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Self-efficacy in Activities of daily living and symptom management in people with dizziness: a focus group study

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ABSTRACT

Introduction

Self-efficacy has been shown to be associated with health status, health behaviour and health behaviour change in various chronic health conditions [1,2]. Self-efficacy is a central construct in Social cognitive theory and is defined by Bandura [1] as “beliefs in one’s capability to organise and execute the courses of action required to manage prospective situations”. Thus, self-efficacy beliefs are based on what people believe they can do in a specific situation and for a specific behaviour, and not on actual performance [1]. Beliefs in one’s own capability have been shown to be a strong predictor of disability [3], of health behaviours (e.g., physical activity [4] and symptom management [5]), of perceived health related quality of life [6] and wellbeing [7] in people with a variety of chronic conditions other than dizziness [8,9]. Individuals use four sources of information when making self-efficacy judgements for a specific behaviour: former performance of a behaviour, social modelling, verbal persuasion by others and interpretation of physiological/emotional states [1]. These sources of information can be found and targeted in a rehabilitation setting to increase an individual’s self-efficacy judgements [1]. Individualised progressive goal-setting can be used for prioritised activities. Social models can be acknowledged in peers in the rehabilitation group. Positive reinforcement and feedback can be provided by rehabilitation personnel. Increased awareness of how to manage symptoms and emotional states can be gained through education and applied in exercises [10]. Because self-efficacy beliefs are amenable to change, they could be highly useful to target in rehabilitation efforts aimed at improving activity, participation and quality of life in people with dizziness [10–12].

Purpose: To describe self-efficacy in relation to Activities of daily living and symptom management in people with dizziness.

Material and methods: Thirteen women and three men, aged 45–82 years, with persistent dizziness (duration 4 months to 30 years) were recruited from an outpatient physiotherapy unit. A qualitative study was conducted using four focus groups and one individual interview and was then analysed with qualitative content analysis.

Results: The participants conveyed, in-depth information concerning two predefined main categories. Self-efficacy in Activities of daily living was related to challenging body positions and motions, environments, social activities, work tasks, and complex cognitive behaviours. Self-efficacy in symptom management was related to distress and aggravated symptoms, unfamiliar environment, and unknown people.

Conclusions: People with dizziness describe how self-efficacy for specific activities varies according to the perceived difficulty of the task, the context of the activity, and day-to-day variations in general wellbeing. The results underscore the importance of targeting self-efficacy in the rehabilitation of people with dizziness. Our findings can guide the rehabilitation process by providing a deeper understanding of self-efficacy judgements in relation to Activities of daily living and symptom management in people with dizziness.

Implication for rehabilitation

This study adds important in-depth knowledge to the rehabilitation area on self-efficacy beliefs in relation to Activities of daily living and symptom management in people with dizziness.

Self-efficacy for specific activities varies according to the perceived difficulty of the task, the context in which the activity takes place and day-to-day variations in perceived general well-being.

The results can be used as a topic list to guide rehabilitation efforts in exploring and intervening aspects of people’s everyday activities that are affected by low self-efficacy judgements.

Activities perceived to be crucial to everyday life and important for well-being should be targeted in rehabilitation to increase self-efficacy and thereby activity performance and participation in people with dizziness.

Introduction

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Dizziness is a common symptom that has profound effects on people’s everyday life. Dizziness and other related terms, such as vertigo, disequilibrium, and unsteadiness are not consistently defined in the literature and are sometimes used interchangeably or separately [13]. In this article, the term dizziness is used as an umbrella term that includes all false perceptions of movement and spatial orientation. Epidemiological studies on dizziness show a prevalence of 17–30%, increasing with age and being more common in women [14]. Dizziness is a symptom related to a variety of aetiologies, including vestibular disorders (such as benign paroxysmal positional vertigo, vestibular neuritis and Menière’s disease) [15] and central disorders (such as vestibular migraine [16] and stroke caused by lesions in, for example, the brainstem or cerebellum) [17]. Irrespective of cause, dizziness often brings about considerable changes in lifestyle for those affected. Such changes may include reduced participation or avoidance of Activities of daily living (ADLs), reduced health related quality of life, and wellbeing [18–21]. Dizziness is also associated with an increased risk of developing anxiety and depression [21,22], as well as an increased risk of falling- and fall-related injuries [23,24]. Vestibular and balance rehabilitation exercises have been shown to increase balance function and decrease dizziness in patients with different diagnoses [25,26]. However, several studies have shown that perceived severity of dizziness, disability and health related quality of life measures do not always correlate with objective measures of balance or specific diagnoses [27–30]. That behavioural and psychological factors play a role in these findings is well recognised [31].

To the best of our knowledge, no previous studies have explored how self-efficacy influences ADLs and symptom management in people with dizziness. Because dizziness is a subjective symptom, it is important to understand, from the individual’s perspective, how this symptom affects self-efficacy judgements in everyday life. Therefore, the qualitative method is appropriate for exploring in-depth individual perceptions regarding such specific situations and symptoms as dizziness [1,32]. The purpose of this study was to describe self-efficacy in relation to ADLs and symptom management in people with dizziness.

Methods

Design

The study is based on a qualitative approach entailing focus group interviews analysed using deductive and inductive content analysis [33,34].

Procedure

For the four focus groups and one single interview, the participants were purposely recruited from a physiotherapy unit for out-patients in a rural hospital in Sweden. Ear, nose, and throat specialists at the otolaryngology department at the hospital referred the participants to the physiotherapy unit. The participants were informed about the study and asked if they were willing to participate during their visit at the physiotherapy unit or by phone by the first author. Focus groups were chosen as the main data sampling method with the aim of eliciting discussions spurring participants to share a variety of experiences generating a rich and varied material [35,36]. In addition, one individual interview was conducted to check if an individual interview would generate data that differed from data generated through focus groups [35]. Each focus group had one meeting. Focus groups and the individual interview, each lasting 60–90 min, were conducted in 2012 in a secluded room at the hospital’s physiotherapy unit [35,37]. The first author acted as moderator and a note-taker was present at the focus group interviews. The note-taker, a physiotherapist from the physiotherapy unit, managed the audio equipment and took comprehensive notes [37]. The focus groups and the individual interview were audio-recorded and transcribed verbatim by the first author directly after each interview.

Participants

Inclusion criteria were a history of persistent dizziness for more than three months, community dwelling, walking without a four-point walking aid, and fluent in Swedish. To obtain a wide perspective of lived experiences [37] efforts were taken to include both male and female participants, as well as a large variation in age, diagnoses and being in or out of the workforce. Purposive sampling was used to recruit the participants (n = 21). Four of these participants declined to participate. One participant who was unable to attend the designated focus groups was recruited for the individual interview. Another participant, who was scheduled to take part in a focus group, had to withdraw because of illness. Sixteen participants (13 women) aged 45–82 years (mean 66 years), with a history of dizziness ranging from four months to 30 years took part in the study. Participant socio-demographic and clinical characteristics are shown in Table 1.

Data collection

The same semi-structured interview protocol was used for the focus groups and the individual interview. It contained a topic

Table 1. Participant characteristics from the focus groups and individual interview.

<table>
<thead>
<tr>
<th>Person code</th>
<th>Sex</th>
<th>Aetiology</th>
<th>Duration of symptoms</th>
<th>Partner</th>
<th>Living situation</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>1 year 3 months</td>
<td>Yes</td>
<td>Apartment</td>
<td>Yes</td>
</tr>
<tr>
<td>FG1-1</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>3 years</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG1-2</td>
<td>M</td>
<td>Unilateral vestibular</td>
<td>1 year</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG1-3</td>
<td>M</td>
<td>Bilateral vestibular</td>
<td>30 years</td>
<td>No</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG1-4</td>
<td>F</td>
<td>Unknown aetiology</td>
<td>4 years</td>
<td>No</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG2-1</td>
<td>F</td>
<td>Bilateral vestibular</td>
<td>10 years</td>
<td>No</td>
<td>House</td>
<td>Yes</td>
</tr>
<tr>
<td>FG2-2</td>
<td>M</td>
<td>Unilateral vestibular</td>
<td>2 years 6 months</td>
<td>Yes</td>
<td>House</td>
<td>Yes</td>
</tr>
<tr>
<td>FG2-3</td>
<td>F</td>
<td>Central vestibular</td>
<td>2 years</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG2-4</td>
<td>F</td>
<td>Bilateral vestibular</td>
<td>7 years</td>
<td>No</td>
<td>House</td>
<td>Yes</td>
</tr>
<tr>
<td>FG3-1</td>
<td>F</td>
<td>Bilateral vestibular</td>
<td>28 years</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG3-2</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>8 years</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG3-3</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>4 years</td>
<td>Yes</td>
<td>Apartment</td>
<td>No</td>
</tr>
<tr>
<td>FG4-1</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>1 year 6 months</td>
<td>Yes</td>
<td>House</td>
<td>Yes</td>
</tr>
<tr>
<td>FG4-2</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>4 months</td>
<td>Yes</td>
<td>House</td>
<td>Yes</td>
</tr>
<tr>
<td>FG4-3</td>
<td>F</td>
<td>Central vestibular</td>
<td>5 months</td>
<td>Yes</td>
<td>House</td>
<td>No</td>
</tr>
<tr>
<td>FG4-4</td>
<td>F</td>
<td>Unilateral vestibular</td>
<td>3 years</td>
<td>No</td>
<td>House</td>
<td>Yes</td>
</tr>
</tbody>
</table>

II: individual interview; FG: focus group; F: female; M: male.
between the two authors and grouped together into higher order categories. All meaning units that were related to self-efficacy in ADLs and symptom management were identified in the text with its meaning units, codes and categories. At a later stage, the data were revisited to reconfirm the codes and categories. The data were further condensed with the subcategories grouped into generic categories that belonged to the two predefined main categories in the unconstrained matrix. The quotes, codes and categories were translated from Swedish into English by the two authors and discussed in collaboration with a native English speaker.

The analytic process by which meaning units, codes, subcategories and generic categories were formed, for the main category self-efficacy in ADLs is illustrated in Table 2 and for self-efficacy in symptom management in Table 3.

### Ethical considerations

The study was performed in accordance with the Declaration of Helsinki [40] and was approved by the ethical committee at Mälardalen University. Participants received written and verbal information about the study and signed a written consent.

### Results

The interviews generated a rich source of data on self-efficacy in relation to ADLs and symptom management in people with dizziness. Data analysis from the individual interview confirmed the data obtained in the focus groups. All subcategories that emerged from the individual interview were also found in the focus group interviews.

The content analysis generated five generic categories for self-efficacy in ADLs: challenging body positions and motions, provoking environments, challenging social activities, demanding work situations and difficulties performing complex cognitive behaviours. Self-efficacy in symptom management generated two generic categories: experiences of distress and aggravating symptoms, unfamiliar environment and unknown people. Self-efficacy in ADLs and symptom management is described according to each category in Table 4 and in further detail below.

<table>
<thead>
<tr>
<th>Meaning unit</th>
<th>Code</th>
<th>Subcategory</th>
<th>Generic category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuuming … you have to move up and down forwards and backwards.</td>
<td>Alternately standing and bending forwards</td>
<td>Changing of body position or head movements</td>
<td>Challenging body positions and motions</td>
</tr>
<tr>
<td>Normally I sleep on the second floor but now I have been forced to move downstairs because I do not trust myself at night.</td>
<td>Walking in darkness</td>
<td>Visual environment</td>
<td>Provoking environments</td>
</tr>
<tr>
<td>I do not trust myself when I am out on the street with my grandchild.</td>
<td>Caring for family member</td>
<td>Relations</td>
<td>Challenging social activities</td>
</tr>
<tr>
<td>I used to work outside before, but I cannot do that anymore.</td>
<td>Work outside</td>
<td>Task</td>
<td>Demanding work situations</td>
</tr>
<tr>
<td>I get muddled and confused if I talk and talk to somebody who is walking beside me.</td>
<td>Walking and concentrating on something else</td>
<td>Concentration</td>
<td>Difficulties performing complex cognitive behaviours</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meaning unit</th>
<th>Code</th>
<th>Subcategory</th>
<th>Generic category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a lot of pain in my body and then I get dizzy and feel nauseous and then I cannot do anything … then I am very uncertain and I give up.</td>
<td>Pain</td>
<td>Other symptoms</td>
<td>Experiences of distress or physical exhaustion</td>
</tr>
<tr>
<td>I am scared that I might stagger, that they will see me and think that I am drunk.</td>
<td>Foreign environment</td>
<td>Environment</td>
<td>Unfamiliar environment and unknown people</td>
</tr>
</tbody>
</table>
Table 4. Categories generated using an unconstrained matrix with self-efficacy in ADLs and self-efficacy in symptom management as the main categories.

<table>
<thead>
<tr>
<th>Main category</th>
<th>Generic category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy in ADLs</td>
<td>Challenging body positions and motions</td>
<td>Standing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Walking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Changing of body position or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Head movements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physically demanding activities</td>
</tr>
<tr>
<td></td>
<td>Provoking environments</td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transport</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disturbances</td>
</tr>
<tr>
<td></td>
<td>Challenging social activities</td>
<td>Context</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relations</td>
</tr>
<tr>
<td></td>
<td>Demanding work situations</td>
<td>Complex work tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Need of efficiency in executing work tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low flexibility on day-to-day basis</td>
</tr>
<tr>
<td></td>
<td>Difficulties performing complex cognitive behaviors</td>
<td>Decreased ability to concentrate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Memory difficulties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restricted spatial ability</td>
</tr>
<tr>
<td>Self-efficacy in symptom management</td>
<td>Experiences of distress or physical exhaustion</td>
<td>Negative emotions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disturbing/distressing cognitions</td>
</tr>
<tr>
<td></td>
<td>Unfamiliar environment and unknown people</td>
<td>Symptoms of physical arousal or Fatigue/tiredness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lacking social support</td>
</tr>
</tbody>
</table>

Self-efficacy in ADLs

Challenging body positions and motions

This generic category includes a large number of descriptions from the participants in which movements of the body, head, and to some extent, the body position in various activities led to low self-efficacy. These activities are described in diverse environments and contexts but are linked to how participants move and use their bodies during those activities. Activities in this category range from cooking at home, to climbing out of a car, jogging, and gardening. One activity discussed in all interviews was the activity of climbing up onto something to bring something down from a shelf. Many participants said that they had such low self-efficacy for the execution of this activity that they did not do it at all. This is described by one participant as:

No, to get up to cupboards to put something up and take something down, you just don’t dare do it, and if you must stand on a ladder, it’s not possible. You just don’t dare or rather you feel too unsure of your balance. (FG1-4)

Alternating bending and standing up was also an activity for which most participants had low self-efficacy. Picking berries and mushrooms, hanging washing, or picking things up from the floor are examples of such activities. Another activity is turning your head to the left and right, before crossing a street, which was described by one participant in the following way:

Something that makes me turn my head fast I just can’t do it. This thing when you must cross the street, sometimes I just can’t be bothered turning my head to look properly. (FG3-1)

The participants described numerous activities related to walking and could pinpoint how their self-efficacy changed according to the perceived difficulty of the activity. For the activity to climb or descend a staircase, a multitude of scenarios were discussed in depth concerning self-efficacy in all interviews. Two participants discussed this ADL as follows:

Walking down stairs or carrying something down some stairs without supporting myself on something is just not possible. It’s absolutely out of the question. (FG4-3)

I usually do it but it’s hard and the staircase can’t be too long. It can’t be so long that you have to take many stairs. A few stairs is alright. If it’s a really long staircase, I won’t do it, I refuse. (FG4-1)

Within this category, there are also descriptions of different sporting and outdoor activities and activities around the house. These activities were associated with low self-efficacy due to performing complex motions in conjunction with physically strenuous activities. Swimming, aerobics, working in the garden, and walking outdoors at a fast pace are examples of such activities. Some of the participants described how they no longer performed activities because of low self-efficacy while others explained how they persuaded themselves to continue performing these activities despite their low self-efficacy. In these discussions, the participants described the importance of doing activities that they enjoy and perceive as fun, as these activities were considered important for their wellbeing. These experiences were seen as a paradox by the participants in that, activities perceived as important for their wellbeing were often also perceived to be hard to perform, which gave rise to low self-efficacy. One participant described this situation as follows:

It’s not as much fun to play golf because I get tired afterwards. I’m going off to play golf next week and I feel that if I can’t do anything that feels positive I’ll go to pieces. I have to sleep and rest every afternoon and ride in a golf cart because it makes it easier. (FG2-2)

All participants described to varying extent avoidance behaviours related to activities for which they had low self-efficacy. Some reported how they generally tried to avoid most of these activities while some declared that they avoided only some specific activities. Some activities were not possible to avoid, as was recounted by one participant:

Some things I just can’t avoid. I stand there and look at the staircase and think that this staircase will be the death of me. So, yes, I strongly doubt my ability and I have a feeling that I won’t be able to do it. (II-1)

For activities considered difficult to avoid, the participants discussed how they had become experts in using different strategies to adjust how they perform such activities. Using such modifying behaviour-strategies (e.g., kneeling to vacuum
under the bed or leaning against a wall while descending a staircase), they could raise their self-efficacy and continue to perform the activity.

**Provoking environments**

This category contains descriptions of low self-efficacy for activities where environmental factors are in focus: walking in busy environments (e.g., big shopping malls), walking on different surfaces (e.g., uneven ground in the forest), and using different means of transportation (e.g., taking a bus). Most participants described low self-efficacy in ADLs in situations where they have decreased visual ability, such as walking at dusk or in darkness or walking without sunglasses in bright sunshine. Some participants explained how they had to use a torch or walk with poles to execute such activities. One participant said:

I wouldn’t be able to walk in the dark by myself without using poles, I have to have something to hold on to. It’s one hundred percent doubt. (FG1-3)

Riding an escalator was reported by several participants as being the activity for which they perceived their lowest self-efficacy. Many stated how they avoided this activity completely and chose instead to take a lift or the stairs. Moreover, most participants described how activities conducted on uneven surfaces, surfaces at an angle, or on surfaces perceived as unstable led to lower self-efficacy. Descriptions of walking on different surfaces were sometimes associated with the climate, such as walking on ice or snow in winter. Walking on snow in winter and sand in summer was regarded as being somewhat similar because both surfaces were perceived by the participants to lack stability and “give way”. Some participants noted how low self-efficacy for walking on icy surfaces impacted on their lives to such a degree that they started to feel isolated during the winter season.

Walking in environments that were viewed as open spaces (e.g., crossing an empty square or a wide street) were recounted as activities that can lead to low self-efficacy. Activities conducted in environments that were described as the opposite to open spaces (e.g., walking in confined and cluttered environments like cafés or the hay-markets) were also recounted by several participants as lowering their self-efficacy. One participant described such a situation as:

I have a hard time walking when its narrow and I must move between things like this, then I am very unsure about being able to walk and move. If you’re in a café and there are a lot of people and you have to zigzag between lots of chairs, then I’m scared to death that I’ll walk like a bowling ball and trip. (FG2-2)

Using different kinds of transport from one place to another was another activity that was considered to generate low self-efficacy for most participants. Perceived level of self-efficacy depended on the means of transportation used and differed somewhat from participant to participant. Several had stopped driving a car and riding a bicycle because of low self-efficacy. Other means of transportation discussed were different forms of public transport, such as the bus, train, or subway. Moreover, the participants described how, moving around in public transport environments was particularly associated with low self-efficacy. For example, changing platforms at a train station or in the subway induced very low self-efficacy in many participants. Driving or being a passenger in a car was perceived as difficult and associated with low self-efficacy especially if there was heavy traffic or poor visual ability. Several participants reported that they had stopped driving in darkness or in rainy weather. Driving in heavily congested areas or in new cities was also related to low self-efficacy.

**Challenging social activities**

This category contains activities such as, going to the movies, attending parties, and socialising with family and friends or people that the participants did not previously know. All interviews contained descriptions of how participants experience low self-efficacy for socialising and how self-efficacy decreases even more when they meet and socialise with unknown people compared with doing activities with their family or close friends. Many participants reported how they try to conceal their dizziness when socialising with unknown people. Several participants recounted how this behaviour requires a good deal of energy, making them tired and stressed out after only a short time of interacting with others. Several of the participants described how they sometimes avoid social activities at times because of low self-efficacy. This is recounted by one participant as:

I kind of avoid, if someone says come over today or tonight and eat, but no I try to make some sort of excuse. I sort of build up some excuses and no … No its best if I stay here. To go out on both a Friday and Saturday night is out of the question. (FG4-4)

Going on a holiday, or caring for a family member, like a grandchild is also found in this category. Several participants related how they had such low self-efficacy for taking care of grandchildren that they refrained from it altogether.

**Demanding work situations**

This category contains activities that were discussed from both occupational and home-life perspectives. Numerous work situations and tasks were described by the participants, including working outdoors in the forest, administrative work at the computer, tending to sick people in hospital wards, and attending meetings and conferences. Most participants shared common experiences of how self-efficacy was related to different work activities. These related common experiences depended on how much time the task was estimated to take, how to perform the task, and at what pace the task should be performed. Of those still in the workforce, some had had to change their tasks to be able to continue working. Several participants mentioned the importance of having an understanding manager and colleagues for being able to continue their occupation.

For both paid work and work at home most of the participants described how they had to adapt the work to their dizziness and experienced a low self-efficacy for executing tasks at the same pace as before they became dizzy. One of the participants described it as follows:

I’ve had help so that I can still work at my workplace but I only work 75% and that’s more than enough, I can tell you. But I don’t have to run at work anymore. I can do things a little more at my own pace nowadays. (FG2-4)

**Difficulties performing complex cognitive behaviours**

This category contains activities related to concentration, memory, and spatial ability. Concerning concentration the participants described how they generally felt that many ADLs demand considerable concentration and that they have a low self-efficacy for the execution of ADLs requiring multitasking (e.g., walking and talking at the same time). One participant said:

I’ve missed the last step in the staircase at work twice when I’ve been walking down without holding on to the handrail and without concentrating completely. (FG2-2)
Other activities that were discussed from the perspective of concentration were working on the computer, handicraft, and reading for longer periods. Participants also observed that their memory was affected, experiencing low self-efficacy for remembering everyday events. Some participants reported how they kept notes of important things for fear of otherwise forgetting. They also recounted how they had low self-efficacy for activities related to moving in confined spaces. This low self-efficacy was related to being unsure of where their bodies were in relation to things around them. The participants recollected how they kept bumping, and walking into things, often resulting in bruises.

### Self-efficacy in symptom management

**Experiences of distress and aggravating symptoms**

This generic category entails descriptions of different cognitive and physical factors that the participants described as affecting their self-efficacy in symptom management. Examples of such factors are feelings of irritation, feeling low and physical sensations from the body (e.g., pain, feeling tense in the muscles or being sick). All participants agreed that stress reduced their self-efficacy in symptom management. A feeling of increased insecurity or fear was other examples of factors that lowered self-efficacy in symptom management. One participant described in the following fashion how stress affected her self-efficacy in symptom management:

The least bit of stress makes me really tired, worn out and dizzy in my head and very unsteady, it’s actually quite scary. (FG3-1)

Being tired was a factor that most of the participants reported led to lower self-efficacy in symptom management. This problem occurred under different conditions: for example, feeling tired because of lack of sleep but also from exerting oneself (such as during and after physical activities). Moreover, the participants described how increased dizziness decreased self-efficacy in symptom management. Other symptoms described as unrelated to dizziness, such as pain, muscle tension, or feeling sick were also seen as decreasing self-efficacy to manage dizziness. This was related by one of the participants in the following way:

If I’m on my way to get very sick when a cold’s going around and when you are running a temperature, then you are lower. Then naturally your insecurity increases a lot in those situations where you perhaps normally are insecure anyway. (FG2-4)

### Unfamiliar environment and unknown people

In this category are descriptions from the participants dealing with being in new and unknown surroundings and how self-efficacy in symptom management can be altered if there is someone with you when performing different activities. Many participants believed they could handle their dizziness more easily if they could rely on a family member or friend for support. Being in an environment with unknown people was described as something that decreased self-efficacy in symptom management. The participants recounted how they feared that their dizziness could be interpreted as drunken behaviour. Thus, they tried to avoid such situations. As one participant described it, these situations led to decreased self-efficacy in symptom management:

It’s hard in situations where people don’t know about it... people think you are drunk if you can’t walk straight. You try to shape up so that people won’t notice and then you get dizzier. (FG1-3)

### Discussion

The results from the interviews contain detailed descriptions of participants’ self-efficacy judgements based on perceived difficulty of the activity, the context in which it takes place and previous experience of performing the activity. These results are consistent with Social cognitive theory stipulating that perception of self-efficacy is task-, situation-, and context-specific.

The interviews include questions about self-efficacy in relation to factors that affect symptom management of dizziness. The theory underlying self-efficacy posits that symptom management is an important factor to consider when judgements of self-efficacy are made in relation to a specific task [1,5,41]. Judgements of self-efficacy will be influenced by the individual’s ability to control his or her thoughts, level of motivation, state of affect, and other psychological dimensions related to, for example, perceived symptoms [1,42]. These assumptions were confirmed by the participants in this study. The participants often used the phrase “it depends”, elaborating on this comment to describe factors that would influence their self-efficacy. One observation frequently used in these discussions was that self-efficacy varied by reference to how they felt daily. Stress or being tired was, for example, considered an important factor related to self-efficacy in symptom management but also, important when they discussed self-efficacy in ADLs. Similar results were reported from a study aimed at exploring common environmental triggers for dizziness in people living with balance and vestibular disorders. Questions in that study were based on items included in the International Classification of Functioning, Disability and Health, but participants were also prompted to add additional items that they perceived to be important environmental triggers. Amongst the most frequent triggers mentioned were “stress or being hurried and fatigue or lack of sleep” [43].

In all interviews participants discussed how low self-efficacy for an activity often led to avoidance behaviours: for instance, avoiding specific activities, such as taking the elevator or avoiding activities that generate low self-efficacy judgements. Some individuals reported feeling isolated because of an abundance of avoidance behaviours. This observation agrees with other studies on disability in which people with dizziness often avoid different activities, environments and situations that are perceived as difficult and that increase symptom burden [44,45].

When participants discussed ADLs related to work, they revealed how they have a low self-efficacy to continue working with the same work tasks as they did before the dizziness started. They also described a low self-efficacy for full-time work, working at the same speed and with the same efficiency as before they became dizzy. This finding is in line with another qualitative study in which participants described how changing work tasks, flexible working hours, understanding colleagues and employer, were prerequisites for a continued successful work life [44]. In a cross-sectional study investigating the impact of dizziness in people of working age, 40% of those who had symptoms of dizziness had occupational difficulties [45]. More than half of the participants in this study were no longer in the workforce and only one of those working was working full time. Irrespective of whether participants were in the workforce, they shared common experiences related to how self-efficacy varied according to three factors: the length a task was estimated to take, if it was possible to be flexible in how the task had to be done, and at what pace.

Other studies on people with dizziness contain descriptions of how these people feel vulnerable when walking among strangers because of fear of being seen as drunk as the result of an unsteady gait [44,46]. This finding concurs with results from our
study showing that all focus groups and the individual interview contained accounts of how the participants’ self-efficacy decreased in contexts where they felt nervous about being seen as drunk.

This study included procedures and measures to ensure trustworthiness [34,47]. Credibility was enhanced by using a sample of participants representing variation in age, duration of symptoms, living and housing situations, as well as being in or out of the workforce. Moreover sampling was continued until saturation of the data was reached, i.e., when similar descriptions of self-efficacy in ADLs and symptom management recurred in the interviews. The use of focus groups as the main source of data collection was based on the assumption that people with dizziness share common inherent experiences and that the dynamics in a group setting could lead to rich associations that would promote further information from the participants in the interviews. Group dynamics in focus groups can also be a cause of weakness as the discussions are highly contingent on group composition, context, and the responses of the other participants. The participants in this study were asked to write down their experiences on a piece of paper for each key question before the discussions started in an attempt to minimise this weakness, which complies with recommendations from Krueger [38]. To further increase credibility, respondent validation was conducted and the participants were reminded to stay focused on discussing self-efficacy, throughout the interviews [39]. The moderator had previously met with all but one participant but was at the time of the interviews no longer part of their ongoing care. This relationship to the moderator could bias responses from the participants, threatening the credibility of the results. However, this was considered a minor concern as the moderator was no longer involved in the participants’ treatment nor were topics discussed linked to perceived care at the physiotherapy unit. Confidentiality is an ethical issue especially pertinent in focus groups. Participants share their stories not only with the researcher but also with other participants making it impossible to guarantee confidentiality. The moderator talked about this issue with the members of each focus group and asked that they show respect for each other by not sharing stories outside the focus group. The issue of confidentiality also raises the question of what experiences people actually share within a focus group. There may be factors that the participants omit to share with the researcher because of the group setting. This bias could lead to underrepresentation of valuable data and threaten credibility. The individual interview was conducted for the purpose of checking to what extent data emerging from this method differed in comparison to the data collected from the focus groups. We found that data from the individual interview did not reveal any new categories compared with the data from the focus groups.

Conducting only one individual interview can be seen as a limitation. Saturation was reached after four focus groups in conjunction with a single interview. Still it cannot be ruled out that new descriptions and information could have been obtained if more than one individual interview had been conducted.

The researchers come from different backgrounds: one researcher was experienced in working with people with dizziness and one in working with people with chronic pain and research in behavioural medicine. This diversity strengthens confirmability and decreases bias. Confirmability was further enhanced by discussions shifting direction in a forward and backward process by which the researchers discussed codes and acknowledged the emerging categories described in the content analysis. Direct quotes have been used in the reporting phase to enhance confirmability of the categories and the analysis structure while dependability was strengthened by using the same interview environment and protocol for all participants. Moreover, the participants’ demographic information and clinical characteristics were recorded and reported to ensure that the inclusion criteria were met.

When using a small purposeful selection of participants the results cannot be unequivocally transferred to all people with dizziness. A limitation of this study was that the youngest participant was 45 years old, which limits descriptions of self-efficacy in relation to ADLs and symptom management to people >45 years. It is possible that younger participants could have generated other descriptions and activities based on their lived experiences. Another limitation is that all participants were recruited from the same rural town in Sweden, which may further reduce transferability. However, large parts of the content described in the categories in this study are in accordance with, and sometimes identical to those found in previous studies. Here, one needs to keep in mind that these previous studies were based on describing dizziness from a disability perspective in accordance with the International Classification of Functioning, Disability and Health [20,43,48]. Even so, some descriptions of activities that emerged from the data were clearly connected to the participants’ closest environment. All interviews contained, for example, vivid discussions among the participants about picking berries and mushrooms. This result may not transfer to an urban context or a context where people do not have easy access to berry and mushroom picking. Transferability can be strengthened by looking at other activities considered by the participants to be similar in nature, such as picking mushroom vs. picking up things from the floor or gardening. Other aspects that may be contextual in relation to the environment were walking on icy sidewalks, walking in the dark, using a staircase, and using different forms of public transport.

Future research will need to explore whether and to what extent self-efficacy is associated with disability and other health related outcomes in people with dizziness. The results from this study are currently being used in research aimed at developing a questionnaire to measure self-efficacy in ADLs and symptom management in people with dizziness.

Conclusions

To the best of our knowledge, the study is the first to explore self-efficacy in ADLs and symptom management in people with dizziness. People with dizziness describe how self-efficacy beliefs affect diverse daily activities: shopping, work situations, leisure activities, social relationships, and mental tasks. Descriptions of how self-efficacy affects different ADLs relative to the perceived difficulty of each task, the context within which the task takes place and physiological and emotional states underscore the importance of targeting self-efficacy on an individual basis.

These results are an important and unique contribution to the understanding of how self-efficacy judgments in relation to ADLs and symptom management affect people with dizziness. The extensive information provided by the participants can function as a topic guide, helping rehabilitation professionals explore how aspects of an individual’s life are affected by low self-efficacy when they are affected by dizziness. This can guide the rehabilitation process by directing rehabilitation efforts towards activities affected by low self-efficacy and thereby have an impact on activity performance and participation in important ADLs and symptom management.
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Disclosure statement

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