Experiences Using Wearable Technology by Persons with Knee Osteoarthritis Participating in a Physical Activity Counselling Intervention Study: A Relational Ethics Lens

Jenny Leese1,3, Graham MacDonald1,3, Townsend A1,3, Catherine Backman1,3, Laura Nimmon1,4, Linda Li1,4
1. University of Ottawa, Canada; 2. The Ottawa Hospital Research Institute, Canada; 3. Arthritis Canada, Canada; 4. University of British Columbia, Canada; 5. Lancaster University, United Kingdom

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.

Analysis

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

We identified 3 categories, each with contrasting perspectives:

Category 1: Making choices about physical activity with or without a wearable

1. 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.

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.

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.

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: