Patients' Experiences of Digital Interventions for the Self-Management of Chronic Pain: A Systematic Review and Thematic Synthesis

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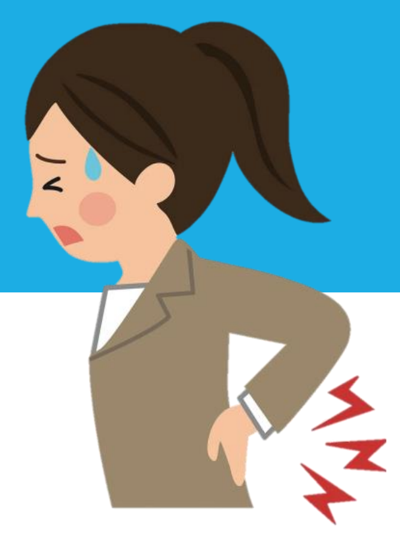
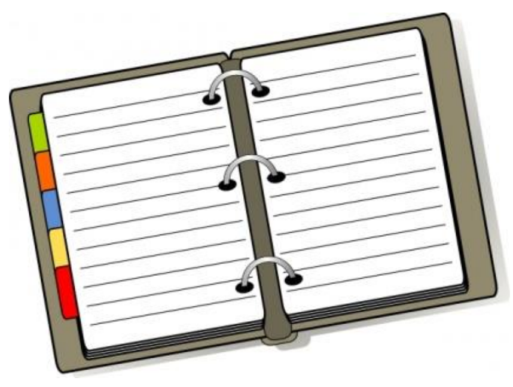


BACKGROUND

Chronic pain is a major public health condition affecting more than 30% of the world's population[1]. To successfully manage the complex nature of chronic pain, multidisciplinary treatment is required. However, access to such specialised treatment is limited[2,3]. A means of overcoming the barriers of accessibility to multidisciplinary health care could be the delivery of self-management strategies using digital tools, such as smartphone applications, websites, and social media campaigns. Digital tools can deliver a range of self-management strategies, such as:

Physical activity

Cognitive behavioural therapy



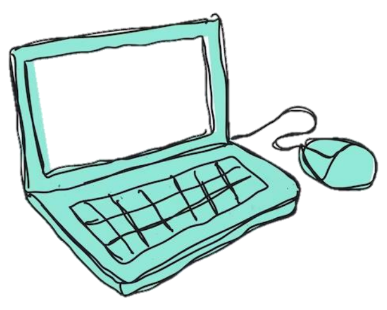
Symptom tracking

Relaxation techniques

Systematic reviews have demonstrated that digital tools are effective in managing chronic pain symptoms[4,] however evidence focuses primarily on quantitative outcomes[5]. The overall patient experience has yet to be synthesised.

OBJECTIVE

To identify, appraise and synthesise qualitative evidence on patients' experiences with a digital health intervention for the management of chronic pain.



METHODS

A literature search was conducted on the following electronic databases: Embase, Medline, Cumulative Index for Nursing and Allied Health Professionals (CINAHL), PsychINFO and Scopus. Inclusion criteria followed the SPIDER[6] framework, see below:

S	P	I	D	E	R
Sample	Phenomenon of interest	Design		Evaluation	Research type
Patients (18 years old and over) with a chronic pain diagnosis who have participated in a DHI	DHIs, using digital platforms to deliver self-management strategies for chronic pain	Qualitative data collected via questionnaires, focus groups, surveys, and interviews		Patients experiences with participating with DHIs	Qualitative and mixed-method studies that include a qualitative component

RESULTS

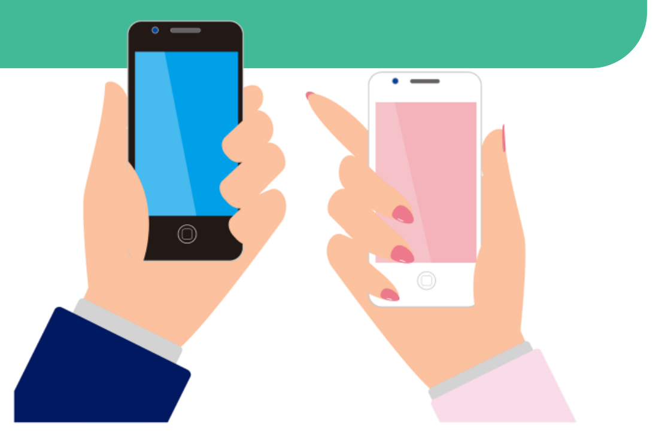
Thirty-seven articles met the inclusion criteria and were included in the review.

A thematic synthesis approach was then applied to the included articles to draw themes from the qualitative data.

THEME 1: PERSONAL GROWTH
Gaining new insights
Renewed mindset

THEME 2: ACTIVE INVOLVEMENT
Motivation
Improved access
Healthcare decision making

THEME 3: CONNECTEDNESS AND SUPPORT



CONCLUSION

Contrasting experiences in each of the themes highlights that a "one-size-fits-all" approach to intervention design and implementation is not adequate. Future research regarding the development and implementation of DHIs should employ a co-design approach, involving PLwCP and other key stakeholders. DHIs should be accessible, convenient, and flexible, and be easily integrated into patients' lives without exacerbating the burden on those already coping with a range of challenging symptoms.

Intervention components including CBT, symptom tracking, exercise programmes and educational content should be prioritised. These features have demonstrated improvements in patients' self-awareness, confidence and independence, and acceptance, all whilst fostering motivation to engage in positive health behaviours, decisions about treatment and care with HCPs, and the feeling of being supported outside of routine healthcare appointments.

Future DHIs should include social networking features with both peers and HCPs to enhance social support, a crucial element of successful self-management.

1. Cohen SP, Vase L, Hooten WM. Chronic pain: an update on burden, best practices, and new advances. *The Lancet*. 2021/05/29/ 2021;397(10289):2082-2097. 2.Mitra F, Woolley T. Links between perceived general practitioner support and the wellbeing of Australian patients with persistent pain. *Aust J Gen Pract*. Apr 2020;49(4):221-225. 3. Deslauriers S, Déry J, Proulx K, et al. Effects of waiting for outpatient physiotherapy services in persons with musculoskeletal disorders: a systematic review. *Disabil Rehabil*. Mar 2021;43(5):611-620.. 4. Hadjiat Y, Arendt-Nielsen L. Digital health in pain assessment, diagnosis, and management: Overview and perspectives. *Front Pain Res (Lausanne)*. 2023;4:1097379. 5. Hussain A, Haroon H, Ahmed A, Gilani SA. Digital technologies in management of chronic pain - a systematic review. *J Pak Med Assoc*. Jun 2022;72(6):1158-1165. 6. Dunham M, Bonacaro A, Schofield P, Bacon L, Spyridonis F, Mehrpouya H. Smartphone Applications Designed to Improve Older People's Chronic Pain Management: An Integrated Systematic Review. *Geriatrics (Basel)*. Apr 8 2021;6(2).