



The prevalence of anxiety and associated factors in persons with multiple sclerosis



Tram Pham^{a,b}, Nathalie Jetté^{a,b,c,1}, Andrew G.M. Bulloch^{c,d,e}, Jodie M. Burton^{a,b,c}, Samuel Wiebe^{a,b,c}, Scott B. Patten^{b,e,*}

^a Department of Clinical Neurosciences, Cumming School of Medicine, University of Calgary, 3330 Hospital Drive NW, Calgary, Alberta, Canada T2N 4N1

^b The Hotchkiss Brain Institute, Cumming School of Medicine, University of Calgary, Calgary 3330 Hospital Drive NW, Calgary, Alberta, Canada T2N 4N1

^c Department of Community Health Sciences and O'Brien Institute for Public Health, Cumming School of Medicine, University of Calgary, 3330 Hospital Drive NW, Calgary, Alberta, Canada T2N 4N1

^d The Mathison Centre for Mental Health Research & Education, Hotchkiss Brain Institute, Cumming School of Medicine, University of Calgary, 3330 Hospital Drive NW, Calgary, Alberta, Canada T2N 4N1

^e Department of Psychiatry, Cumming School of Medicine, University of Calgary, 3330 Hospital Drive NW, Calgary, Alberta, Canada T2N 4N1

ARTICLE INFO

Keywords:

Epidemiology
Psychiatric disorders
Demyelination
Prevalence
Multiple sclerosis
Anxiety

ABSTRACT

Background: The prevalence of anxiety and its association with sociodemographic and clinical factors is not well characterized in those with multiple sclerosis (MS). We aimed to estimate the prevalence and examine associated factors of anxiety in persons with MS.

Methods: A cross-sectional analysis was conducted utilizing data from 244 participants from the Neurological Disease and Depression study. Anxiety was assessed using the Hospital Anxiety and Depression Scale (HADS). Descriptive statistics and multiple logistic regression was used to examine anxiety and associated factors.

Results: Nearly 30.0% of participants had anxiety according to the HADS. The most prevalent symptom of anxiety was “worrying thoughts” (26.6%). After adjustment for various confounders, depression (OR: 7.31 95% CI 3.29–16.26) was found to be associated with higher odds of anxiety, while lower odds of anxiety were associated with higher education (OR: 0.51, 95% CI 0.28–0.94). Furthermore, anxiety was strongly associated with decreased quality of life.

Conclusion: Anxiety represents a substantial burden for those with MS and is associated with a variety of adverse outcomes including decreased quality of life. Our results further emphasize the importance of understanding the impact of anxiety in this population.

1. Introduction

Anxiety is common in persons with multiple sclerosis (MS) (Butler et al., 2016) and is estimated to affect more than 20% of the MS population (Marrie et al., 2015). Comorbid anxiety, in addition to well characterized somatic symptoms, can increase overall disease burden. Consequently, anxiety is associated with significant psychosocial degradation in those with MS, including low quality of life (QoL) (Butler et al., 2016; Spain et al., 2007). Increased suicidal ideation and reduced adherence to disease modifying treatment has also been linked to anxiety in this population (Korostil and Feinstein, 2007).

Several health determinants, such as low education have been associated with an increased risk of anxiety in the general population

(Bjelland et al., 2008) but is less clear in those with MS (Beiske et al., 2008; Patti et al., 2007). Studies in the MS population have also found that women, those with depression and those who smoke or drink alcohol, have increased anxiety (Giordano et al., 2011; Handel et al., 2011; Marrie et al., 2009; Theaudin et al., 2016). Clinical characteristics including disease course and disability can also increase susceptibility to anxiety (Jones et al., 2012). Individuals with more progressive disease types often report greater psychological distress compared to those with less severe MS (Jones et al., 2012; Solari and Radice, 2001).

Psychiatric disorders, including anxiety are becoming increasingly recognized as important comorbidities of MS. However, compared to the literature about depression in MS there is limited knowledge on the

* Correspondence to: TRW building, 4th Floor, Rm 4D66, 3280 Hospital Drive NW, Calgary, AB, Canada T2N 4N1.

E-mail addresses: trumpham@live.ca (T. Pham), bulloch@ucalgary.ca (A.G.M. Bulloch), jodie.burton@alberthealthservices.ca (J.M. Burton), swiebe@ucalgary.ca (S. Wiebe), Patten@ucalgary.ca (S.B. Patten).

¹ <http://Nathalie.jette@mssm.edu>.

epidemiology and associated factors of anxiety in those with MS. Our study aims to estimate the prevalence of anxiety, describe prevalent symptoms of anxiety, and to examine sociodemographic and clinical factors associated with anxiety in persons with MS.

2. Materials and methods

2.1. Participants

Consecutive adult patients were recruited from the MS outpatient clinic at the University of Calgary from June 2013 to September 2014 as part of a larger initiative called the Neurological Disease and Depression Study (NEEDS). The recruitment procedures and protocol have been published previously (Patten et al., 2015). To summarize, patients were not selected based on presenting symptoms or previous clinical findings. Preliminary consent was sought from all eligible patients at the time of their appointment. Patients who agreed to the preliminary consent were then approached by the research team with written formal consent. Eligible patients included those who were: (1) a follow-up patient of the MS clinic; (2) living in Alberta; (3) fluent in English; and (4) free of language/hearing impairment (as part of the original NEEDS study included telephone interviews) and developmental delay or dementia. The University of Calgary Ethics Review Board approved the study.

2.2. Procedures and measures

Participants were asked to complete a questionnaire at the time of their clinic visit that included demographic variables, such as age, sex, marital status, and education. Adverse health behaviours and clinical variables were captured as dichotomous variables (present/absent). Patient reported scales, including the Hospital and Anxiety Depression Scale (HADS) (Zigmond and Snaith, 1983), Patient Health Questionnaire 9 (PHQ-9) (Kroenke et al., 2001), Disease Severity Scale (Speechley et al., 2008), and the QoL scale Short Form 12 (SF-12) (Ware et al., 1996) were also captured. Patient Expanded Disability Status Scale (EDSS) (Kurtzke, 1983) scores were recorded from medical chart review.

The HADS is a self-rating scale used to assess anxiety and depression (Zigmond and Snaith, 1983). The HADS is designed specifically to minimize the occurrence of false positives and has been validated in the general population (Bjelland et al., 2002) and in those with MS (Honarmand and Feinstein, 2009). Depression was measured using the PHQ-9 as it performed slightly better in this population (Patten et al., 2015). The PHQ-9 is a patient self-report questionnaire which incorporates the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition diagnostic criteria (Kroenke et al., 2001). The PHQ-9 has been validated in both the general population (Bjelland et al., 2002) and in those with MS (Patten et al., 2015). QoL was assessed using the SF-12. Higher scores on the SF-12 indicate greater QoL (Ware et al., 1996). Disease severity and disease disability were assessed using the Disease Severity Scale (Speechley et al., 2008) and the EDSS respectively (Kurtzke, 1983). The EDSS scores range from 0.0 (normal neurological exam) to 10.0 (death due to MS) (Kurtzke, 1983). The Disease Severity Scale has been validated in other neurological conditions, such as epilepsy (Speechley et al., 2008). An acute relapse was defined as an onset of new neurological symptoms within the last 30 days.

2.3. Statistical analysis

Missing values on the HADS-A (the anxiety questions) were imputed using the mean score (a total of 32 values were replaced). A HADS cut-point of ≥ 8 was used for anxiety, (Honarmand and Feinstein, 2009) whereas a PHQ-9 cut-point of > 11 was used for depression (Patten et al., 2015). Crude and adjusted odds ratios are reported with 95% confidence intervals (95% CI). Education was dichotomized into “post-

Table 1
Characteristics of study sample.

Sample characteristics	N (%)
Age	
Mean (SD)	49.5 (11.60)
Median (Range)	50 (25–82)
Gender	
Male	99 (27.05)
Female	178 (72.95)
Education	
Above high school education	136 (62.40)
High school education and below	82 (37.60)
Currently employed	166 (66.70)
Current smoker	39 (17.86)
Drink alcohol	163 (74.77)
Illicit drug use	22 (10.09)
Disease course	
Relapse-remitting MS	162 (66.39)
Primary progressive MS	23 (9.43)
Secondary progressive MS	51 (20.90)
Disease-modifying medication	102 (42.7)
Adverse medication side effects	58 (26.9)
Acute Relapse	10 (4.15)
Treated with steroids	7 (2.89)

*SD; Standard deviation.

Data presented as the number of participants and percentages unless specified.

secondary education”/“Grade 12 or lower” and the EDSS into scores $> 5 / \leq 5$. The low frequency of acute relapse and steroid treatment precluded the estimation of an OR. Descriptive statistics were reported as means with standard deviations where appropriate. Pearson’s correlation was utilized to assess the association between anxiety and QoL. Disease severity and anxiety were assessed using student’s *t*-tests. Data analysis was completed using STATA 14.1 (Stat Corp, College Station, TX, U.S.A).

3. Results

The research team approached 300 patients to obtain written formal consent, of these 283 patients (94.3%) agreed to participate in the study and 244 were eligible for this analysis. Characteristics of the sample are presented in Table 1.

The prevalence of anxiety was 28.7%, with a mean score of 6.2 (SD: 4.0, median: 6.0, range 0–19). The mean score on the EDSS was 3.3 (SD: 2.4, median: 2.8, range 0–9). The most frequent symptoms of anxiety were “worrying thoughts”, feeling “frightened” and “restlessness” (Fig. 1). The prevalence of depression as measured by the PHQ-9 was 18.5% (mean: 6.5, SD: 5.7, median: 5, range 0–27). A cross tabulation analysis found that anxiety and depression were significantly correlated ($\chi^2 [2, N = 206] = 34.59, p < 0.0001$). Of all patients that reported having anxiety, 53.6% did not have depression.

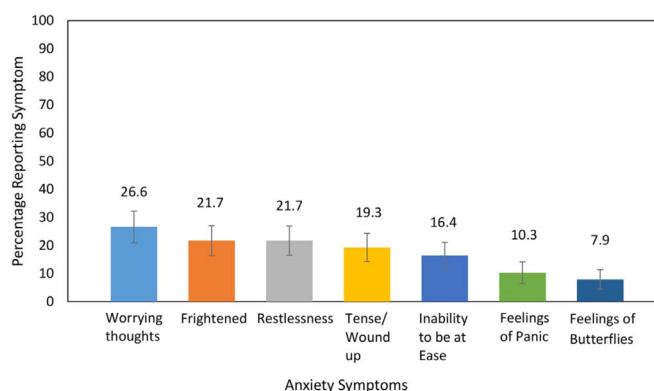


Fig. 1. Percentage of anxiety symptoms on the HADS anxiety scale.

Download English Version:

<https://daneshyari.com/en/article/8647600>

Download Persian Version:

<https://daneshyari.com/article/8647600>

[Daneshyari.com](https://daneshyari.com)