

## Dizziness: Anxiety, health care utilization and health behavior— Results from a representative German community survey

Jörg Wiltink<sup>a</sup>, Regine Tschan<sup>a,\*</sup>, Matthias Michal<sup>a</sup>, Claudia Subic-Wrana<sup>a</sup>,  
Annegret Eckhardt-Henn<sup>c</sup>, Marianne Dieterich<sup>b,d</sup>, Manfred E. Beutel<sup>a</sup>

<sup>a</sup>*Clinic of Psychosomatic Medicine and Psychotherapy, Johannes Gutenberg-University Mainz, Germany*

<sup>b</sup>*Department of Neurology, Johannes Gutenberg-University Mainz, Germany*

<sup>c</sup>*Department of Psychosomatic Medicine, Hospital Stuttgart, Germany*

<sup>d</sup>*Department of Neurology, Ludwig-Maximilians-University, Munich, Germany*

Received 19 June 2008; received in revised form 1 September 2008; accepted 16 September 2008

### Abstract

**Background:** Due to the lack of epidemiological data on the relation of dizziness and anxiety, we investigated the prevalence of dizziness and anxiety in a representative sample of the German population. We explored the consequences of comorbid anxiety for emotional distress, functional impairment, health care utilization, and health behavior in dizziness. **Methods:** By the end of 2006, we surveyed a total of 1287 persons between 14 and 90 years of age in their homes by trained interviewers with standardized self-rating questionnaires on anxiety (Patient Health Questionnaire, Generalized Anxiety Disorder Scale, Mini-Social Phobia Inventory) and dizziness (Vertigo Symptom Scale). The sample was representative for the German population in terms of age, sex, and education. **Results:** Symptoms of dizziness were reported by 15.8% of the participants. Of the participants

with dizziness, 28.3% reported symptoms of at least one anxiety disorder (generalized anxiety, social phobia, panic). Persons with dizziness reported more somatic problems such as hypertension, migraine, diabetes, etc. Comorbid anxiety was associated with increased health care use and impairment. **Conclusion:** Dizziness is a highly prevalent symptom in the general population. A subgroup with comorbid anxiety is characterized by an increased subjective impairment and health care utilization due to their dizziness. Because treatment options for distinct neurologic disorders are also known to reduce psychological symptoms, and in order to avoid unnecessary medical treatment, early neurologic and psychiatric/psychotherapeutic referral may be indicated.

© 2009 Elsevier Inc. All rights reserved.

**Keywords:** Epidemiology; Dizziness; Vertigo; Anxiety; Comorbidities; Migraine

### Introduction

Dizziness is one of the most common complaints in medicine, affecting about 20% up to 30% of the general population [1–4]. Classified as a coexisting symptom, dizziness can be observed in a large group of medical, especially neurologic and psychosomatic syndromes [5,6]. Interestingly, extremely high rates of comorbid psychiatric disorders (30–50%) have been reported in patients present-

ing with vertigo and balance disorders [7–10]. Investigations of the interaction of psychiatric and vestibular disorders have identified three pathogenic patterns: the otogenic (somatopsychic) hypothesis postulates that primary neurologic conditions trigger secondary anxiety disorders. Psychogenic dizziness means that the underlying psychiatric disorder (e.g., anxiety) itself causes dizziness. The interactive hypothesis assumes that as neurologic conditions exacerbate preexisting anxiety [5,7,8,11–13]. Staab et al. [11,14] endorsed the somatopsychic concept of phobic postural vertigo assuming that chronic (subjective) dizziness results from an anxious appraisal of neurologic vertigo syndromes. Recent studies postulated a causal linkage between the vestibular and emotion processing system: (a) the

\* Corresponding author. Tel.: ++ 49 6131 17 2166; fax: ++ 49 6131 17 6688.

E-mail address: [tschan@psychosomatik.klinik.uni-mainz.de](mailto:tschan@psychosomatik.klinik.uni-mainz.de) (R. Tschan).

monoaminergic inputs to the vestibular system mediate the effects of anxiety on vestibular function, (b) the parabrachial nucleus network mediates emotional responses related to vestibular dysfunction, and (c) the noradrenergic outflow from the locus coeruleus mediates the responsiveness of these symptoms to novel stimuli [15–17]. Additionally, (d) links between the vestibular, autonomic, and respiratory system are hypothesized [16].

Indeed, the coincidence of anxiety and phobic disorders in patients with primarily somatoform dizziness is reported as up to 45%. Similarly, 41% of patients with different neurotologic vertigo syndromes were reported to suffer from comorbid anxiety disorders [9,10,12,13,18]. Anxiety accompanies dizziness attacks, and dizziness is a concomitant phenomenon of fear arousal and panic attacks [13,15,19–21].

As most previous studies have been selectively based on patients in primary care or specialized dizziness units, epidemiological data are needed on the relation of dizziness and anxiety [5,7]. To our knowledge, the UK primary care study [4] is the only study addressing the prevalence of dizziness and anxiety in a community sample. Yardley et al. [4] found a prevalence of dizziness of 23.3%. Nearly half of the participants experienced some handicap. Of those reporting dizziness, 46% also reported anxiety and/or avoidance. Only 13.3% of those without dizziness reported anxiety. Our study investigated the prevalence of dizziness in a representative sample of the German general population, its somatic and psychosomatic comorbidities, and their impact on health behavior and health care utilization. Considering the high comorbidity of dizziness and psychiatric disorders in the literature, we surveyed the prevalence of the different anxiety subgroups (e.g. panic disorders, social phobia and generalized anxiety disorders) and their co-occurrence with dizziness. Consistent with previous findings from the United Kingdom and the United States, we expected a high overall frequency of dizziness and a large comorbidity with anxiety and somatic complaints. We further expected dizziness to be associated with higher emotional distress, functional impairment, a higher degree of health care utilization, and dysfunctional health behavior, particularly when accompanied by comorbid anxiety disorders.

## Methods

### Questionnaires

In addition to sociodemographic data, participants filled out standardized self-report inventories. To assess anxiety, we used items of the German version of the Patient Health Questionnaire (PHQ) [22]. *Generalized anxiety* was assessed with the two screening items of the short form of the Generalized Anxiety Disorder 7 scale [23,24]: “Feeling nervous, anxious or on edge” and “Not being able to stop or control worrying.” Subjects can answer these items with 0=“not at all,” 1=“several days,” 2=“over half the days,” and 3=“nearly every day.” A sum score of 3 and more (range,

0–6) out of these two items indicates Generalized Anxiety with good sensitivity (86%) and specificity (83%) [24]. *Panic* was assessed with the screening question of the PHQ [25]: “In the last 4 weeks, have you had an anxiety attack—suddenly feeling panic or fear?” For this single item, sensitivity for detecting a panic disorder is very good (93%), with a moderate specificity of 78% [25]. The German version of the Mini-Social Phobia Inventory (Mini-Spin [26]) was used to detect *Social Anxiety*. Its three items are supposed to separate between individuals with generalized social anxiety disorder and controls: “Fear of embarrassment causes to avoid doing things or speaking to people,” “I avoid activities in which I am the centre of attention,” and “Being embarrassed or looking stupid are among my worst fears.” The five-point Likert rating scale ranges from 0=“not at all” to 4=“extremely.” Utilizing a cutoff score of 6 (range, 0–12), the Mini-Spin has demonstrated sensitivity of 89% and specificity of 90% for detecting Social Anxiety Disorder [26]. *Dizziness* was assessed by the question “How strong was dizziness in the past 4 weeks?” The answer format was a six-point Likert scale from 0=“no dizziness” to 5=“very strongly.” We defined having dizziness in the past 4 weeks answering this question with 1=“very slightly” to 5=“very strongly.” To assess *dizziness related symptoms*, we administered the validated German version of the Vertigo Symptom Scale (VSS) consisting of 34 items describing dizziness related symptoms [27]. The 22 symptoms are rated on five-point Likert scales with regard to their frequency during the last 12 months. Respondents indicate how often they suffered from each symptom (0=“never,” 1=“1–3 times a year,” 2=“4–12 times a year,” 3=“more than once a month,” and 4=“more than once a week”). The two subscales “vertigo and related symptoms” (VER) and “somatic anxiety and autonomic arousal” (AA) have demonstrated good internal consistencies (Cronbach’s alpha: VER 0.79; AA 0.89). VER could discriminate sufficiently between dizziness patients and healthy controls. AA discriminated moderately between somatoform dizziness and dizziness caused by neurotologic disorders.

Assessment of *health care utilization* included the number of consultations of a physician for multiple causes and specifically due to dizziness in the past 12 months, inpatient treatment because of dizziness in the past 12 months, current medication to treat anxiety, depression, sleep disorder, general distress or dizziness, and current psychotherapy. To describe *health behavior*, we asked for smoking in the past 6 months (“daily,” “sometimes,” “not at all”) and the number of days in the past week consuming alcohol. *Subjective impairment by dizziness* was assessed by two questions: “How much have you been handicapped by dizziness in daily live at home or at work in the past 4 weeks?” “How much have you been handicapped by dizziness in your contact to your family, friends or neighbors?” Each question was answered with 0=“not at all” to 4=“very.” We also assessed the *subjective health status* in our survey (“How would you describe your current health status?”: “excellent,” “very

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات