

Background

- Evidence indicates self-monitoring wearable technologies could support physical activity among people living with chronic illnesses, including arthritis.¹
- Emerging research suggests using a physical activity wearable may have positive and negative influence in relationships that persons with arthritis have with themselves (i.e., their self-perception) and their health professionals.²
- Relational ethics is a suitable conceptual lens to further explore positives or negatives experienced in these relationships.³ Better understanding of these experiences can maximize benefits and minimize downsides in incorporating physical activity wearables in arthritis self-management.

Purpose

To develop understanding of how persons with rheumatoid arthritis (RA) may experience using a wearable positively and negatively as part of a physical activity counselling intervention study involving a physiotherapist (PT).

Methods

- Guided by social constructivist grounded theory.⁴
- Participants sampled from a randomized controlled trial following participation in an 8-week physical activity counselling intervention.⁵ To be eligible, participants:
 - Had a physician-confirmed diagnosis of RA.
 - Had access to an email address and daily access to a computer or mobile device.
 - Lived in British Columbia, Canada.
- A semi-structured one-to-one interview (50-180 mins) and phone follow-up; transcribed verbatim.
- Concepts of relational ethics (e.g., trust; respect) sensitized interview guide and analysis.
- Analysis continued until theoretical saturation, and peer-checking added rigour.
- Perspectives from patient partners sought to shape the research question and interpretations of data during analysis.

Participant Characteristics (n=14)

Female	12 (86%)
Age Range	29-71 years (Median: 47 years)
Bachelor Degree or Higher	7 (50%)
Met physical activity guidelines at baseline	9 (64%)

Findings

Making autonomous choices about physical activity

Being active intertwined with moral values placed on self-control.

Using Fitbit helped some to do “something right”.

Some felt ambivalent if physical activity goal wasn’t met.

Negotiating Mutual Trustworthiness

Many felt moral responsibility as a trustworthy participant to wear their Fitbit.

Distrusting wearable data prompted moral tension with study PT.

Preserving self-respect through being active

Being active intertwined with moral values placed on independence and productivity.

For some, wearable data affirmed and challenged their sense of independence and productivity.

I thought I must wear the thing because I promised [the research team] I would. [Victoria]

It’s not really capturing the true data... I’ll be honest with you, I didn’t even look at it... I just trust my body to tell what I’m supposed to do... [the PT] kept encouraging me to use [Fitbit] better... I said “Okay”. Those are my white lies... I mean you have to be grateful. [Bob]

[Fitbit] actually showed me I’m not as still as I think I am... it’s a bit of an eye opener for [my husband] because I really am a champion coper. [Jane]

I go “Mommy’s checking her daily steps”... As a single parent who can’t work, I can’t say “Hey, look at my cool job, kid”. [Yet] I’m still doing things that inspire him. [Nikki]

To see those slots of time where I would waste time sitting... it’s kind of like people who have TVs, that’s what they do... and you wouldn’t think they’re lazy... [Tara]

I rest... I do that more often than I’d like to admit. [Anastasia]

If I were to notice at the end of the day that the Fitbit was not all the way done... I would walk around until it buzzed... it’s better to have it... at least there’s a chance that you would do something right. [Victoria]

I hoped for an opportunity to put in a disclaimer somewhere like, OK I’ve come down with the flu... being able to do that would sort justify I wasn’t slacking off. [Sarah]

Physical Activity Counselling Intervention



Conclusions

Using a relational ethical lens, we explored tensions arising within and influencing the relationships that participants had with themselves and others (i.e., the study PT, family members), as participants sought to construct a positive moral identity in the context of their everyday lives. Findings can inform the development and implementation of physical activity wearables into self-management in ways that are sensitive to ethical tensions experienced by persons with arthritis.

References:

- Piwek L et al. The rise of consumer wearables: promises and barriers. *PLoS One*. 2016; 13(2): e1001953.
- Leese J et al. The perspectives of persons with arthritis on the use of wearable technology to self-monitor physical activity: A qualitative evidence synthesis. *Arthritis Care Res*. 2021; Epub ahead of print.
- Bergum V et al. *Relational ethics: The full meaning of respect*. University Publishing Group; 2005.
- Charmaz K. Grounded theory: Objectivist and constructivist methods. In: *Handbook of Qualitative Research*. SAGE; 2000:509-535. 5
- Li LC et al. Efficacy of a physical activity counseling program with use of a wearable tracker in people with inflammatory arthritis: a randomized controlled trial. *Arthritis Care Res*. 2020; 72(12): 1755-65.