DIZZINESS IN PATIENTS WITH VESTIBULAR DISORDERS: PSYCHOLOGICAL FACTORS CAN PLAY A ROLE

Dr Sarah Edelman BEc. Dip.Ed. M.A., Ph.D., MAPS
registered psychologist, trainer and author.
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Every person who has a vestibular disorder such as Meniere’s disease knows only too well that feeling of dread when the first signs of a vertigo episode appear. Many people understandably live with constant fear of further episodes. But what if that apprehension in itself contributed to dizziness and other physical symptoms? This appears to be the case for a significant subgroup of patients with vestibular disorders. Symptoms such as dizziness, imbalance, veering and ‘fullness’ of the head are common among a section of patients who have previously experienced episodes of vertigo. The symptoms are frequently reported to GPs and medical specialists, however in spite of extensive testing and reassurance that everything is ‘normal’, they persevere.

Since 2003, I have been receiving referrals from a Sydney based neurologist who specialises in treatment of vertigo and vestibular disorders. For the last six years he has been sending me patients who report a cluster of physical symptoms that are not clearly attributable to their primary disorder. While most of these patients have neuro-otological disorders (most commonly Benign Paroxysmal Positional Vertigo, Vestibular Migraines and Meniere’s disease) these disorders do not in themselves account for their symptoms.

The initial intention was for me to teach patients some stress management strategies so that they would better be able to cope with their symptoms. In spite of my best efforts, deep relaxation and stress management techniques had limited benefits. However, as I started to see growing numbers of patients, I noticed a pattern, both in the symptoms that were frequently reported (see box below), and in their psychological response. Most patients were hyper vigilant; their focus of attention was predominantly internal (i.e. bodily sensations), and even when engaged in other tasks, part of their mind was checking or looking for reassurance that the symptoms had gone. Most reported having ‘good’ and ‘bad’ days, but even on good days, their ‘antennas’ were frequently ‘up’, looking out for symptoms. As one patient put it, “the dizziness is always in the back of my mind, even when I am not thinking about it”.

My search on University databases led me to journal articles that described a role for psychological factors in dizziness and other physiological symptoms. Earlier articles referred to “Space Motion Discomfort” (Jacob et al., 1989) and “Phobic Postural Vertigo” (Brandt 1994).

More recent journal articles by Staab, (2005, 2006 – see below) provided a particularly good description of this syndrome.
While the syndrome was best described in an article by Staab and Ruckenstein in 2005, in my view, the label they chose, “Chronic Subjective Dizziness” is potentially misleading. The term ‘subjective’ may suggest that the symptoms are perceived rather than real, which is clearly not the case. We have called the syndrome “Psycho-physiological Dizziness” (PPD), in recognition of psychological factors that are interacting with physiological processes. The symptoms are real, not perceived or imagined; however they are generated by psychological factors.

The idea that psychological factors can give rise to physical symptoms is something that many patients find hard to fathom, in spite of the fact that every person experiences this effect at times. Who for instance, has never had heart palpitations when angry and provoked, or felt shaky when about to give the dreaded speech, or developed a headache following a stressful day? Those who are particularly self-aware might notice how the body is constantly responding to emotions – the way our stomach tightens with every upsetting thought, the way our heart speeds up when we are under pressure and our limbs become heavy when we are feeling sad. Psychological factors are producing physical sensations every day of our lives, although most of us do not notice this effect unless it is drawn to our attention.

Over the last five years we have developed a psychological treatment that helps to reduce or resolve physical symptoms in many patients with PPD. Earlier this year we commenced a pilot study evaluating the treatment, which is currently in progress.

The symptoms of PPD are initially triggered by an episode of vertigo, which is usually attributable to a vestibular condition such as Meniere’s disease. Because the experience is perceived as threatening, it activates the limbic system (the emotional centre of the brain), which causes the brain to go on ‘high alert’ for further signs of dizziness. This ‘high alert’ response is referred to as “hypervigilance”. Hypervigilance causes an increase in autonomic nervous system activity, which produces increased adrenaline and cortisol production, increased breathing rate, oxygen consumption, muscle tension, etc. These changes, together with a complex series of further responses within the brain give rise to a group of physical symptoms that characterise PPD.

**Psycho-Physiological Dizziness (PPD) - Common Symptoms**

- Episodic dizziness or light-headedness
- Feeling of ‘fullness’, ‘heaviness’ or ‘pressure’ in the head
- Dizziness with head movements (such as turning to the side, looking up or down)
- Feelings of imbalance or veering to the side; ground may feel unstable
- Random momentary dizzy sensations that last for a second or two
- Rocking sensations
- Visual disturbances: episodic impaired visual focus, sensitivity to busy motion stimuli or bright light
- Numbness / tingling sensations / “electrical” sensations, esp. cheeks, face.
- Tremor, jelly legs, feelings of unreality, missed heart beats, hot flashes, etc.

N.B. Symptom clusters vary between individuals
The key psychological processes that perpetuate PPD are threat perceptions. When people perceive their symptoms as bad or aversive, they typically have thoughts, such as “why is this happening?”, “will it ever stop?”, “will it happen again?” These perceptions maintain hypervigilance, which maintains autonomic nervous system arousal, which in turn perpetuates the physical symptoms (eg dizziness, unsteadiness, fullness in the head, etc). The cycle is therefore self-perpetuating [see diagram above].

As the syndrome is underpinned by threat perceptions, it is more likely to affect people who are anxious by nature. People who are prone to anxiety become physically aroused quite readily and are also more likely to identify threats (real or imagined) in their environment. This makes them particularly vulnerable to developing physical symptoms, and subsequently becoming vigilant to them. It should be added however, that some individuals with PPD do not start out as anxious, however they become increasingly anxious over time, often as a result of the distressing effects of vertigo or drop attacks.

**Treatment for Psycho-Physiological Dizziness (PPD)**

The key aim of treatment for PPD is to reduce threat perceptions. In order to do this, people need to learn to think about their symptoms in a different way. Most people with PPD focus their efforts on trying to stop the symptoms. However the condition is a paradox – the harder you resist the symptoms, the more distressing they become, which in turn keeps the brain on ‘high alert’. Psychological treatment focuses on helping patients to perceive the symptoms as harmless, and not worthy of any special attention. When patients learn to stop monitoring or trying to control their symptoms, the symptoms gradually “fizzle out”.

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**The Self Perpetuating Cycle**

**Trigger:**
Vestibular Event or Panic Attack

**Hypervigilance**
Activation of the Limbic System
Brain is on ‘high alert’

**Perception of Threat**
“Will I be able to keep working?”
“Will this ever stop?”
“Will it get worse and worse?”
“Will this lead to disability?”

**Autonomic (Physical) Arousal**
Gives rise to symptoms e.g. dizziness, unsteadiness, veering, fullness of the head, momentary dizziness, visual disturbances, heart palpitations, etc.
It is a well established principle in psychology that the best way to overcome our fears is to deliberately face them. This is just as true of PPD symptoms as it is for fear of public speaking, spiders, needles and flying. Psychological treatment of PPD involves exposure exercises: learning to ‘be present’ with the symptoms without resistance. If there are particular situations (such as busy public places, stairs, reading) or movements (e.g. standing up, turning, looking up or down, vigorous exercise) that seem to aggravate the symptoms, these can actually be used in exposure therapy.

Rather than trying to stop the symptoms, patients are encouraged to ‘bring them on’ and then respond to them in a different way – to observe them with a calm, detached attitude. Let the symptoms be. The goal is NOT to try to stop the symptoms, but to experience the symptoms without the emotional response that they usually evoke. That is, to break the connection between physical symptoms and threat perceptions.

Whenever the symptoms arise spontaneously in daily life situations, I encourage patients to just let them be without giving them any special attention, and then return their focus to whatever they are doing at the time (e.g. reading, talking, working, driving, watching TV, etc). It is completely safe to ignore PPD symptoms, and to switch your focus to the things happening around you, no matter how uncomfortable the symptoms feel. Interestingly, when the PPD symptoms are not resisted, they fail to evoke the usual increase in autonomic arousal, which leads to a gradual reduction in symptom intensity.

The technique of using calm detached observation derives from a form of Buddhist meditation known as “mindfulness”. Mindfulness is increasingly being used in clinical psychology for the treatment of anxiety, depression, pain and various other disorders, and it is particularly useful in the treatment of PPD.

For some people, understanding the processes that maintain PPD, and using the strategies described above can result in a substantial reduction in symptoms. Others may need assistance from a psychologist, especially if they have had PPD for many years. Psychologists who specialise in the treatment of anxiety disorders are best equipped to provide treatment for this condition. They can be found through the Australian Psychological Society website, at www.psychology.org.au (see Equilibrium Autumn 09, page 5 on how to find a psychologist).

Further Reading

Readers who have access to University Databases may be able to download these journal articles via Medline:
