Mobile Phone Applications and Digital Health Management Tools for Patients with Pancreatitis: a Systematic Review

Mrateb Ashour 1, Niamh Wilke 1, Carol Stephens 2, Israa Mahdi 1, Jean Mc Mahon 3, Suzanne M. Egan 4, Paul F Ridgway 1,4, Kevin C. Conlon 1,4, Sinead N. Duggan 2

1. Department of Surgery, School of Medicine, Trinity College Dublin, Ireland 2. Department of Nutrition & Dietetics, Tallaght University Hospital, Dublin 24, Ireland 3. Tallaght University Hospital Library, Dublin 24, Ireland 4. Department of Surgery, Tallaght University Hospital, Dublin 24, Ireland

Background

Digital health interventions may play an important role in the management of chronic conditions by:
- Facilitating long-term monitoring of symptoms
- Quick access to accurate information & support
- Encouraging self-management
- Reducing inequality of healthcare access

In its global strategy on digital health, the World Health Organisation (WHO) 1 recommend an acceleration in the development and adoption of digital health interventions to achieve the vision of ‘health for all’ and to improve health service efficiency and cost effectiveness.

Objective

To systematically review published evidence on the use of patient-centred digital health management tools in the management of chronic and acute pancreatitis.

Methodology

A systematic literature search was performed in the Medline, Embase, Cinahl and Cochrane databases identifying studies investigating digital health interventions with any pancreatitis-related outcome (Quality of Life (QoL), pain, gastrointestinal symptoms) in adult patients with acute or chronic pancreatitis.

Results

Study 1
Investigated feasibility and acceptability of a mobile health application measuring behavioural and symptom-based parameters in the 7 days following hospital discharge for acute pancreatitis, and the effect of this intervention on QoL. 2

Study 2
Determined feasibility and usability of a telephone-based mindfulness service for CP, and the effect of this intervention on QoL. 3

Both studies described the digital health interventions to be not only feasible based on satisfactory compliance rates (67%, 71%), but also acceptable in terms of ease-of-use. There were significant improvements in QoL among patients post-intervention.

Conclusion

- Clear research gap regarding the potential effectiveness or feasibility of digital interventions for pancreatitis.
- Studies identified in this review act as a strong prelude to the incorporation of such devices and the development of substantive clinical trials.
- The development of digital technology in healthcare has the potential to improve service delivery on local, national and international scales and should be a priority in line with WHO recommendations.

References