Examens/traitements :
	3 CLSC	Durée de la consultation : Temps d'attente :
	4 Clinique médicale	
	1 Hôpital (urgence)	Motif :
	2 Hôpital (externe)	Examens/traitements :
	3 CLSC	Durée de la consultation : Temps d'attente :
	4 Clinique médicale	

4. Avez-vous été hospitalisé au cours des trois derniers mois (durée minimum d'une nuit)?

- a) Oui
 b) Non → PASSER À LA QUESTION 7

5. Quel fut le motif de votre hospitalisation?

6. Combien de nuits avez-vous passées à l'hôpital? _____

7. Au cours des trois derniers mois, avez-vous consulté un autre professionnel de la santé? Par exemple, il peut s'agir d'un psychologue, d'une infirmière (prises de sang), d'un groupe de soutien, d'un dentiste, d'un optométriste, d'un chiropraticien, d'un massothérapeute ou d'Info-Santé.

- a) Oui → ENCERCLER LES TYPES DE PROFESSIONNELS DANS LA LISTE
 b) Non → PASSER À LA QUESTION 8

- | | | |
|----------------------|------------------------|-----------------------|
| 01 Acupuncteur | 09 Infirmière | 17 Psychologue |
| 02 Chiropraticien | 10 Ligne d'écoute | 18 Psychothérapeute |
| 03 Dentiste | 11 Ligne d'information | 19 Réflexologue |
| 04 Diététiste | 12 Massothérapeute | 20 Sexologue |
| 05 Ergothérapeute | 13 Naturopathe | 21 Travailleur social |
| 06 Groupe de soutien | 14 Optométriste | 22 Autres: |
| 07 Herboriste | 15 Ostéopathe | |
| 08 Hypnothérapeute | 16 Physiothérapeute | |

Note à l'évaluateur : Veuillez remplir un encadré pour chaque type de consultation en prenant soin de noter le nom du groupe d'entraide ou de la ligne d'écoute, le cas échéant. Pour l'endroit de la consultation, veuillez indiquer s'il s'agit par exemple d'une clinique privée, d'un hôpital, d'un CLSC ou d'un domicile. Le nombre de sessions ainsi que le coût/session doivent se rapporter aux trois derniers mois seulement.

TYPE	PROFESSIONNEL	DESCRIPTION DE LA CONSULTATION
	Endroit/organisme:	Motif :
		Nombre de sessions : Coût/session :
		Durée de la consultation : Temps d'attente :
	Endroit/organisme:	Motif :
		Nombre de sessions : Coût/session :
		Durée de la consultation : Temps d'attente :
	Endroit/organisme:	Motif :
		Nombre de sessions : Coût/session :
		Durée de la consultation : Temps d'attente :

8. Au cours des trois derniers mois, avez-vous pris des médicaments?

- a) Oui
- b) Non → PASSER À LA QUESTION 8.A

Note à l'évaluateur : Indiquez tous les médicaments utilisés au cours des trois derniers mois et décrivez la posologie le plus précisément possible. Si le médicament est pris seulement au besoin (PRN), veuillez déterminer une fréquence approximative de son utilisation. La durée d'utilisation porte uniquement sur les trois derniers mois alors vous devez indiquer « plus de trois mois » ou un nombre précis de jours ou de semaines d'utilisation du médicament.

Nom commercial ou générique	Posologie	Durée
Exemples : Syntroïde Xanax	0,5 mg / 2x par jour 0.2 mg / jour	Plus de trois mois 8 semaines

8.A. Au cours des trois derniers mois, avez-vous pris des vitamines ou remèdes à base de plantes?

- a) Oui
- b) Non → PASSER À LA QUESTION 9

Note à l'évaluateur : Indiquez tous les vitamines et remèdes à base de plantes utilisés au cours des trois derniers mois et décrivez la posologie le plus précisément possible. Si les vitamines et remèdes à base de plantes sont pris seulement au besoin (PRN), veuillez déterminer une fréquence approximative de leurs utilisation. La durée d'utilisation porte uniquement sur les trois derniers mois alors vous devez indiquer « plus de trois mois » ou un nombre précis de jours ou de semaines d'utilisation.

Nom commercial ou générique	Posologie	Durée
Exemples : Millepertuis Tisane	300 mg / 3x par jour un sachet de 50g / 3x par jour	Plus de trois mois 8 semaines

9. Au cours des trois derniers mois, à quelle fréquence avez-vous consommé de l'alcool ou des drogues dans le but de soulager des symptômes dérangeants, par exemple de l'anxiété ou de la détresse face à certaines situations?

- a) Jamais → PASSER À LA QUESTION 11
- b) Type d'alcool: _____
Fréquence / 3 mois : _____
- c) Type de drogue: _____
Fréquence / 3 mois : _____

10. À quoi attribuez-vous principalement votre consommation d'alcool ou de drogues?

11. Nous allons maintenant vous poser quelques questions sur l'impact de vos problèmes de santé dans votre vie. Tout d'abord, au cours des trois derniers mois, avez-vous demandé à quelqu'un de vous accompagner ou de vous aider à accomplir certaines tâches en raison de problèmes de santé?

- a) Oui → ÉNUMÉRER LA LISTE DE SITUATIONS
 b) Non → PASSER À LA QUESTION 12

Note à l'évaluateur : Encerclez les situations pour lesquelles de l'aide fut reçue au cours des trois derniers mois. Cochez la case "accompagnement" lorsque l'aidant a accompagné la personne dans une situation. Le "remplacement" s'applique lorsque l'aidant accomplit certaines tâches à la place du client. Décrivez le lien avec l'aidant (ex: ami, frère, mère, employé...). Notez aussi pour la période de trois mois la durée de l'aide (ex: 2h/3 mois, 16h/sem., 24h/jour) ainsi que le coût du service ("0 \$" lorsque l'aide est gratuite).

Situations	Acc. / Rempl.	Lien avec l'aidant	Durée de l'aide	Coût \$
01. Caisse / banque	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
02. Épicerie / magasins à rayons	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
03. Restaurant	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
04. Rencontres sociales / réceptions	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
05. Salon de coiffure / esthétique	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
06. Attente en ligne / salles d'attente	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
07. Ascenseurs	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
08. Amphithéâtres / espaces vastes	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
09. Endroits élevés	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
10. Cinéma / spectacles / cours / musées	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
11. Rester seule à la maison\	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
12. S'éloigner de la maison	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
13. Marcher sur la rue	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
14. Déplacements	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
15. Tâches ménagères	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			
16. Travaux lourds	<input type="checkbox"/> Acc. <input type="checkbox"/> Rempl.			

12. Quel moyen de transport utilisez-vous généralement pour vous déplacer à vos rendez-vous chez des professionnels de la santé?
- a) Marche
 - b) Autobus et métro
 - c) Voiture
 - d) Taxi ou autre conducteur rémunéré
 - e) Autres: _____
13. Avez-vous occupé un emploi au cours des trois derniers mois?
- a) Oui → PASSER À LA QUESTION 16
 - b) Non → PASSER À LA QUESTION 14
14. Pour quelle raison n'avez-vous pas travaillé au cours des trois derniers mois?
- a) Recherche d'emploi
 - b) Problème de santé
 - c) Études
 - d) Retraite
 - e) Autre raison: _____
15. Quelles sont vos sources de revenu?
- a) Conjoint(e)
 - b) Aide sociale
 - c) Prestations d'assurance-chômage
_____ % de votre salaire normal
 - d) Prestations d'arrêt de travail avec document médical
_____ % de votre salaire normal
 - e) Autres: _____
16. Avez-vous manqué des heures de travail au cours des trois derniers mois?
- a) Oui → PASSER À LA QUESTION 17
 - b) Non → PASSER À LA QUESTION 18
17. Pour quelle(s) raison(s) vous êtes-vous absenté du travail?
- a) Problème de santé personnel No. d'heures / 3 mois: _____
 - b) Fatigue / stress No. d'heures / 3 mois: _____
 - c) Activité professionnelle No. d'heures / 3 mois: _____
 - d) Vacances No. d'heures / 3 mois: _____
 - e) Autres: _____ No. d'heures / 3 mois: _____
18. Avez-vous l'impression que votre rendement au travail est affecté par certains symptômes dérangeants, par exemple de l'anxiété qui nuit à votre concentration?
- a) Oui → PASSER À LA QUESTION 19
 - b) Non → Fin du questionnaire

19. À quel pourcentage évaluez-vous votre rendement au cours des trois derniers mois? __ %
20. À quoi attribuez-vous cette baisse de productivité?
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