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Physical and Psychological Triggers for Attacks in Ménière's Disease: The Patient Perspective

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Ménière's disease (MD) is a debilitating disease of the inner ear for which the main symptoms comprise vertigo, hearing loss, tinnitus and a sense of fullness or pressure in the ear. Residual and movement-provoked dizziness may also occur between major attacks. High levels of psychiatric comorbidity, disability and reduced quality of life are often reported among people who experience such symptoms [1, 2]. Attacks cannot be prevented, and a great deal of uncertainty and distress exists in relation to when symptoms might occur and what might trigger them.

Understanding the patient perspective is particularly relevant to the diagnosis and management of vestibular disorders, as reported triggers of dizziness and vertigo inform the diagnosis of vestibular symptoms [3], and the treatment of symptoms and related distress often involve lifestyle changes and self-management. It is therefore important for clinicians to be aware of the patient's frame of reference (i.e. their subjective beliefs, perceptions and experiences) when eliciting information about symptoms and triggers.

No previous research in this area has carried out an in-depth investigation specifically focusing on beliefs and views about triggers, or sought to identify whether different perceived triggers are associated with different symptoms. The aim of this study was to carry out an in-depth qualitative exploration of views and beliefs about triggers of symptoms of MD and to relate these to the different types of reported symptoms.

Semistructured telephone interviews employing open-ended questions were carried out with 20 members of the Ménière's Society (a UK-based self-help group for people with dizziness and balance disorders) who had completed screening questionnaires and fulfilled inclusion criteria. These comprised experiencing symptoms of vertigo during the past 12 months, current symptoms of tinnitus, aural fullness and hearing disability, and had received a diagnosis of MD from their doctor. Participants were encouraged to give as much detail as possible of their own experiences and views of the warnings and triggers for any symptoms they considered to be an 'attack' of MD. As we were interested in participants' own perspective, interviews were participant led, and we did not offer participants a definition for the term 'attack' or request the discussion of particular symptoms. Data were analysed using inductive thematic analysis supplemented by ground-

ed theory methods [4]. Quality and credibility checks were carried out throughout data collection and analysis during regular meetings between the authors [5].

A total of 11 main themes were discussed by participants, which were grouped into four overarching categories (physiological, environmental, psychological and patterns of association with triggers). Participants described different triggers for different types of symptoms. The themes are listed in table 1, which also notes which symptoms each trigger was commonly associated with.

Severe vertigo was most commonly perceived to be associated with stress, followed by tiredness, meal times and specific times of the day (primarily mornings), and then by making quick head movements and reading. Severe vertigo was also associated with exposure to triggers of greater severity/intensity, exposure to multiple triggers at once, and exposure to triggers for a prolonged period of time. Many factors were reported to trigger milder symptoms.

Several of the physiological and environmental types of triggers discussed by participants are consistent with known aetiologies. For example visual environments are a trigger of visual vertigo, and postural factors are a trigger of positional vertigo [3, 6]. These symptoms may be treatable in people with MD with manoeuvres and rehabilitation [7, 8], although this is not routinely carried out at present. Symptoms occurring in the morning, after standing too quickly, or after meals are reported in orthostatic hypotension, a condition common among people being treated for hypertension [6]. Elevated levels of hypertension have recently been described among people with dizziness [2] and MD [9]. Interestingly, people with orthostatic hypotension are advised to increase their salt consumption and drink coffee with meals [6]. Therefore, it could be hypothesised that for some people with MD, some symptoms may possibly occur as a consequence of following dietary restrictions. The avoidance or reduction of dietary factors (such as salt, caffeine and alcohol) has routinely been recommended by medical professionals since the 1930s as the first step in managing MD; however, efficacy of this approach remains anecdotal, with no definitive empirical evidence for its effectiveness [6]. In our study, some participants ignored dietary advice with no perceived consequence, confident that dietary factors did not trigger their symptoms. Many followed the advice but were doubtful that it was an effective way of managing their symptoms, and others provided personal examples that this was a beneficial strategy. Although dietary restriction is a low-risk management strategy that is medically easy to implement, this study did not identify any clear patterns among participants of dietary items triggering symptoms of dizziness or vertigo. The restriction of salt in particular appeared to be an onerous task. Although some were glad to have found something that helped or tied the restriction in with other goals such as losing weight, our findings suggest that such strict regulation was particularly intrusive to people's lifestyles

Table 1. Table of identified triggers and their reported association with different types of symptoms (≥ 3 participants required for allocation to a symptom category)

Themes	Codes
<i>Physiological factors</i>	
Diet	Diet does not trigger symptoms (G) Meal times (during or just after) (SV, U) Salt (A) Dairy, chocolate, caffeine, alcohol
Physical factors	Tiredness (SV, U) Physical exertion/tension, vibration Blood pressure (high/changes in blood pressure) (G)
Postural factors	Head position (e.g. bending, turning, looking up) (LM, SM, U) Standing still too long, lying flat, getting up too quickly (U) Quick head movements (SV, U)
<i>Environmental factors</i>	
The natural environment	No patterns in time of day (G) Time of day (primarily mornings – symptoms wear off as day goes on) (SV, U) Atmospheric air pressure (A) Windy weather, time of year
Visual environments	Watching TV, supermarkets/shops (SM, U) Reading (SV) Looking at water (SM) Bright/flashing/flickering lights, moving objects (U)
Travel	Car (as passenger), bus or coach (U) Car (as driver), train, flying, boats
Aural factors	Crowd noise, loud volumes (U) Sharp noises (e.g. church bells, shredding paper, chinking crockery) (SM, U)
<i>Psychological factors</i>	
Emotional factors	Stress (SV, LM, U) Positive emotions/special days (e.g. excitement, weddings, Christmas) (U)
Avoidance behaviours	Activity restriction, dietary restriction (G)
<i>Patterns of association with triggers</i>	
Level of exposure	Severity of exposure (SV, U) Prolonged and cumulative exposure (SV, SM, U)
Irregular factors	Fluctuating good/bad days, triggers are inconsistent (SM, U) Symptoms occur without triggers (G)

G = Discussed in relation to MD in general rather than particular symptom type; SV = severe vertigo: a sense of spinning, sweating, nausea and vomiting, lasting several hours; LM = long mild vertigo/dizziness: a sense of less severe/slower spinning or severe dizziness and nausea, lasting 1–2 h; SM = short mild vertigo/dizziness: a sense of spinning or dizziness, lasting between a few seconds and a few minutes; U = unsteadiness; A = aural fullness or pressure in the ear. Note: Triggers associated with tinnitus, hearing loss/changes, balance-related falls or near falls were reported by few or no participants, and so were excluded from this report.

and fuelled frustration and anxiety, adding to the psychological burden imposed by the disease. This may also worsen symptoms, as stress and anxiety are known to contribute to the presence of residual and provoked dizziness [6, 10]. The majority of participants in this study had strong beliefs and discussed examples where stress was perceived to be a definite trigger of symptoms.

The direction of association between stress and MD symptoms in previous research is unclear; however, a randomised clinical trial has shown that stress management and relaxation can reduce symptoms between major vertigo attacks in people with MD [7].

Some participants adapted well to the uncertainty about when symptoms might occur and tried to stay as active as possible, re-

stricting their activity only when they were feeling unwell. Many others, however, engaged in extensive avoidance behaviour in order to avoid potential triggers, a common behaviour among people with MD. Such avoidance can be counterproductive, as it can hinder the recovery and adaptation of the balance system, prolonging symptoms and further fuelling distress [10].

Interestingly, virtually all participants referred to patterns associated with level of exposure and irregularities in the triggering of symptoms. Many participants described symptoms associated with being exposed to multiple triggers and/or being exposed to triggers for a prolonged period of time. Participants also reported symptoms following exposure to triggers that were more intense or severe than their normal experience (e.g. stress due to the death of a close family member or travelling in a car going fast). Although it is well known that symptoms can occur spontaneously, many participants whilst in remission from major symptoms described fluctuating periods of minor symptoms (i.e. having a good or bad day). Participants also stated that although they could identify triggers of their symptoms, triggers were inconsistent (i.e. the same potential trigger could cause symptoms on one occasion but not another).

Participants were recruited from a self-help group; therefore, results may not be generalisable to people who choose not to join self-help groups. Although all participants reported recent symptoms of vertigo, tinnitus, hearing loss, aural fullness, and had received a diagnosis of MD from their doctor, we were not able to medically confirm participants' diagnoses. Despite these limitations, this study does offer insight into the subjective experiences and perceptions of triggers for symptoms that people with symptoms of MD considered to be an 'attack'. By providing an in-depth exploration and understanding of the patient's perspective on triggers for symptoms, this study could form the basis on which further work could be carried out, and raises further questions to be considered in the management of MD.

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