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ORIGINAL PRACTICE DEVELOPMENT AND RESEARCH

Constructing a measure of balance recovery confidence for older persons: content themes from different stakeholders

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Abstract

Background: The absence of patient-reported outcome measures (PROMs) for a specific construct or target population suggests a need for such measures to be developed. A case in point is the domain of falls efficacy; a PROM for balance recovery confidence was proposed to improve older persons' agency to arrest a fall. Appropriate participation in its development by relevant stakeholders was identified as essential to maximise the utility of the PROM and its potential to enhance patient care. There is a gap in the practice development literature in terms of PROMs for older persons. This article aims to encourage researchers to use the principles of practice development to address this gap by involving relevant stakeholders to gain greater insight.

Methods: The nominal group technique and the Delphi technique were used to generate and refine the content of the measure, and content analysis was applied to assess and summarise the data.

Findings: Unique themes emerged, such as 'agency of older people in the prevention of falls' from the community-dwelling older adults in Singapore, and 'clinical specificity' from an international panel of healthcare professionals. Common themes including 'relevance to the target population', 'comprehensibility' and 'cultural and contextual sensitivity' were found in both groups.

Conclusion: A collaborative, inclusive and participatory approach involving different stakeholders, underpinned by practice development methodology, can offer rich insights for PROM developers.

Implications for practice:

- Meaningful perspectives are generated from a diversity of views shared by representatives from all stakeholder groups involved in caregiving
- Participation of different stakeholders, such as physiotherapists, occupational therapists, nurses, doctors, podiatrists and older persons, provides a more robust and authentic approach to developing a PROM for older persons

Keywords: Nominal group technique, Delphi technique, patient-reported outcome measures, older persons, falls, self-efficacy

Introduction

Patient-reported outcome measures (PROMs) are questionnaires completed by patients (Food and Drug Administration, 2009). They can provide information about patients' perceptions of their wellbeing, functioning, symptoms and treatment experiences (Rothrock et al., 2011). PROMs can improve patient-clinician interactions through better communication and patient engagement (Greenhalgh et al., 2014). Employing PROMs in clinical practice empowers individuals, allowing healthcare teams to develop their knowledge and skills, transforming culture and the context of care (McCormack and Garbett, 2003; van Dulmen et al., 2017). Overall, PROMs facilitate patient empowerment and support shared decision making among all stakeholders (Kyte et al., 2015). They play a vital role in person-centred practice and are increasingly used by clinicians (van der Wees et al., 2014). The words 'person' and 'patient' are both used throughout this article, as are the terms 'patient-centred' and 'person-centred'.

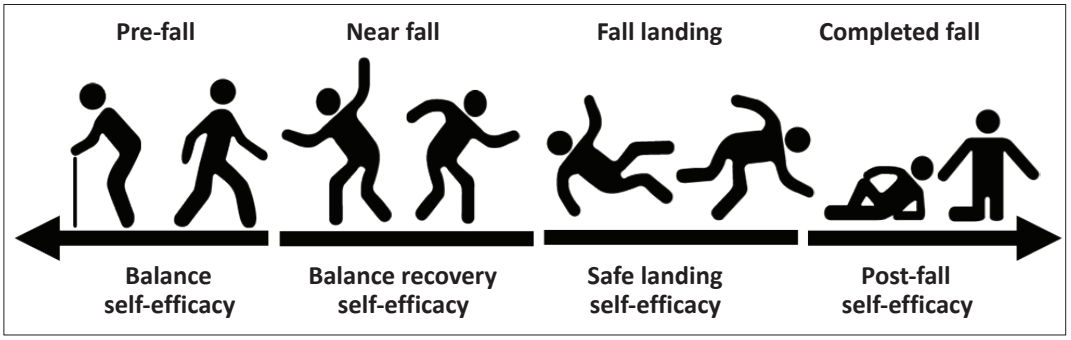
The lack of an adequate measurement instrument for a specific construct needs to be addressed by the development of a suitable PROM (de Vet et al., 2011). However, the improper use of PROMs – for example, for purposes other than that for which they are validated – can lead to clinicians making suboptimal decisions and to patients not receiving appropriate care. Person-centred care entails proper understanding of patients' needs, so clinicians require accurate information to provide it (Streiner and Norman, 2008; de Leeuw et al., 2008).

The development of a PROM could be imbued by the principles of practice development. The latter relates to a continuous process and encouragement of person-centred cultures that allow transformation of individual and team practices towards person-centred care (McCormack et al., 2013). In the context of PROM development, the CIP principles of collaboration, inclusion and participation encourage the engagement of all stakeholders in the construction of appropriate content; a PROM for older persons could involve all healthcare professionals involved in their care alongside the older persons themselves. The input of a range of stakeholders offers authentic views on older persons' real-world experiences and interaction with clinicians; while staff contribute their clinical viewpoint, patient involvement can validate the relevance of outcomes and the PROM's comprehensibility (Terwee et al., 2018). Ultimately, PROMs aim to reflect the patient's perspective, and as such can complement person-centred approaches to practice.

In the field of falls management in older persons, PROMs have been used to study falls-related self-efficacy, or falls efficacy, (Moore and Ellis, 2008). Bandura (1981) defines self-efficacy as an individual's perception of their abilities to complete specific tasks or perform successfully in a particular situation. Falls efficacy centres on the mechanisms used by older persons to address the threat of a fall (Payette et al., 2016; Soh et al., 2021). Their perceived falls efficacy can be understood as a continuum model covering four domains (Figure 1):

- *Pre-fall*: individuals performing daily activities without losing balance
- *Near-fall*: individuals recovering their balance when experiencing different perturbations
- *Fall landing* and *completed fall*: two domains in which individuals need to feel confident to fall safely and seek help after falling

Figure 1: Falls efficacy continuum model (Soh et al., 2021a)



Older persons accept falls and falling as part of life (Gustavsson et al., 2018) but have articulated a desire to be empowered and for their integrity and wellbeing to be promoted and safeguarded (Clancy et al., 2015). Therefore, adopting a practice development approach is appropriate for this PROM. Practice development aims to emancipate persons by inviting them to contribute to the advancement of healthcare processes and systems so that services can be better delivered to reflect their beliefs, values and expectations.

A recent systematic review highlighted two key issues surrounding existing PROMs for falls efficacy: first, many had been developed without sufficient involvement of representatives from the population of older persons or healthcare professionals from relevant disciplines (Soh et al., 2021b). This lack of participation can undermine a PROM's relevance, comprehensiveness and comprehensibility (Prinsen et al., 2018). Second, numerous PROMs were found to focus on balance confidence – that is, older persons' confidence in performing activities of daily living without losing balance (Soh et al., 2021b). When research uses balance confidence measures to study the effectiveness of perturbation-based interventions in older persons, potential misinterpretation of falls efficacy may arise. For example, Kurz and colleagues (2016) report no significant change in falls efficacy in community-dwelling older adults who undertook treadmill walking training with and without perturbation. Based on the falls efficacy continuum model (Figure 1), the falls efficacy reported by Kurz and colleagues focuses on the confidence of performing activities without losing balance in the 'pre-fall' domain. The understanding of balance recovery confidence, or perceived self-efficacy to recover balance from perturbations such as a slip or a trip, has yet to be understood.

There are no adequate PROMs to measure balance recovery confidence in older persons (Soh et al., 2021b). Such a measure could be employed by clinicians to understand perceived self-efficacy in older persons to recover their balance in real-world context (the 'near-fall' domain). More than half of older persons (53%) were found to have a near-fall experience over a three-week period during regular activities (Soh et al., 2021c). Given the accumulated effects of age and comorbidity, a misunderstanding of the disparity between older persons' perceived and actual physiological abilities to recover balance, and thus their perception of risk, can result in inadequate preventive interventions (Delbaere et al., 2010).

A new PROM – the Balance Recovery Confidence (BRC) scale – for community-dwelling older adults was developed using two consensus-based methods: the nominal group technique (NGT) and the Delphi technique. The NGT was used to generate a preliminary list of PROM questions (items). Items are questions listed in a PROM to measure the particular construct of interest (de Vet et al., 2011). The Delphi technique was used to refine the items and complete the content-development process. Both methods have been widely used and can underpin a practice development approach to a new PROM (McMillan et al., 2016). This article will present the process of developing the BRC and the involvement of different stakeholders, and share the content themes arising from the opinions of the two stakeholder groups: the older persons and the healthcare professionals.

Aims

To illustrate the value of applying practice development principles in constructing a PROM to be used in clinical practice for older persons, we aim to present our findings of the themes that emerged from the Delphi study. The themes are constructed from the opinions provided by the Singaporean older persons living in the community and an international panel of healthcare professionals comprising physiotherapists, occupational therapists, nurses, podiatrists and medical doctors, to evaluate the content of the newly developed PROM. The findings will be discussed based on the question: *'What content themes are obtained from different stakeholders representing community-dwelling older adults and healthcare professionals when developing a PROM to measure balance recovery confidence for older people living in the community?'*

Method

Preliminary list of items generated

The NGT was selected for the first stage of generating a list of items for the BRC. This technique has been shown to be useful for the decision-making processes involved in generating an exhaustive list of items through consensus (Potter et al., 2004; McMillan et al., 2016). In this stage, 12 eligible community-dwelling older adults were invited as experts. A total of 32 items were generated to be presented at the next stage. The process of generating content for the BRC has been described elsewhere (Soh et al., 2020).

Refining and finalising the content

The Delphi technique was adopted for the next stage to refine and finalise the content to meet an acceptable level of validity. Delphi is a decision-making method widely used to achieve a general agreement or convergence of opinion around a particular topic (McMillan et al., 2016). A modified, two-stage online Delphi-based survey was used. Two groups of experts – a new group of eligible Singaporean community-dwelling older adults and an international panel of healthcare professionals – were invited to evaluate the content (PROM name, instructions, response options and items) for appropriateness (Fitch et al., 2001). Each item had a short text descriptor and an illustration. Each expert accessed the survey via an emailed link. In both rounds, they rated the content using the RAND appropriateness scale – a nine-point Likert scale ranging from 1 (inappropriate) to 9 (appropriate) – and gave any necessary comments in a free-text box (Fitch et al., 2001). The appropriateness of an item for inclusion was defined as: having the clarity, importance and relevance for evaluating the construct of balance recovery self-efficacy. The consensus was operationalised based on the RAND criteria (Table 1; Fitch et al., 2001). Ethical approval was obtained from two institutions: Queen Margaret University, Edinburgh, and the Singapore Institute of Technology.

Table 1: Criteria to establish appropriateness and agreement (Fitch et al., 2001)

Level of appropriateness	**Definition**
Appropriate (A)	Panel median RAND score of 7-9, without disagreement
Uncertain (U)	Panel median score of 4-6 *or* any median with disagreement
Inappropriate (I)	Panel median score of 1-3, without disagreement
Level of agreement	**Definition**
Agreement (+)	No more than 20% of panellists rating the item outside the three-point region (1-3; 4-6; 7-9) containing the median
Disagreement (-)	At least a third of the panellists rating the item 1-3 region and at least three panellists rate it 7-9
Indeterminate (?)	Not meeting the above two levels of agreement

Participants

The eligibility criteria for experts participating in the Delphi stage are presented in Table 2. Representatives of the community-dwelling older adults were recruited through recommendations from participants of the earlier study (Soh et al., 2021c). The healthcare professionals were identified through professional colleagues and associations, falls prevention-related conferences, seminars and activities. All potential participants were invited via email with an attached cover letter and a link to the study information and a consent form using Jisc, an internet-based survey platform. Consent to participate was obtained before access to the survey was granted. All participants were allocated unique study codes for the purposes of anonymity during data analysis and to reduce the risk of bias.

Table 2: Participant eligibility criteria

Criteria for community-dwelling older adults	
Inclusion criteria	**Exclusion criteria**
65 years old or above	Requiring any physical assistance from another person to walk within their home
An adequate understanding of the English language	Presenting with clinically observable severe cognitive impairment
Living independently in the community with or without the use of a walking aid	Unable to provide written consent to participate in the study
Inclusion criteria for healthcare experts	
• Representing one of the following professions: physiotherapy, occupational therapy, podiatry, nursing or geriatric medicine • Have at least three years' experience in geriatric clinical work or related research	

Pilot testing: Delphi round 1

The first round of the Delphi survey was sent out in June 2020 to 50 potential participants – 40 healthcare professionals and 10 community-dwelling older adults. The round involved a series of questions asking participants to rate the level of appropriateness of the content using the RAND scale. The content included the instrument's name, instructions, response options, recall period and items. Participants were given two weeks to complete the survey and a reminder was sent to non-responders after one week.

Pilot testing: Delphi round 2

The second round of the Delphi survey was sent out in August 2020 to those who responded in the first round. Participants were sent revised items identified as appropriate and meeting the level of consensus agreement achieved by the panels of community-dwelling older adults and healthcare professionals. The ratings and summary of comments obtained in the first round were provided and participants re-rated the updated items using the RAND scale, again offering their opinions in a free-text box. They were again asked to complete the survey within two weeks, with a reminder sent to non-responders after one week.

A rubric (Table 3) was developed to recommend the actions taken for the reviewed content given the level of the agreement from both groups of experts. The preference of item selection was weighted to the community-dwelling older adults, based on the importance of the utility of the PROM. One researcher (SS) independently organised all the quantitative and qualitative data. The data were verified with two other team members (JL, CW) to finalise the refined content of the PROM. Content analysis of the opinions was then done to determine the themes arising from the two groups of experts (Erlingsson and Brysiewicz, 2017). The raw data from the opinions were reviewed, condensed, coded and categorised into meaningful themes (Table 4) to reflect these views.

Table 3: Decision-making rubric for included or excluded items based on agreement obtained from expert panels

Evaluation matrix		**Healthcare professionals**		
		Agree (+)[1]	Indeterminate (?)[2]	Disagree (-)[3]
Community-dwelling older adults	Agree (+)[1]	Include (amend[4])	Likely include (amend[4])	Likely include (amend[4])
	Indeterminate (?)[2]	Likely exclude (or amend[4])	Likely exclude (or amend[4])	Exclude
	Disagree (-)[3]	Likely exclude (or amend[4])	Exclude	Exclude

1. Agree (+) is determined by calculating no more than 20% of panelists rating the item outside the three-point region (1-3; 4-6; 7-9) containing the median
2. Indeterminate (?) is determined by calculating at least a third of the panelists rating the item in the 1-3 region and at least three rating it 7-9
3. Disagree (-) is determined by identifying where an item's appropriateness did not meet the above two levels of agreement
4. All amendments are made according to the feedback provided by both the community-dwelling older adults and healthcare professionals

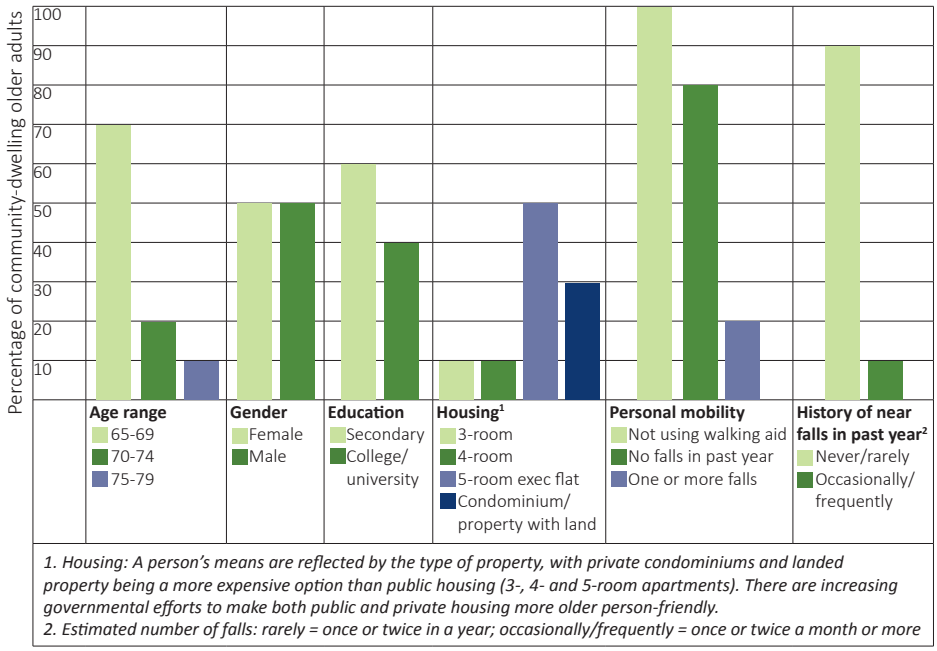
Table 4 Glossary of terms used for the content analysis (Erlingsson and Brysiewicz, 2017)

Process	**Description**
Meaning unit	The text extracted from the raw data
Condensation	A process of shortening the text while preserving the core meaning
Code	A name that describe the particular condensed meaning unit
Category	A process of grouping together codes that are related to each other through their content or context
Theme	To express an underlying meaning

Findings/results

Ten community-dwelling older adults and 22 healthcare professionals completed the two rounds of the Delphi survey. The demographic characteristics of participants who completed at least one round (n=38) are presented in Figures 2 and 3. From a preliminary list of 32 items, 19 achieved consensus using Delphi, and these are illustrated in Table 6.

Figure 2: Demographic characteristics of the Delphi panel: community-dwelling older adults



1. Housing: A person's means are reflected by the type of property, with private condominiums and landed property being a more expensive option than public housing (3-, 4- and 5-room apartments). There are increasing governmental efforts to make both public and private housing more older person-friendly.
2. Estimated number of falls: rarely = once or twice in a year; occasionally/frequently = once or twice a month or more

Figure 3: Demographic characteristics of the Delphi panel: healthcare professionals

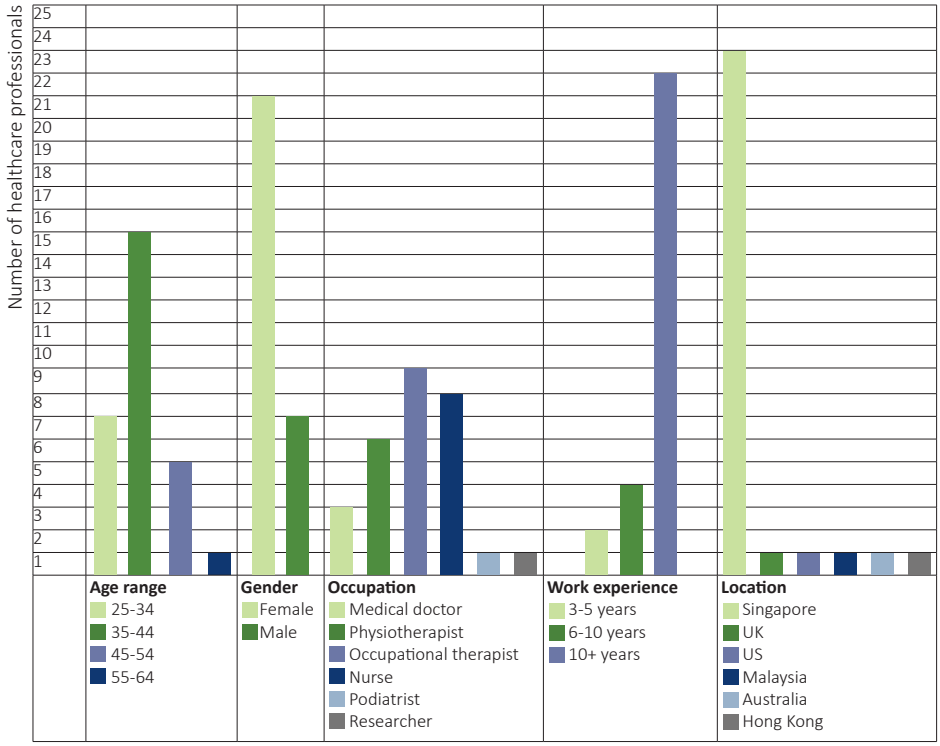


Table 6: Illustration of content that achieved overall consesus in Delphi

Name of the PROM Balance Recovery Confidence (BRC) scale
Instructions from the PROM Please rate how certain you are, now, that you can recover your balance to arrest a fall in each of the following scenarios Answer all questions to show whether you think you can recover from a loss of balance, trip or slip if the situation occurs **Response options** A response scale from 0 to 10, where 0 represents 'I cannot do this at all' and 10 indicates ' I am certain I can do this'.
Items from the PROM

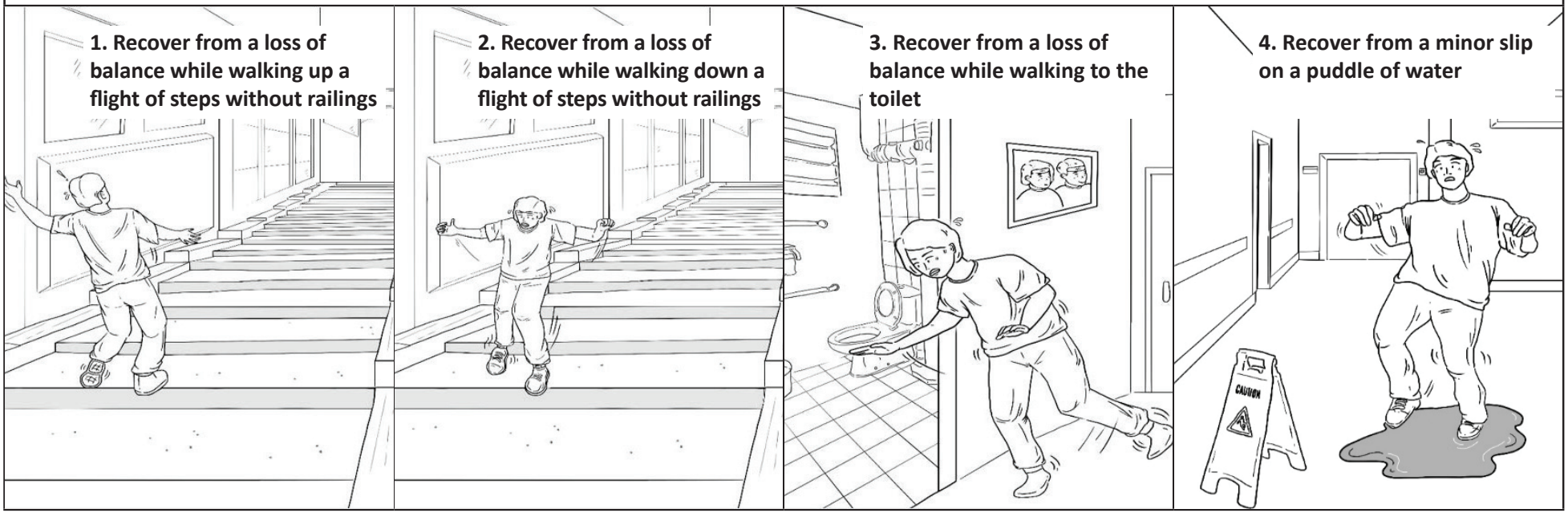


Table 6: Illustration of content that achieved overall consesus in Delphi *(continued)*

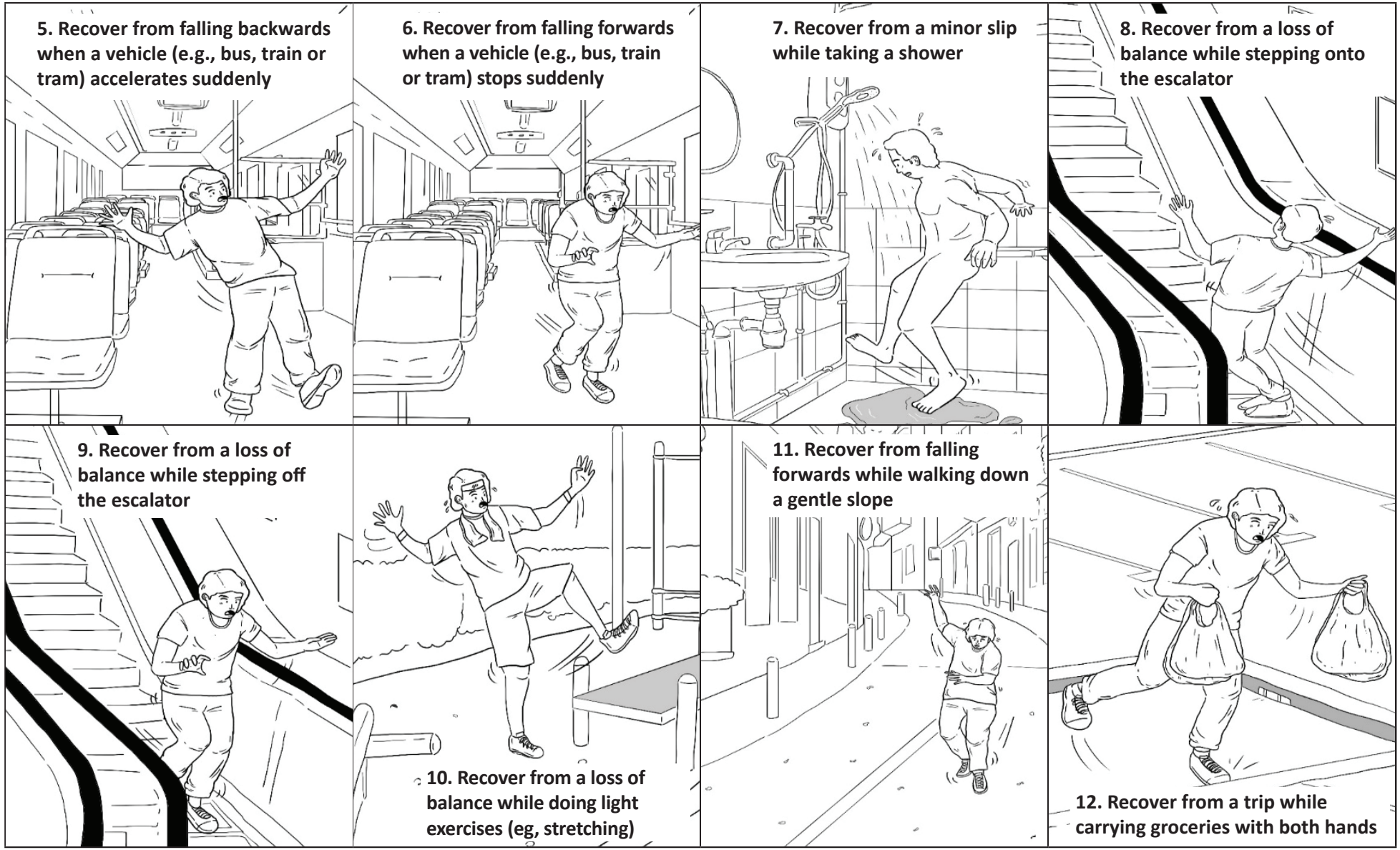
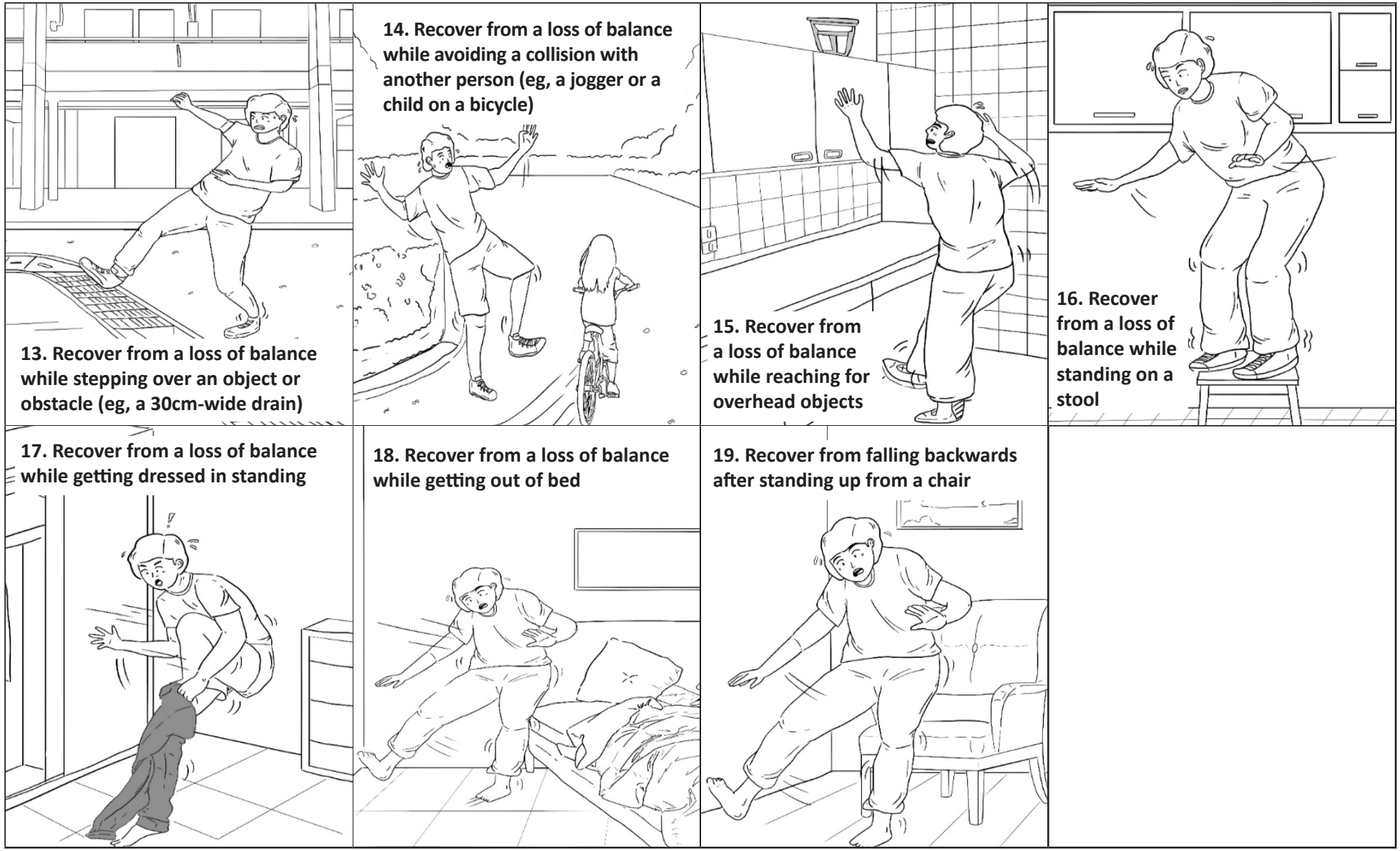


Table 6: Illustration of content that achieved overall consesus in Delphi *(continued)*

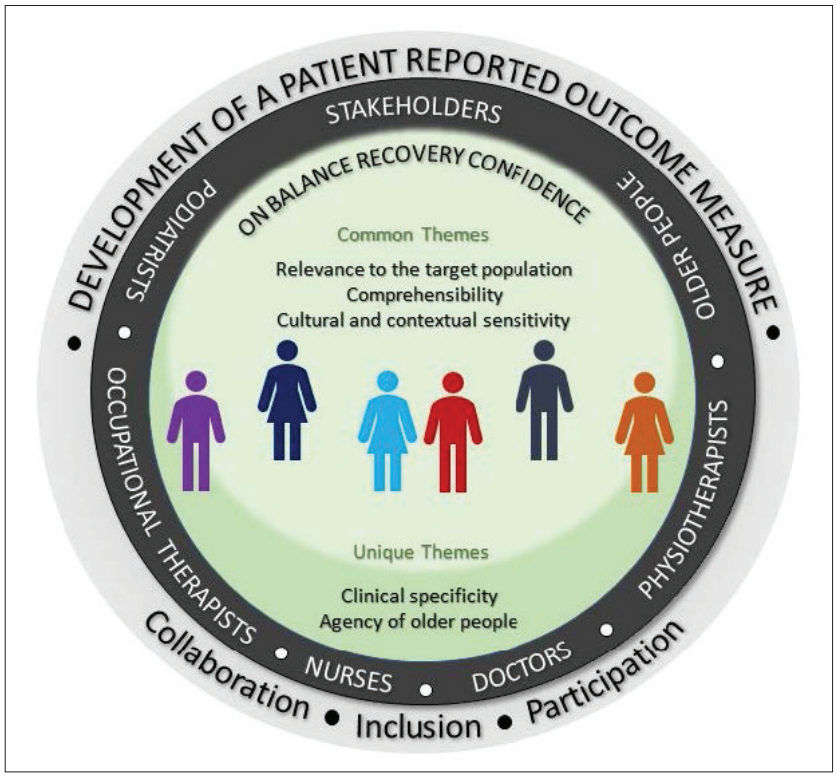


Five themes emerged from the two groups of stakeholders (the community-dwelling older adults and the healthcare professionals including medical doctors, physiotherapists, occupational therapists, nurses, podiatrists):

1. Relevance to the target population
2. Comprehensibility
3. Cultural and contextual sensitivity
4. Clinical specificity
5. Agency of older people in prevention of falls

The first three were common to both groups of stakeholders. Clinical specificity came from the group of healthcare professionals, while agency towards preventing falls came from the group of older adults. The themes are reflected in a pictorial representation in Figure 4, showing alignment with the CIP principles.

Figure 4: Developing a PROM for older persons with practice development principles



Theme 1: relevance to the target population

Both groups of stakeholders believed the activities presented to the older persons need to be relevant and appropriate for the construct of balance recovery confidence. This meant that the proposed items should be relatable to older persons to avoid the risk of being inappropriate for the evaluation of balance recovery confidence in older persons.

Box 1: Examples to develop theme 1: relevance to the target population
Meaning unit: 'Normally one tends to hold on to the railings as we walk up hold on the railing' (CDA 6); 'Hold on the railing' (CDA 9) **Condensation:** Holding railing on stairways use **Code:** Use of rails on climbing stairs **Category:** Approach towards stairs climbing
Meaning unit: 'Have never experienced it [loss of balance while bending to pick up an object] myself and have never heard of any friends losing balance this way' (CDA 8) **Condensation:** Unlikely to lose balance on bending to pick up an object **Code:** Steadiness when bending to pick up an object **Category:** In balance on picking up activity
Meaning unit: 'Rarely seen this [trip while approaching a bus] happening' (CDA 8) **Condensation:** Unlikely to experience a trip while approaching a bus **Code:** Steadiness when walking towards a bus **Category:** In balance when walking towards a bus
Meaning unit: 'Very unlikely [to trip against a table leg] as one tends to stand up and walk slowly as the table leg is not obstructing' (CDA 6) **Condensation:** Unlikely to trip against a table leg **Code:** Unlikely to experience trip caused by table **Category:** Type of perturbation
Meaning unit: '[Slip on a puddle of water] at home while mopping the floor, or on wet bathroom floor' (CDA 1) **Condensation:** Likely to slip while mopping or in bathroom **Code:** Slip on wet floor **Category:** Type of perturbation
Meaning unit: 'Suggest to use activities that are common to culture and daily tasks that are applicable to every older adult' (HCP 9) **Condensation:** Use activities common to culture and daily task of older adults **Code:** Older adults' regular activities **Category:** Relatable activities
Meaning unit: 'I think the pictures really help and it's also localised' (HCP 17) **Condensation:** Helpful and localised pictures **Code:** Older adults' regular activities **Category:** Relatable activities
Meaning unit: 'Senior is showering while standing and he does not have any handrails to hold on to' (HCP 28) **Condensation:** Showering **Code:** Older adults' regular activities **Category:** Relatable activities

Theme 2: comprehensibility

Both groups underlined the importance of the comprehensibility of the content, not only to the target population but also to healthcare professionals. The list of opinions expressed highlight that content should be understood by older persons as intended and facilitate ease of administration in practice.

Box 2: Examples to develop theme 2: comprehensibility
Meaning unit: 'Sounds very academic and long. Let it be simple for the layman to understand' (CDA 8) 'Rephrase the question/statement please' (CDA 1) 'Not the most easy to understand' (HCP 15) 'The instructions, I feel, may be too profound for the majority of the older adults to understand. Perhaps simpler English might help' (HCP 1) 'Instruction should be easy to understand and apply' (HCP26) 'It may be hard for administrator to explain to participants too' (HCP 23) **Condensation:** Content language **Code:** Understanding of content **Category:** Comprehension

Theme 3: cultural and contextual sensitivity

Older persons and healthcare professionals had experienced-based views relating to cultural and contextual sensitivity. These issues are wide-ranging, encompassing social lifestyles and environmental infrastructure. Some of the views presented by the different stakeholders are illustrated in Box 3.

Box 3: Examples to develop theme 3: cultural and contextual sensitivity
Meaning unit: 'Less chance as not everyone rears a dog' (CDA 6) 'Do not own a pet' (CDA 2) **Condensation:** Not owning a pet **Code:** Personal choice **Category:** Lifestyle
Meaning unit: 'Will some cultures not have had the experience of walking a dog?' (HCP 4) **Condensation:** Owning different sizes of pets **Code:** Personal choice **Category:** Lifestyle
Meaning unit: 'The bathtub situation will be applicable to most participants overseas, but in Singapore, shower without a bathtub will be better' (HCP 17) 'Majority of us do not have bathtub at home. A bathtub definitely increases your chance, especially an older adult, to fall' (HCP 3) **Condensation:** Use of bathtub **Code:** Toilet **Category:** Indoor environment
Meaning unit: 'I don't think the use of [assisted boarding and] alighting is as common overseas among the general population as it is here in Singapore. The picture makes it very obvious though' (HCP 24) **Condensation:** Use of alighting **Code:** Transportation **Category:** Outdoor environment
Meaning unit: 'Most drains are covered' (CDA 8) **Condensation:** Covered drains **Code:** Public infrastructure **Category:** Outdoor environment

Theme 4: clinical specificity

Healthcare professionals proposed improvements to the content based on their clinical expertise. Some of these views are illustrated in Box 4 to show their suggested ways for developers to refine the content to fit the objectives of the PROM.

Box 4: Examples to develop theme 4: clinical specificity
Meaning unit: 'This scale is not commonly used in hospital setting. Most hospitals for inpatient setting use Morse scale' (HCP 2) **Condensation:** Where this instrument will be used **Code:** Clinical use **Category:** Context of setting
Meaning unit: 'I think reactive balance is a more specific term than unanticipated losses of balance, and it aligns with the terms used in motor control and biomechanics' (HCP 4) **Condensation:** Reactive balance for unanticipated losses of balance **Code:** Clinical use **Category:** Clinical knowledge
Meaning unit: 'Though the picture is quite self-explanatory, might want to consider the position – i.e., loses balance in standing or sitting when bus starts to move or accelerate' (HCP 16) **Condensation:** Consideration in the specificity of position **Code:** Falls mechanics **Category:** Clinical specificity

Theme 5: agency of older people in prevention of falls

The opinions provided by community-dwelling older adults reveal a sense of personal responsibility among older persons to manage the risk of falls. Some views expressed by the older participants reiterated that older persons need to take precautions for avoiding precarious situations (Box 5).

Box 5: Examples to develop theme 5: agency of older people in prevention of falls
Meaning unit: 'Seniors should look out for themselves and not depend on drivers to drive off only when everyone is seated' (CDA 1) **Condensation:** Seniors should look out for themselves **Code:** Cognitive awareness **Category:** Mindfulness
Meaning unit: 'Normally one tends to hold on to the railings as we walk up' (CDA 6) **Condensation:** Hold on to the railings **Code:** Ways to avoid falls **Category:** Falls avoidance strategy
Meaning unit: 'Will switch on light' (CDA 9) **Condensation:** Switch on light **Code:** Ways to avoid falls **Category:** Falls avoidance strategy

Discussion

The presented themes provided empirical evidence that having all stakeholders participating in a PROM development can create a shared vision and encourage the transformation of understanding towards person-centredness (McCance et al., 2013). Involving all relevant voices in the care of the older persons can contribute to the development of a PROM to support older persons' agency in the management of falls.

The first four themes above are consistent with the guidelines for development and selection of PROMs described by de Vet and colleagues (2011) and the 'Consensus-based Standards for the selection of health Measurement INstruments (COSMIN)' (Prinsen et al., 2018). The fifth theme (agency of older people in prevention of falls) uniquely addresses older persons in the context of falls management. The emergence of this theme is unsurprising, given that older persons have expressed a desire to preserve their identity and independence when dealing with falls (Clancy et al., 2015). Self-efficacy is a concept closely related to person-centred care (Wilberforce et al., 2016). Given that person-centred theory views persons as self-determining, self-efficacy is concerned with a person's beliefs around having the power to realise their intentions and affect change (McCormack and McCance, 2017). PROM developers need to recognise the importance of knowing patients as persons and the importance of engaging them as active partners to enable them to be self-determining and empower them to influence issues and decisions that affect them (Fors, 2015).

Theme 1: relevance to the target population

PROM content needs to be relevant to the construct or specific population of interest and the context of use (Terwee et al., 2018). Healthcare professionals representing different clinical disciplines, through their lens of clinical expertise, reviewed items based on the potential clinical utility of the PROM. Community-dwelling older adults reviewed the content as experts by experience, giving opinions on how they or their peers would perceive the information. The diversity of views provided allowed PROM developers to understand the meaning of the content from various standpoints.

Theme 2: comprehensibility

Determining comprehensibility is best done by the target population, who will be completing the PROM questionnaires (Wiering et al., 2017). The group of older adults articulated the need to ensure that the language used is clear enough for the general older population's understanding. In this study, healthcare professionals stated that comprehensibility would also be needed for PROM

administrators, for example, to help them explain the PROM. The standpoint of healthcare providers is that barriers such as administration time should be overcome to encourage the use of PROMs in clinical practice (Fleischmann and Vaughan, 2018). Some healthcare professionals critiqued the PROM from another perspective – how their patients might perceive it, based on their underpinning assumptions. The clinicians' expression of such views on behalf of their patients may be explained by their belief that the older adults have limited health literacy, low education, or that they do not want to participate in treatment decisions and prefer clinician-led care models (Politi, 2013). But to realise person-centredness, it is essential for clinicians to challenge such assumptions and respect patients' values, preferences and expressed needs. Moreover, clinicians should support patients to contribute to practice development in a meaningful way (McCormack and McCance, 2017). Given that the COSMIN guidelines (Terwee et al., 2018) recommend that the target population should assess comprehensibility, we weighted our content evaluation criteria for revising items more towards the opinions provided by the community-dwelling older adults than the healthcare professionals.

Theme 3: cultural and contextual sensitivity

The theme of cultural and contextual sensitivity in PROM content development has been given little attention in the literature. The relative weight afforded to opinions contributed by patients and healthcare professionals has been widely debated, based on emic and etic viewpoints (Triandis, 1994; Magasi et al., 2012). There is no clear consensus on whose perspective should be prioritised. Emic explanations are based on insiders' views and understandings of how things work; etic reasons are based on outsiders' perspectives and interpretations. Both approaches have produced distinct explanations of their purposes but they have often been viewed as complementary. The opinions shared in this study by community-dwelling older adults and healthcare professionals encompass different social contexts, realism, ethnicity and societal infrastructure. The occasional conflicting views were attributed to the cultural and contextual diversity of the experts, who were from six countries (Singapore, UK, US, Malaysia, Australia and Hong Kong). The participation of international stakeholders provided a rich level of consideration of complex issues. The meanings of local culture and context encourage developers to acknowledge that PROMs should remain suited to the community-dwelling older adults as persons, not just patients.

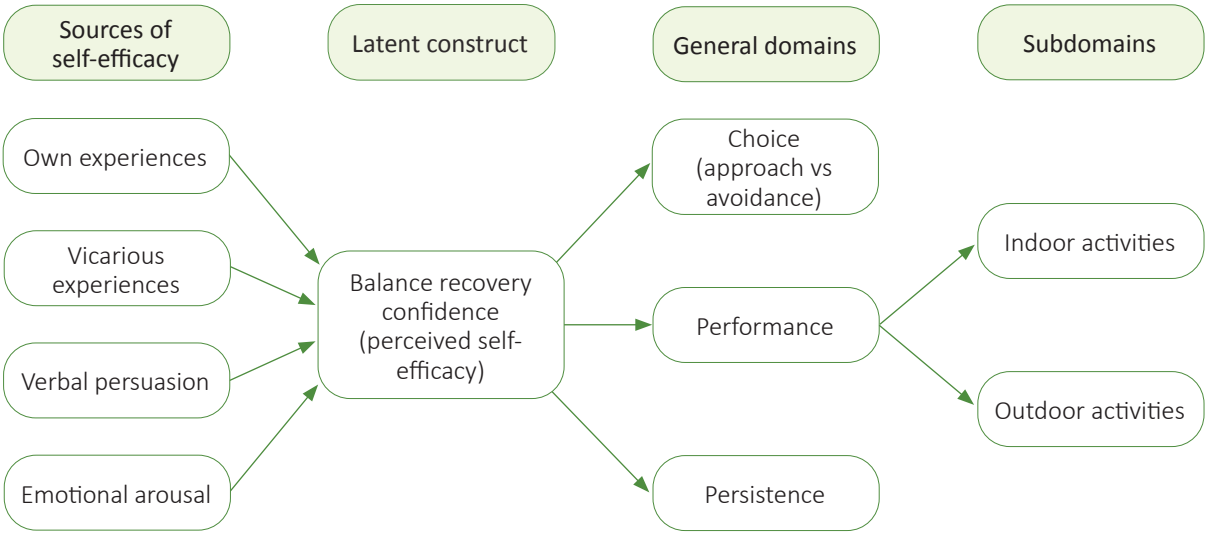
Theme 4: clinical specificity

This theme emerged from the healthcare professionals and underlines the value of representatives from different healthcare disciplines. Concerns raised on issues ranging from clinical applications to clinical domain knowledge allowed developers to address a range of considerations to improve the utility of the PROM. The feedback refined the content for its potential use by different healthcare practitioners attending to older persons on falls-related issues. The consensus on the content received for the BRC PROM strengthened confidence that it could be purposefully used in clinical practice.

Theme 5: agency of older people in prevention of falls

The theme was based on the views presented by the group of older adults, who validated the content based on what they expected to encounter in their day-to-day activities. They suggested ways for older persons to lessen the potential risks of falls and critiqued each item from the standpoint of personal experiences. They shared their personal strategies to inform what older persons can do in specific scenarios, such as holding on to a handrail when climbing stairs or switching on a room light. These views displayed a high sense of perceived self-efficacy towards managing falls, and supported Bandura's (1977) self-efficacy conceptual framework. Sources of self-efficacy, including personal experiences, vicarious experiences, verbal persuasion, and emotional arousal (for example, anxiety), can influence performance levels (Bandura, 1977). Figure 5 illustrates the conceptual framework of balance recovery confidence, which adapted the Bandura (1977) self-efficacy framework with other relevant concepts of near-falls (Maidan et al., 2014), balance recovery mechanisms (Maki and McIlroy, 1997) and PROMs on falls efficacy (Soh et al., 2021b).

Figure 5: The conceptual framework for the BRC scale



Practice development approach to constructing PROMs

Practice development is a continuous process of improvement towards increased effectiveness in person-centred care (McCormack et al., 2103). From this perspective, person-centred PROMs developers must strive to create the conditions to empower, engage and emancipate all stakeholders. Adopting the CIP principles of collaboration, inclusion and participation gave new perspectives to all individuals involved in the process, cascading toward the potential transformation of person-centred care of older persons in falls management. This knowledge translation is evident with the revision of content across the different stages of the consensus methods used. Rycroft-Malone and colleagues (2013) assert that knowledge translation relies on facilitation and building enabling contexts and cultures. The participation of all stakeholders in this research showcased the values of practice development. The use of creative imagination through the CIP principles is encouraged for PROM development, to enabling the creation of an authentic instrument for used by the target population. Developers should be cognisant of the abundant knowledge that multiple stakeholders can bring to their projects (Navarro, 2020; de Vet et al., 2011).

Limitations

There were a number of limitations given the nature of the consensus methods chosen. The Delphi technique requires all participants to be literate and technologically capable in order to complete the online surveys; this restricted the participation of certain groups of older persons. Delphi also limited interactions between both groups of experts and the PROM developers. To improve knowledge translation, we provided the findings from round 1 to all participants to help them make informed decisions in the second round.

Conclusions and implications for practice

Collaboration, inclusion and participation, the principles of practice development, are fundamental to the early stages of PROM development. Themes emerging from the input of all stakeholders provide more significant meaning to the content and contribute to the creation of an authentic, person-centred instrument. Developers can best appreciate the different perspectives needed by encouraging this broad input, using suitable consensus methods. In this way, new knowledge is formed, potentially transforming care.

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