

Comorbid Psychiatric Conditions of Benign Paroxysmal Positional Vertigo

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Abstract:

Background: No studies have assessed psychopathology among benign paroxysmal positional vertigo (BPPV) patients. The General Health Questionnaire allows for distinguishing patients suffering from psychiatric problems from those in good mental health.

Objective: To assess the psychiatric illness in Saudi patients with BPPV.

Methods: The study was cross-sectional in nature. Institutional ethics committee approval and individual informed consent from study participants were obtained. Fifty patients with BPPV with unknown psychiatric illness were given the General Health Questionnaire-28 (GHQ-28) questionnaire to complete.

Results: Complete data were available for 50 patients. Thirty patients (60%) with BPPV scored above the conventional threshold. Their subgroups were: somatic complaints 28%, anxiety and insomnia 28%, social dysfunction 34%, and severe depression 10%.

Conclusions: Greater attention needs to be paid to BPPV patients. Vulnerable female patients may have high levels of psychiatric symptomatology that may benefit from assessment and intervention.

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Introduction

Dizziness ranks among the most common complaints in medicine, affecting approximately 20% to 30% of the general population.^(1,2) However, the term dizziness encompasses a variety of different sensations that point in distinct diagnostic directions. Vestibular dizziness is rotational vertigo or other illusory sensations of motion, whereas other sensations like unsteadiness, faintness, light-headedness or drowsiness imply a non-vestibular origin. Patients often use these terms interchangeably, and few physicians other than otoneurologists clearly differentiate between the two.⁽³⁾ In vestibular dizziness, the most frequent cause of vestibular vertigo is benign paroxysmal positional vertigo (BPPV), which typically lasts less than 30 seconds.^(4,5)

BPPV is characterised by brief attacks of rotatory vertigo and concomitant positioning rotatory \pm linear nystagmus, which is elicited by rapid changes in head position relative to gravity. It is a mechanical disorder of the inner ear in which the precipitating positioning of the head causes abnormal stimulation, usually of the posterior SCC of the undermost ear, and less frequently of the horizontal SCC. Typical posterior canal BPPV is caused by canalolithiasis, a free-floating clot within the endolymph of the posterior SCC

In 20%–50% of all dizziness states, psychiatric disorders appear to exert an important influence on the course of the illness.⁽⁶⁻¹¹⁾ Untreated psychiatric disorders in the presence of comorbid conditions may result in chronification and greater handicap, more frequent clinic visits, increased costs, extended hospitalisation, and reduced compliance and quality of life.^(12,13)

Particularly in these cases, a comorbid or reactive psychiatric disorder is often overlooked and consequently left untreated.⁽¹⁴⁾ Moreover, failure to evaluate comorbid psychiatric disorder may lead to serious consequences, such as suffering, hopelessness, suicidal thoughts, and decreased treatment compliance.^(15,16)

Otolaryngologists should be aware of the psychiatric disorder of BPPV patients to allow them to detect and treat problems earlier, or to refer them to a psychiatrist for more appropriate follow-up.

To the best of our knowledge, comorbid psychiatric conditions of BPPV (the most frequent organic causes of peripheral vestibular dizziness⁽¹⁴⁾) have not been evaluated before. In the present study, we planned to explore the levels of psychological symptomatology in BPPV. The secondary aim was to explore factors that associated with high levels of psychological symptomatology. We used the 28-item form of the General Health Questionnaire (GHQ) in our study population as a general indication of a possible psychiatric case. The results will afford greater understanding of the psychological sequelae of BPPV and the mental health needs of these patients.

Methods

Patients were recruited from the Specialised Neurotology Clinic at King Abdulaziz University Hospital (KAUH) and Al-Habeeb Medical Centre (HMC). These are tertiary care clinics managing different causes of dizziness which are run by a trained neurotologist experienced in dealing with all ear causes of dizziness. Ethical approval was granted by the research ethics committee of King Saud Medical College. The two centres (KAUH and HMC) agreed to participate in this study using the same protocol. The study was funded by the College of Medicine Research Center (CMRC) at King Saud University in Riyadh, Saudi Arabia (Grant number 06-553).

The inclusion criteria of patients were as follows:

- Age above 18 years
- Active BPPV
- History supporting the diagnosis of BPPV

- Positive Dix–Hallpike manoeuvre

Exclusion criteria were

- Contra-indications for Dix–Hallpike or Epley manoeuvre

- Concomitant causes of dizziness (vestibular and non-vestibular)

- Previous history of ear disease

- Previous history of psychiatric illness

The study was cross-sectional in nature. All patients who had BPPV, which improved after performing the Epley manoeuvre by a treating neurotologist, were approached for participation in this study.

After an initial BPPV counselling, inclusion and exclusion criteria were checked. If the patient was suitable for participation in this study, they signed the consent and then the General Health Questionnaires GHQ-28 with demographic data was given to the patient to complete independently without input from the staff. Questions were rated on a four point scale (e.g. from 'better than usual' to 'much worse than usual'). The 28-item version⁽¹⁷⁾ of the GHQ provided scaled scores in four domains: somatic complaints, anxiety and insomnia, social dysfunction and severe depression. These sub-scales do not reflect psychiatric diagnoses and are not independent. The categorical scoring method involves the application of weights to the four response alternatives (0–0–1–2). A cut-off of 5 was used as threshold for morbidity level. For each of the four seven-item sub-scales, the method of scoring was applied (0–1–2–3)⁽¹⁸⁾

The demographic variables of age, sex, and education status were collected. Unfortunately, there is very limited clinical data on this subject to allow us to make a clear sample size calculation. However, it was planned to recruit a total of 50 patients over a period of one year. All data were entered into an Excel database program and SPSS statistical software for statistical analyses.

Results

Informed consent was obtained from all 50 patients. Seven patients were seen at KAUH and the rest were seen at HMC. All respondents completed the 28-item General Health Questionnaire (GHQ–28; Goldberg & Hillier, 1979), which provides an indication of current psychological health. Thirty patients (60%) with BPPV scored above the conventional threshold score of 5. Our patients had a mean age of 46.7 years (range 18–91 years) (Figure 1) a male: female ratio of 1: 1.3 (Figure 2), and varying educational levels (Figure 3). Their subgroups included somatic complaints 28%, anxiety and insomnia 28%, social dysfunction 34% and severe depression 10% (Figure 4).

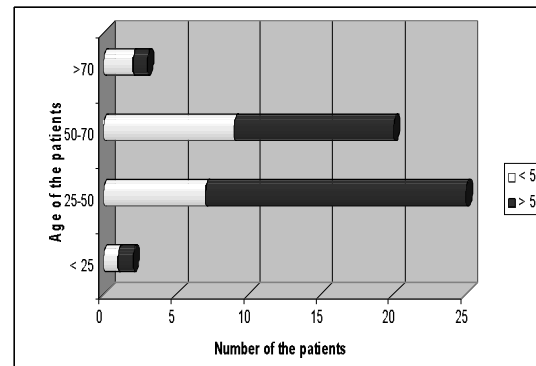


Fig. (1). Age distribution of the patients with and without psychological illness.

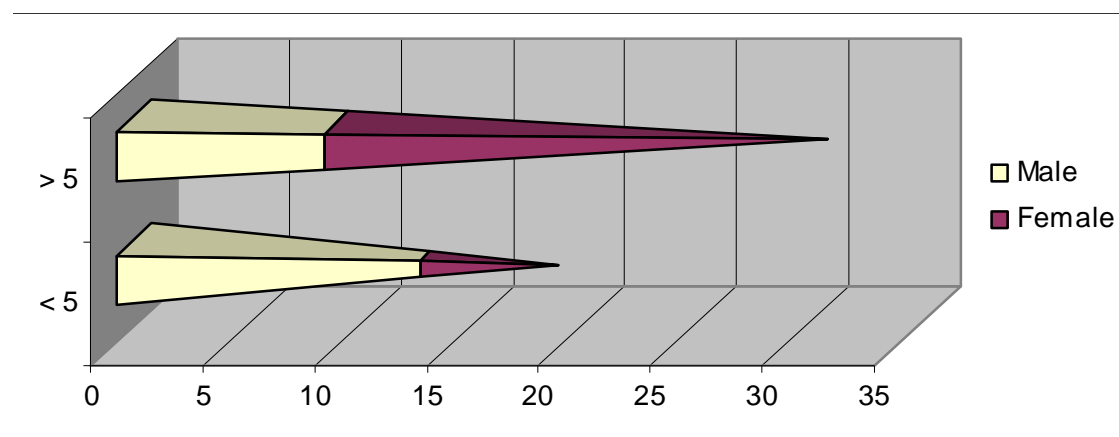


Fig. (2). Gender representation with and without psychological illness.

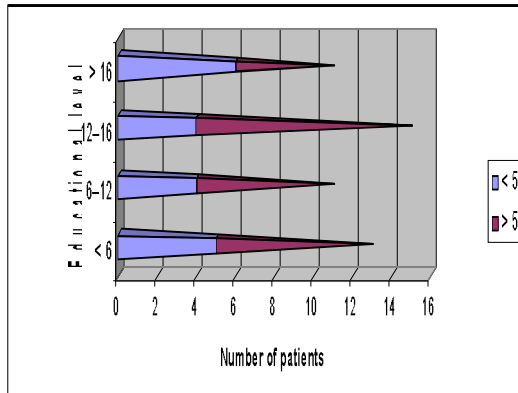


Fig. (3). Educational level of our patients with and without psychological illness.

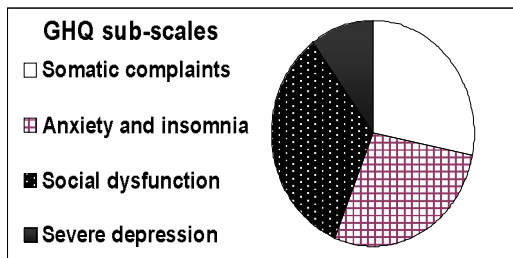


Fig. (4). The GHQ sub-scales of our patients.

Discussion

The early identification of patients at risk assumes considerable importance for the prevention of mental health problems. Several screening tools have been developed, but the General Health Questionnaire is certainly one of the most frequently used tools and has been the subject of the most research.⁽¹⁹⁾ The GHQ⁽¹⁸⁾ was designed to be a self-administered screening test that is aimed at detecting the psychological components of poor health. It measures an individual's inability to carry out 'normal healthy' functions and the appearance of distress-related symptoms. It detects disorders of less than two weeks duration, and is reported to be sensitive to transient disorders. The GHQ-28 is the favoured version of the GHQ for research purposes since it allows for an assessment of four dimensions relevant to psychological health: somatic symptoms, e.g., Have you recently been feeling run down and out of sorts?

Anxiety and insomnia, e.g., have you recently found everything getting on top of you? Social dysfunction, e.g., Have you recently felt on the whole you are doing things well?

Severe depression, e.g., have you recently found yourself wishing you were dead and away from it all?⁽²⁰⁾

However, a positive result in the questionnaire does not exactly mean that the subject has a psychiatric disease. The respondent is not asked how long they have experienced symptoms. Therefore, disorders of less than two weeks duration are counted, unlike systems such as DSM-IV-TR which require symptoms to have been present for at least two weeks.

The published literature on the management of BPPV has focused mainly on the management of vertigo, with success or failure of care dependent on stopping the attacks. However, a more holistic approach in care is required which includes a psychological cure since BPPV usually occurs suddenly in healthy middle-aged people who are afraid of brain cancer or cerebro-vascular incidents. This is the first study to specifically explore the levels of psychological symptomatology of BPPV.

In up to 50% of all dizziness states, psychiatric disorders appear to exert an important influence on the course of the illness⁽⁶⁻¹¹⁾. Our results show a high strength of association between BPPV and psychiatric disorder (60%). This is greater than gastroesophageal reflux (38.3%),⁽²¹⁾ stalking victims (36.4%)⁽²²⁾ and 30% breast cancer patients⁽²³⁾, all of whom used GHQ. However, there is a possibility that bias may have affected the results. Bias may result from studying clinic samples where patients who have more anxiety will visit ORL doctors. However, a control group may not solve this problem and community study is very difficult for this rare disease. A second possibility is that there was confounding, particularly arising from an association between severity and recurrence of physical illness and inability of emergency or family doctors to treat or explain this disease to the patients lead to delayed management.

We have found an association of vestibular vertigo with the female sex, which has been previously reported for BPPV.⁽²⁴⁾ Case series have suggested that premenstrual or oral contraceptive-related hormonal changes may increase the risk of vestibular disorders,^(25,26) but this was not consistently confirmed in a large cohort study.⁽²⁷⁾ Moreover in our study, women have higher psychological distress than

men which was shown in other studies^(28,29). This may be associated with the prevalence of such disease that is higher in women. Another explanation for this difference between genders might be that women suffer a greater psychological impact from vertigo than men.⁽³⁰⁾

According to Medline (until 2007), 1,196 studies have been published using GHQ studies to evaluate different populations' responses to all kinds of stress exposures ranging from daily hassles via upsetting life events to distress related to physical illness and disasters. This questionnaire takes a few minutes from the patient and it helps in identifying the patient who may need extra care. Moreover, patients may benefit from being offered additional emotional and social support during their education about BPPV since few of the symptomatic BPPV will accept contact with psychiatric or counselling services. The consequences of unrecognised and untreated psychiatric symptomatology are potentially serious, including increased risk-taking behaviour and suicide^(31,32)

To the best of our knowledge, there is no study that has addressed the psychological condition of the BPPV patient. Our response rate was high (100%). The study was exploratory and has identified issues for further research. This study has a number of limitations. Participants were recruited from two institutions, which may limit generalisability. The present sample experienced a generally high level of psychiatric disorder, and the study lacked a non-vertiginous control group. A further criticism concerns the exclusion criteria of past psychiatric history. This exclusion may have reduced the extent to which one may generalise from the results and may have underestimated the degree of distress experienced by a BPPV patient. Future research employing a longitudinal design is needed to explore BPPV in more detail.

Conclusion

We conclude that greater attention needs to be paid to BPPV patients. In general, these vulnerable female patients may have high levels of psychiatric symptomatology that may benefit from assessment and intervention. The aim of the healthcare professionals must be to reassure BPPV and minimise the

disability that impacts their life. Further work is needed to identify the most effective screening and interventions.

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