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Background

- Using wearables (e.g., Fitbit) to self-monitor physical activity is a promising approach to support self-management among persons with arthritis.¹
- Questions remain around how persons with knee OA experience benefits or downsides in using a physical activity wearable in their everyday lives.²
- Better understanding of these experiences is needed if wearable technology is to be incorporated in arthritis self-management in ways that are ethically aware.

Methods

- A secondary analysis of qualitative data embedded in a proof-of-concept randomized controlled trial.³
- Eligible participants:
 - Had a physician-confirmed diagnosis of OA or were aged 50 or older and experienced knee pain during the previous year lasting > 28 separate or consecutive days.
 - Had access to an email address and daily access to a computer or mobile device.
 - Lived in British Columbia, Canada.
- A purposive sub-sample of semi-structured one-to-one interviews (60-90 mins) conducted following participation in an 8-week physical activity counselling intervention; transcribed verbatim.
- Analysis guided by phenomenographic methods and concepts of a relational ethics lens (e.g., mutual respect, trust).^{4,5}
- Perspectives from patient partners sought to shape the research question and interpretations of data during analysis.

Physical Activity Counselling Intervention



Purpose

To examine a range of experiences among persons with knee osteoarthritis who participated in a study of a wearable-enabled physical activity counselling intervention, paying particular attention to any influences on participants' relationships with themselves (i.e. their self-perception) and the physiotherapist (PT).

Findings

Participant Characteristics (n=21)	
Female	13 (62%)
Age Range	40-82 years (Median: 68 years)
Bachelor Degree or Higher	11 (52%)
Annual Household Income	Under CA\$12,000 (n=1) -> Over CA\$100,000 (n=4)

We identified 3 categories, each with contrasting perspectives:

1. Making choices about physical activity with or without a wearable

Some felt Fitbit supported them to take more control in reaching daily step goals, but some also felt pressured. For others, Fitbit did not add value.

[Fitbit] gives me some kind of permission that I couldn't give myself before. It's on my side just like a friend supporting me. There's a gentle persuasion. [Hazel]

It probably gives me some incentive to walk further just to placate the Fitbit. It nags you... it's probably a good thing. [Martha]

I max out in my activities... I know what I'm doing and I don't care what this little machine tells me. [Joe]

Category 2: Emotional dimensions of adding awareness about physical activity

Feelings of accomplishment when wearable data reflects physical activity goals were met, and negative thoughts prompted if not.

I will always keep the Fitbit because it lets me feel as though I am accomplishing something everyday. [Daenerys]

When you reach that goal, you feel good about it... The other days I'm just in too much pain... You always try to do better but then if it doesn't happen, I try not to beat myself up over it... "You shouldn't be doing that. You should be doing that"... I just get stuck on that hamster wheel of negative thoughts. [Logan Kale]

Category 3: Reviewing wearable data with the study PT: Issues of accountability and trust

Sharing wearable data both helped to build and threatened to undermine mutual trust with the study PT.

I think it's good for me to know that the study PT is monitoring me... maybe that makes me [laughs] take a few more steps. [Denny]

It's just a little bit of pressure.... I need to watch to keep my promise. [Darius]

I've lost 3000 steps... [Fitbit] slipped into sleep mode... I was getting a call from the PT and said "it wasn't my fault I didn't make my 10,000. This stupid band didn't log on properly... but if it wasn't there... I could've been making up anything [Gavin]

Conclusions

To our knowledge, this is the first qualitative study that uses a relational ethics lens to explore how persons with arthritis experienced changes in their interactions with a health professional. Findings provide novel insight into different ways in which persons with knee OA experienced their use of a wearable positively or negatively during their research participation. They may guide future empirical investigation of the use of wearables in arthritis self-management and contribute to ongoing conversations in clinical practice regarding the potential value (or not) of wearables.

References:

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