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Enhancing Physiotherapy Outcomes in Cystic Fibrosis: The Role of Gamification in Rehabilitation

Ashish Kumar, BPT Student, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Neha Kashyap, Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Urvashi, Demonstrator, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Urvashi,

Demonstrator, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: chauhanurvi17@gmail.com

ABSTRACT

Cystic fibrosis (CF) being a multifarious genetic disorder is characterised by chronic pulmonary complications and systemic involvement. Physiotherapy has played a key role in managing CF complications on routine basis for chronic patients. Techniques like bronchial toileting, active cycle of breathing technique, spirometry etc are a part of the routine regimens of patients with CF but adherence to same, monotonous, mundane exercises is challenging. Gamification, the application of game design principles in non gaming contexts, has emerged as a promising approach to address this issue by increasing patient engagement and motivation. This review was taken up to find out the effect of gamification in long term illness like CF in improving lung function.

An exhausting data search was carried out on various databases like Ovid, Scopus, Pubmed, Cochrane etc to filter out the studies done on CF using gamification as a long term rehabilitation tool. Keywords like cystic fibrosis, virtual reality, rehabilitation were used.

Through this review of existing literature and pilot interventions, this research finds crucial parameters determining the success of gamified physiotherapy, including age, disease severity, and technology accessibility. According to preliminary research, gamification greatly increases patient motivation, creates a feeling of accomplishment, and promotes exercise tolerance and pulmonary function when used in physiotherapy regimens. Additionally, the study emphasises how crucial it is for behavioural psychologists, software engineers, and physicians to work together across academic boundaries in order to enhance gamified designs for this particular patient population.

Keywords: Genetic disorder, Technology enhancement, Virtual reality.