



Gently steering - the mechanism of how motivational interviewing supported walking after hip fracture: A qualitative study

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ABSTRACT

Objective: To explore how older adults perceive motivational interviewing influences their walking and physical activity after hip fracture.

Methods: Qualitative study using an interpretive description framework. Twenty-four participants aged ≥ 65 years living in the community after hip fracture were interviewed. Participants had received at least 8 sessions of motivational interviewing via telephone. Semi-structured interviews were transcribed verbatim and coded inductively by two researchers independently. All authors discussed findings and themes observed through the researchers' lens and mapped them to the Medical Research Council's framework for process evaluation.

Results: Motivational interviewing was described as a nuanced and subtle intervention that guided participants through their journey of recovery. Three themes described possible mechanisms of how motivational interviewing might work: connection, checking in and confidence. In the context of recovering from hip fracture psychologically and physically, a strong connection with clinicians, along with weekly checking in, were perceived to build participants' confidence to walk after hip fracture.

Conclusion: This study provided insight on participant perceptions of how motivational interviewing might work to support walking after hip fracture.

Innovation: The addition of motivational interviewing to rehabilitation is a novel way of building confidence to walk for people recovering from hip fracture.

1. Introduction

Hip fracture is a common and serious injury for older people, characterised by poor outcomes for those who survive. One in three women and one in twelve men sustain a hip fracture in their lives [1]. People who recover with good physical function afterwards might not walk as much due to fear of falling [2,3]. Psychological difficulties (fear, lack of confidence, frustration) are a major reason for reduced mobility after hip fracture [4]. However, these psychological difficulties are rarely addressed in rehabilitation [5]. This presents an opportunity for clinicians to incorporate psychological interventions in the repertoire of hip fracture rehabilitation.

Motivational interviewing is a patient-centred counseling intervention used by clinicians to encourage adults to develop arguments for behaviour change rather than receiving direct instruction or advice. As an evidence-based intervention [6], motivational interviewing has shown benefits in various health scenarios [7-9] such as increasing physical activity in people with chronic conditions [10]. Preliminary evidence from a pilot trial has

shown that motivational interviewing can improve physical activity in people recovering from hip fracture [11].

Despite evidence of benefits in improving outcomes, how motivational interviewing works to produce change is still largely unknown [8]. While improving confidence is a stated aim of motivational interviewing [12], self-efficacy has not consistently been demonstrated as a mediating factor of behaviour change [8]. One reason for this might be a lack of exploration of all the variables involved, considering the complexity of behaviour change. Exploring participant experiences might prove valuable in understanding mechanisms by which motivational interviewing produces change.

Process evaluation can help us understand the mechanism of impact of an intervention. Under the Medical Research Council framework [13], participants are not merely the object of an intervention. Instead, they interact with an intervention to influence the implementation and outcome. Moreover, participants can explain in their own way how an intervention might work to produce change, and how we can design better interventions to suit different circumstances. Motivational interviewing's mechanisms of

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impact are rarely explored using participant experience [14]. By exploring participant insights, researchers and clinicians can discover new, unexpected pathways and consequences of the intervention, which may be too complex to derive using quantitative methods [15].

Our research question was:

How do older adults perceive motivational interviewing to influence their walking and physical activity after hip fracture?

2. Methods

2.1. Context

This stand-alone qualitative study [16], embedded within an ongoing randomised controlled trial (MIHip trial, ACTRN12619000936123), sought to understand participant experiences of increasing walking and physical activity after hip fracture to inform understanding of mechanisms of impact and provide background context. Participants in the trial receive eight, weekly 30-min motivational interviewing sessions (weeks 1 to 8) and two monthly boosters (weeks 12 and 16) via telephone, and daily time spent walking is assessed up to 1 year after baseline [17]. The trial recruited participants from three sites in the metropolitan area of Melbourne, Australia, with the three sites representative of the city's socioeconomic and cultural diversity. The clinicians delivering motivational interviewing in the study were allied health clinicians (3 physiotherapists, 1 psychologist, 1 speech pathologist and 2 occupational therapists) who completed a two-day training program plus occasional one-on-one coaching from a MINT (Motivational Interviewing Network of Trainers) qualified psychologist. This qualitative study is reported in accordance with the Consolidated criteria for Reporting Qualitative research (COREQ) checklist [18]. It was approved by the university and hospital ethics committees, and all participants provided written informed consent prior to participation.

2.2. Design

We used interpretive description as the theoretical framework. We started our inquiry by reviewing what we already knew and determining the gap from the literature to better understand how motivational interviewing works [19]. This framework also has the advantage of combining inductive and deductive data analysis, which allows us to test and challenge what we think we know [20]. Interpretive description is suited to discovering the mechanism of impact of health interventions since it acknowledges established theory and previous research [21]. It is also ideal for knowledge generation since it captures human experience alongside existing theories and uses it to inform clinical practice [21]. In this study, we considered an existing hypothesis (improving confidence as a possible mechanism of motivational interviewing) [4,22], and the Medical Research Council framework for process evaluation [13].

2.3. Participants

We invited participants from the experimental group of the ongoing trial to take part. Inclusion criteria for the main trial were: aged 65 years or older, living independently at home within 6 months of hospital discharge after hip fracture, could walk, and could communicate in English. Participants are excluded from the main trial if: they were severely depressed or anxious, had impaired cognition or medically unstable to walk. Recruitment sites for the trial span three public health services in Melbourne, Victoria. Participants were eligible to take part in this qualitative study if they had completed at least eight of ten scheduled motivational interviewing sessions.

Purposive sampling was used to ensure diverse participant experiences were explored [23]. We selected participants based on their age, sex, recruitment site, and which clinician they completed the motivational interviewing intervention with. We also sampled different times to conduct the interview (at 9, 16, and 26 weeks after completing the motivation interviewing intervention) to balance participant recall with the

opportunity to embed changes into daily life. We aimed to interview participants until no new ideas were observed through the researchers' reflexive lens (data saturation), expecting this to occur within 25 interviews. Data were continuously analysed by one researcher (MR), and after 20 interviews, all authors conducted independent analysis to determine if further interviews were required.

2.4. Data collection

Semi-structured interviews averaging 30 min duration were conducted by telephone with each participant. An interview schedule (Table 1) was developed by the research team in consultation with experts in motivational interviewing, physiotherapy, and qualitative research. The schedule was piloted prior to study commencement by consultation with a consumer representative. Consistent with the interpretive research process, data collection and analysis were conducted iteratively and informed each other, allowing the direction of our inquiry to evolve as new ideas arise [24]. The original topics and questions remained, but additional prompts on the interview schedule were informed by what the participants had said. An example of the prompt was "If you hadn't received the calls, would you have achieved the same progress? Why/Why not?" as an addition to the question "How did the calls affect your walking?". We added these prompts to the schedule to explore new ideas and to add to the richness and depth of the data collected. All but two interviews were conducted by a trained female researcher (MR) who was independent of other trial data collection. Two interviews were conducted by the trial coordinator, as MR was unavailable.

Table 1
In-depth semi structured interview questions for participants.

Topic Area	Sample Questions
Context and general information	<ul style="list-style-type: none"> • How is your recovery going? • How is your activity going? Tell me about your walking
Telephone calls (motivational interviewing experimental group)	<ul style="list-style-type: none"> • I mentioned earlier about the phone calls you received in _____ with _____. Tell me about your experience. What did you remember about them? • How did you feel about the calls?
Telephone calls and walking	<ul style="list-style-type: none"> • What did you discuss? • How did you discuss ideas with them? • Who talked the most? • What things made it hard for you to walk? • How did the phone calls help with that? • How would you describe the person delivering the calls? • What was their manner like? • How would you rate the connection you had with the person delivering the calls from 1-not at all connection to 10 as connected as possible? • Why did you rate it as a (___) rather than a 1 or 2? • What was it about _____ that made them different from other medical professionals, if any? • How did the calls affect your walking/activity? • How did the calls affect your motivation to walk? • On a scale from 1 not being helpful at all to 10 being as helpful as possible, how helpful were the calls in terms of increasing your activity? • Why did you rate it as a (___) rather than a 1 or 2? • What were the 2 things she helped with the most? • If you hadn't received the calls, would you have achieved the same progress? Why/Why not?
Summing up	<ul style="list-style-type: none"> • How could the calls be improved? • Would you change anything about the content of the discussion? • What about the timing of the calls? • Anything else you'd like to add?

2.5. Data analysis

All interviews were audio-recorded and transcribed verbatim. After assigning pseudonyms there were two phases to the analysis: (i) inductive coding, and (ii) deductive mapping of themes to the Medical Research Council's framework for process evaluation [13]. Inductive coding consistent with interpretive description methods [21,24,25] was completed by two researchers (MR and NS, NT or PO), who independently coded all transcripts using NVivo 12 or manual methods. Coding was conducted throughout the study as soon as transcripts were available. The themes were observed through the researchers' expert lens. Differences were resolved through discussion among all researchers and by referring back to the data to ensure descriptors we chose reflected the words used by the participants. Consistent with the Medical Research Council framework for process evaluation [13] we mapped the themes observed by the researchers to the context of hip fracture recovery or mechanisms of impact.

2.6. Trustworthiness and rigour

We addressed trustworthiness using several strategies [26,27]. Participants received a written transcript of their interview to review and add any reflections they had or to clarify their statements (member checking) [28,29]. Transferability was enhanced by purposively sampling a diverse range of eligible participants and providing a rich description of the research setting. We aimed for data to be dependable by clearly describing our methods and keeping an audit trail throughout the research process.

During the second, deductive part of our data analysis, we used our prior knowledge as a map guiding us to interpret the themes. We provide a researcher frame of reference in the following section to acknowledge the awareness of the influence of the researchers and their background in driving analysis and interpretation [24].

2.7. Researcher frame of reference

MR is a female researcher with a background in public health and medicine. NS and NT are physiotherapists with expertise in interventions to increase physical activity. NS is an experienced female qualitative researcher and NT is an experienced male researcher and the principal investigator of the main trial. PO is a male psychologist and researcher with expertise in motivational interviewing.

All researchers were involved in the conception, implementation, and evaluation of the MIHip trial. The researchers' knowledge and experience of motivational interviewing helped to make sense of the data, particularly in the later stages of analysis. It allowed us to see the contradiction and deeper layers behind participants' own words which was consistent with how motivational interviewing works in the literature (see 3.6. Interpretive synthesis: A nuanced intervention)."

3. Results

3.1. Characteristics of study participants

Twenty-four participants (mean age 79 years, SD 8) including 16 women were interviewed (Table 2). Participants were interviewed on average 240 days (SD 66) post fracture. All participant and clinician names are pseudonyms (Table 2). After analysing the first 20 interviews, it was decided to interview four additional participants to include more participants from the third site. This allowed us to include diverse perspectives from participants with different socioeconomic background. No participants provided further information or thoughts during the member checking process.

3.2. Context

Hip fracture was a stressful experience that left a lasting impression on most participants. Some participants appeared to relive the experience of hip fracture in vivid detail, which suggests they might not have completely processed the experience. This is especially pronounced when they first returned home, the place where most had fallen. Although no participant specifically used the words 'fear of falling', this was what they described when they recounted their feelings about walking after a hip fracture.

"I've got to be very careful where I'm putting me feet... I was stuck in the chair, here, in pain for, what, probably 12 hours... I had to wait until they rang somebody to check up on what I was doing."

[~Dean~]

Participants reported they were physically recovered after hip fracture, although some reported having pain and other comorbid conditions, including having to confront the reality of their ageing and mortality.

"I don't walk much because I've had the Charcot's foot... I've got diabetes. I've got hypertension... I've got another... scan coming up at the end of the year"

Table 2
Characteristics of participants recruited in the qualitative study.

Pseudonym	Age	Sex	Recruitment site	Days since hip fracture until interview	Clinician pseudonym	Clinician profession	Timing of interview (weeks)
Lily	71	F	2	157	Shirley	Occupational therapist	9
Mark	87	M	1	173	Belinda	Physiotherapist	9
Cara	76	F	2	232	Lincoln	Physiotherapist	9
Harold	72	M	3	187	Shirley	Occupational therapist	9
Alfred	70	M	3	164	Anna	Psychologist	9
Yolanda	81	F	1	224	Lincoln	Physiotherapist	9
Dean	85	M	1	134	Lincoln	Physiotherapist	9
Jennifer	70	F	3	144	Lincoln	Physiotherapist	9
Stevie	69	M	3	225	Lincoln	Physiotherapist	9
Jean	82	F	3	156	Sarah	Speech pathologist	9
Beatrice	73	F	2	226	Belinda	Physiotherapist	16
Kate	79	F	1	231	Kamala	Physiotherapist	16
Prudence	83	F	1	259	Kamala	Physiotherapist	16
Madeleine	77	F	2	234	Belinda	Physiotherapist	16
Gwyneth	89	F	1	239	Sarah	Speech pathologist	16
Donald	93	M	1	254	Sarah	Speech pathologist	26
Mary	71	F	2	253	Sarah	Speech pathologist	26
Ron	91	M	1	338	Belinda	Physiotherapist	26
Ella	87	F	1	337	Sarah	Speech pathologist	26
Edith	88	F	2	356	Kamala	Physiotherapist	26
Gloria	66	F	2	298	Sarah	Speech pathologist	26
Jane	85	F	1	276	Shirley	Occupational therapist	26
Gregory	84	M	2	318	Shirley	Occupational therapist	26
Ally	76	F	2	355	Patricia	Occupational therapist	26

for the things growing on my pancreas. So I've got multiple... things that could take me"

[~Stevie~]

Some participants said the mental consequence of their hip fracture was a hindrance to their recovery.

"I think my confidence, or lack of, is hampering my progress."

[~Madeleine~]

Despite the mental burden of hip fracture, many participants said they were unwilling to confide in their relatives, since they do not want to be known as a disabled older person. This is where the role of an outsider who listened without judgment appeared to be valuable in the early phases of hip fracture rehabilitation.

"Family and friends don't know what it feels like. I mean, I guess I need a professional... You don't want that to be the focus of your friendship or your family relationship."

[~Gloria~]

Within this context, we identified three themes describing how motivational interviewing was perceived to support walking and physical activity after hip fracture: connection, checking in, and confidence. A sample of the coding tree and supporting participant quotes is presented in Appendix 1.

3.3. Connection

Overwhelmingly, participants talked about motivational interviewing as a positive experience. Instead of being subjected to a 'treatment', the participants described feeling they had someone travelling their recovery journey with them. They described the clinicians who delivered motivational interviewing as 'a confidante', 'like a family', and 'a great tonic' because the clinicians were a person first and a health professional second. The participants characterised the calls as a conversation, rather than a consultation.

"I felt like I was talking to a friend... a confidante. Um, she didn't give me a lot of advice as much as she let me talk... Not in the friendship category, but easier. More comfortable... Like a conversation."

[~Madeleine~]

The participants described many clinician traits they valued, including being pleasant, considerate and patient. However, deeper connection was forged because participants felt the clinicians genuinely cared. More importantly, the clinicians were considered to value the participants as individuals capable of making their own decisions.

"She was very caring, very concerned about you know, how I was... I wasn't just another client or patient... Yeah, she made me feel as my own person."

[~Ally~]

The clinicians were perceived as helping participants feel understood, listened and not judged. Thus, when the clinicians suggested something, it was taken on board. When the clinician followed up on something discussed the previous week, the participants felt eager to answer because they felt the clinician cared. This connection appeared to be related to two themes: checking in and confidence. If the participants did not feel connected with the clinicians, they did not welcome the weekly checking in, and their confidence did not appear to have improved over time.

"She was quite willing to just reiterate, so you felt good about this, and yeah, I think she was quite perceptive to my thoughts... I certainly got the impression that she was listening well."

[~Harold~]

3.4. Checking in

Each week, the clinicians called to follow-up on the participants' goals. However, the participants said they did not feel pushed because they

decided what to achieve. Even if the participants did not have a specific goal, the clinicians helped 'extend their thoughts' when they asked about the plans each week. This questioning appeared to gently guide the participants closer to a decision, elevating the connection they had above a cordial exchange of information.

"She didn't push advice on me ... we contributed, uh, equally, but she was there... In my case it was just nice to have somebody that was there, didn't interfere, and wasn't in my face all the time."

[~Kate~]

The participants felt the conversation was different from talking with a friend because it was easier to make excuses to a friend while the clinicians were focused on facilitating change. The clinicians were characterised as 'someone who knows what they're talking about', which allowed the participants to value their guidance. Participants said they were conscious the clinicians were calling them for a purpose, to guide them through the recovery process. Without these weekly check ins, the participants reported they might have done less walking. Having the follow up with subtle monitoring 'kept them honest' and accountable because they had already made a promise, and they intended to keep it.

"I don't think I'd be, um, where I am now if I, if I hadn't received the calls because her calls motivate you ... she's been keeping me on the right track... I'm just conscious of the fact that people are looking after me and looking over me."

[~Mark~]

The clinicians were perceived as reframing the participant's progress each week. Some participants said they kept a record of their activities to have something to talk about on the next phone calls, and the clinicians would praise them for their progress, however small it may be. Some participants mentioned they would do more activities each week to please the clinician. The clinicians would then provide feedback which demonstrated how far they were progressing.

"She'd say, 'now look, you, did such and such 2 weeks ago and now you're saying you're doing this, so you're doing a lot more'. So I supposed, she clarified how I was progressing."

[~Beatrice~]

3.5. Confidence

The theme of confidence was underpinned by the connection with the clinician and the weekly checking in. Participants reported clinicians made them feel good about their progress, especially at the time when they were anxious. Hearing encouragement from someone who understood what they were going through meant a lot to the participants.

"As I said, just try to boost my confidence... trying to affirm that what I was doing was right, ... she thought that I was a determined person. ... she'd say 'oh, you hadn't tried that before... oh, good on you! Oh, well done!' So affirmation, I suppose is the best word for it."

[~Beatrice~]

By demonstrating to themselves that they could do things they could not do before, participants felt confident to take the next steps to recovery. The clinician's affirmation made them feel they were doing the right things, and despite the slow progress, 'it was worthwhile keeping up with the aches and the pains'. Some participants said if the clinicians had not believed in them, they would not have believed in themselves; reinforcing the importance of connection with clinician in improving the confidence to walk after hip fracture.

"It's just the encouragement that I got, I felt as if I could do it, and uh, I wanted to do it. And I felt I could do it. And, I think I've proven that I have done it. Admittedly, I'm still on a walker, but, even that I'm walking much better. You know, I can be very upright, and, yeah, I feel confident with it."

[~Jane~]

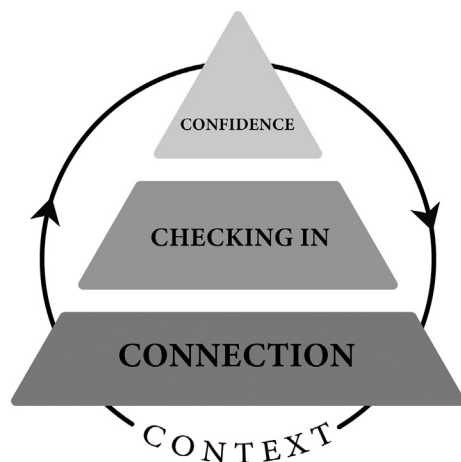


Fig. 1. Motivational interviewing's mechanism of change within the context of hip fracture recovery.

3.6. Interpretive synthesis: A nuanced intervention

A framework of how motivational interviewing was perceived to work is represented in Fig. 1. The pyramid represents how the impact of motivational interviewing was based on connection, deepened by weekly checking in, which supported the confidence of participants to walk. Confidence as a mechanism of impact only resonated explicitly with a small group of participants, and it happened over a period of time when the clinicians reaffirmed their slow progress with regular check ins (signified by its placement at the top of the pyramid).

The circle in Fig. 1 represents the subtle, conversational nature of the impact of motivational interviewing, where the participants typically could not pinpoint exactly how it helped them. Some participants were adamant motivational interviewing did not help them, only to recite all the ways that it did. Others felt it was helpful but could not identify which part specifically helped. Overall, participants described a sense of 'gentle steering', and a 'motivating mind game' that guided them through the journey of recovery.

"I thoroughly enjoyed talking to Belinda, but I thought to myself, I don't think she's helping very much. Um, but then, on the last time she rang, I said, 'you know, I thought you weren't helping much, but this is really helping today...'"
[~ Beatrice ~]

4. Discussion and conclusion

4.1. Discussion

We identified a conceptual framework by which motivational interviewing potentially worked to support walking after hip fracture. A strong connection with the clinician, accompanied by weekly checking in, were shown to build participants' confidence to walk at a time when they were anxious about their recovery. There were instances where the participants seemed to contradict themselves on the helpfulness of motivational interviewing. The novelty of having a healthcare provider being supportive and nonjudgmental instead of prescribing explicit instructions might have contributed to this. The nature of motivational interviewing as a subtle 'conversation about change' might also play a part. One thing was clear: the participants sensed an active, gentle guidance that distinguished motivational interviewing from the other interventions they had received.

A key finding of this study is how confidence may be a mediating factor for motivational interviewing to improve walking after hip fracture; however, the development of confidence may not happen in the absence of connection and checking in. Despite being a hypothesised mechanism by which motivational interviewing facilitates behaviour change [6,12],

confidence has not been identified as a strong mediator of motivational interviewing [8]. Our findings suggested this may be due to the nuanced nature of building patients' confidence, which only occurred after repeated encouragements with a clinician they trusted. This gradual emergence of confidence is aligned with Bandura's model of self-efficacy, which posits that verbal persuasion and performance accomplishments over time can improve a person's confidence to do certain tasks [30]. It is also possible addressing confidence might play a bigger role in this cohort due to the psychological distress associated with recovery from hip fracture [4,31].

Another notable finding is the importance of clinicians developing a strong connection with their patient. Our participants described a sense of connection well beyond a cordial therapeutic interaction. This development of connection is consistent with identified and desirable qualities of an expert clinician who is caring, listening and collaborative [32,33]. Unlike some therapies, motivational interviewing is explicit in terms of the need for connection. Engagement between clinician and client is the first of four core processes of motivational interviewing and underpins the partnership element of the spirit of motivational interviewing [6]. Clinicians have an active role to play in establishing a relational foundation for therapeutic intervention, which can improve outcomes during and after rehabilitation [34]. Our findings confirmed the importance of clinician's connection with their patients as the basis for, rather than a by-product of, successful therapeutic alliance.

The subtle nature of motivational interviewing conversations is a testament to the clinician's skill in balancing participants' anxiety about falling and their desire to recover. The theme 'checking in' represented clinicians 'reiterating' participants' thoughts (reflections) and gently encouraging them to be their best (affirmations), which are core skills of motivational interviewing [6]. 'Checking in' also represented how clinicians helped reframe the progress of hip fracture recovery over time, consistent with using patient-centred behaviour change interventions such as goal setting and monitoring [35].

Motivational interviewing may provide clinicians with a way to effectively incorporate a psychological intervention to augment physical rehabilitation after hip fracture. Rehabilitation guidelines after hip fracture focus on addressing physical impairments and limitations with the goal of attainment of independent mobility [5,36]. Employing a psychological intervention can support patients to have the confidence to incorporate their increased physical capacity into participation in daily life [3]. Since motivational interviewing training and coaching are becoming more accessible in the field of rehabilitation, there is potential for motivational interviewing to be integrated into the existing guidelines for hip fracture rehabilitation. However, fidelity of the motivational interviewing intervention is important; and key to this is that the interviewer receives sufficient training and support. While all motivational interviewers in our study completed a two-day training program, they also received one-on-one coaching support from a MINT (Motivational Interviewing Network of Trainers) qualified psychologist.

The strengths of this study are that data were collected and analysed concurrently until no new ideas were observed by the researchers; a rich, thick description of the participants, researchers, and settings were provided; and the researchers conducted multiple reflections and discussions to immerse themselves in the data and represent participants' experience comprehensively. The study limitations were that some participants had recall issues when interviewed at the 26-week timepoint; however, this was addressed by interviewing participants at earlier timepoints when participants were less likely to have recall issues. The lack of further information from participants during the member checking process may have been caused by the lack of follow-up to ensure the participants had received the transcript, the length of the transcript causing confusion over what they were expected to do, or it may have meant that the participants had nothing new to add. Also, as the main trial is ongoing, we cannot yet confirm the final outcomes or a quantitative mediation pathway. Reporting process data prior to the knowledge of outcome can help avoid bias in interpretation, hence our decision to conduct this study independent of analysis and publication of the main trial [37].

4.2. Innovation

Our study, the first to report a qualitative analysis of motivational interviewing for people recovering from hip fracture, is innovative in several ways. First, we discovered a new mechanism of how motivational interviewing can support health behaviour change in people after hip fracture, by gradually building their confidence to walk through factors such as a strong connection with a clinician and weekly checking-in. Second, we found a potential reason why previous studies have failed to identify strong mediators of motivational interviewing is the subtlety of intervention delivery and the gradual change in confidence, as participants typically could not pinpoint how it helped. Third, we identified the addition of motivational interviewing to standard rehabilitation, which is typically focused on physical rehabilitation, as a novel way of building confidence to walk for people recovering from hip fracture. Finally, our study used telehealth, which is rarely used by rehabilitation services for people after hip fracture. Our participants described no difficulties connecting with clinicians through telehealth, as an alternative to face-to-face consultations for people with mobility issues. Our findings may be the first step in transforming hip fracture rehabilitation through increased flexibility and psychological support by health professionals from any discipline with sufficient training in motivational interviewing.

4.3. Conclusion

The perceptions of participants recovering from hip fracture suggest motivational interviewing helped clinicians build a strong connection, which improved participants' confidence to walk over regular checking in.

CRedit authorship contribution statement

Made U. Rimayanti: Conceptualization, Methodology, Investigation, Formal analysis, Data curation, Visualization, Writing – original draft. **Nicholas F. Taylor:** Conceptualization, Methodology, Formal analysis, Investigation, Supervision, Writing – review & editing. **Paul D. O'Halloran:** Conceptualization, Methodology, Formal analysis, Supervision, Writing – review & editing. **Nora Shields:** Conceptualization, Methodology, Formal analysis, Validation, Supervision, Writing – review & editing.

Declaration of competing interest

All authors declare no conflict of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pecinn.2022.100078>.

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