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Abstract

Digital Health Technologies for Coeliac Disease: A Realist Approach †

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Abstract: Coeliac disease (CD) is a chronic autoimmune condition, estimated to affect around 1% of the global population. Without treatment, CD increases the risk of serious complications such as malabsorption, malnutrition, and cancer. Treatment requires life-long adherence to a gluten-free diet (GFD) which aims to reduce the risk of complications and preserve individuals' functional status and quality of life (QoL). As a chronic condition, life-long healthcare is recommended for individuals with CD in the form of structured monitoring and follow-up, often resulting in significant health and economic costs to both the individual and wider society. One solution is providing CD healthcare using digital health technologies. To explore how digital technologies may work (or not) for individuals with CD, and for those with chronic gastrointestinal conditions, a realist evaluation methodology is being employed between 2022–2025. As part of this project, A realist synthesis is first being undertaken between 2022–2024; due to the scarcity of research on digital health technologies, searches were widened to consider the impact of digital health technologies on any gastrointestinal condition. Searches retrieved over 1000 articles which were assessed for relevance and rigour. Included articles were thematically coded and synthesised. Findings included effectiveness and benefits to individuals in a range of areas including QoL, GFD-adherence and reduction in face-to-face appointments, as well as reports of no effect. The two important advantages of healthcare through digital technologies for this group appeared to be the ability to be assessed in real-time and the option to access interventions within the relevant context. These functions were reported to often provide reassurance for individuals with CD and improve their QoL. The use of such technologies also enabled healthcare professionals to remotely assess their patients' symptoms and GFD-adherence, enabling early detection of complications as well as support for individuals at the time point needed. Further research is now being conducted to determine for whom these technologies work, with a particular focus on understanding healthcare inequalities.

Keywords: coeliac disease; digital healthcare; digital health technologies; realist; follow-up

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