ARE PHYSICAL ACTIVITY, SLEEP, AND JOINT PAIN ASSOCIATED WITH PHYSICAL FUNCTION AND QUALITY OF LIFE IN INDIVIDUALS WITH MULTIMORBIDITY? A CROSS-SECTIONAL ANALYSIS OF THE MOBILIZE TRIAL

T. Haber, A. Bricca, M. Hall, J. C. Brønd, L. T. Thygesen, S. T. Skou

BACKGROUND

- About **1 in 3 adults live with multimorbidity**—defined as having two or more long-term conditions
- People with OA and co-existing long-term conditions experience worse health and incur greater healthcare costs
- To **develop effective treatments**, we need a better understanding of how **lifestyle behaviours and joint pain relate to health outcomes** in people with multimorbidity

RESEARCH AIM

Investigated associations between **physical activity, sleep, and joint pain severity** with **physical function** and **health-related quality of life** (HrQoL) in people with multimorbidity

WHAT WE DID

Used baseline data from **227 participants** in the **MOBILIZE** clinical trial. These participants had/were:

- Two or more long-term conditions
- Willing to participate in supervised exercise therapy

EXPOSURES
- Device-measured physical activity levels
- Device-measured sleep
- Joint pain intensity
- Self-reported sleep

OUTCOMES
- Walking function (6MWT)
- Quality of life (EQ-5D-5L)

COVARIATES
- Age
- BMI
- Educational level
- Civil Status
- Number of comorbidities
- Sex
- Smoking

DATA ANALYSIS
- Analysis using multivariable linear regression models

Approximately 1 in 3 adults live with multimorbidity — defined as having two or more long-term conditions.

WHAT WE FOUND

- **Higher physical activity levels** were positively associated with **physical function** (potentially meaningful) and **quality of life** (potentially trivial)
- **More severe hip or knee pain** intensity was negatively associated with **physical function** (potentially meaningful)
- Poorer **self-reported sleep quality** was negatively associated with **quality of life** (potentially meaningful), while device-measured sleep efficiency was not associated with either outcome

Higher physical activity levels were positively associated with:

↑ **Physical function (potentially meaningful)**

↑ **Quality of Life (potentially trivial)**

More severe hip and knee pain was negatively associated with:

↓ **Physical function (potentially meaningful)**

Poorer self-reported sleep quality was negatively associated with:

↓ **Quality of Life (potentially meaningful)**

IMPLICATIONS FOR PRACTISE AND RESEARCH

- Clinicians should **support patients to increase their physical activity**. Various types of physical activity and exercise may help improve or maintain physical function
- Clinicians should help patients with multimorbidity **manage joint pain** —if this aligns with what they want and need
- Future **RCTs are needed to evaluate** whether **lifestyle interventions** (e.g., targeting physical activity) **improve health outcomes** in multimorbidity

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Centre for Health, Exercise and Sports Medicine
Department of Physiotherapy, The University of Melbourne
Further information: Travis Haber
Email: travis.haber@unimelb.edu.au