

Web-delivered exercise and tailored texts improve knee arthritis therapy

13 April 2021, by Cheryl Critchley



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A new online program enhanced by text messages to help people with knee osteoarthritis exercise has been found to improve knee pain, physical function and quality of life, new research reveals.

The University of Melbourne-led study developed and tested a free 24-week exercise program combining a website and personalized text messages. No freely accessible program like this currently exists.

Published in *JAMA Internal Medicine*, the randomized clinical trial of 206 Australian adults found that the website with texts improved [knee pain](#) in participants with a clinical osteoarthritis diagnosis, compared to those using another website with information similar to that currently available online through high-quality sources.

More than 70 percent of people who used the website with texts experienced a clinically meaningful reduction in knee pain. This means that most participants improved with the free, self-directed [exercise intervention](#) without requiring

more intensive or costly treatment.

Physical function, quality of life, self-efficacy, and treatment satisfaction also improved.

The website is available at no cost online (www.mykneeexercise.org.au) and the text messages have been developed into a free app, My Exercise Messages, which will be available in app stores. Researchers hope it will provide an effective, no cost, easily accessible option for many people with knee osteoarthritis.

Physiotherapist and University of Melbourne Ph.D. candidate Rachel Nelligan said the self-directed program empowered users to tailor exercises to their individual needs which helped them do them regularly.

"People are able to do their exercises when and where they want and at the level that best suits them," Ms Nelligan said. "We found people really enjoy the flexibility of being able to do them the way they want to and fit them into their day.

"If people have problems doing their exercises, we then send them targeted text messages to help get them through."

The complete program includes a 24-week self-directed, web-delivered strengthening exercise regimen broken into three eight-week sections and guidance to increase general physical activity, all supported by automated behavior-change text messages designed to support regular exercise and address common exercise challenges faced by people with knee osteoarthritis.

In the trial, a [control group](#) accessed a custom-built website, which contained information on osteoarthritis and the importance of exercise and physical activity, the same as that currently available online from high-quality sites.

The intervention group accessed another custom-built website with the same information plus a 24-week self-directed exercise program, detailed physical activity guidance and automated text messages to encourage exercise adherence.

The intervention group showed greater improvements in overall knee pain and physical function compared to those who received only the information currently available online.

The study found that a self-directed, web-based strengthening exercise routine and [physical activity](#) guidance supported by automated text messages to encourage exercise behavior change improved knee pain and function at 24 weeks.

"This freely available digital intervention is a useful and effective option for improving access to exercise for people with knee osteoarthritis and to support [health professionals](#) provide [exercise](#) management to people with [knee](#) osteoarthritis at scale across Australia," Ms Nelligan said.

More information: Rachel K. Nelligan et al. Effects of a Self-directed Web-Based Strengthening Exercise and Physical Activity Program Supported by Automated Text Messages for People With Knee Osteoarthritis, *JAMA Internal Medicine* (2021). [DOI: 10.1001/jamainternmed.2021.0991](https://doi.org/10.1001/jamainternmed.2021.0991)

Provided by University of Melbourne

APA citation: Web-delivered exercise and tailored texts improve knee arthritis therapy (2021, April 13) retrieved 24 June 2021 from <https://medicalxpress.com/news/2021-04-web-delivered-tailored-texts-knee-arthritis.html>

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