



## **COMBINING DIGITAL STORYTELLING AND HEALTH COACHING IN CHRONIC DISEASE MANAGEMENT: A SCOPING REVIEW**

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### **ABSTRACT**

Chronic diseases such as diabetes, hypertension, and cardiovascular conditions require ongoing and holistic management. Digital storytelling and health coaching are innovative methods that support chronic disease management. Digital storytelling enables patients to share personal experiences, enhancing their understanding and engagement. Health coaching offers personalized support to help patients achieve health goals through sustainable lifestyle changes. This scoping review aims to examine the existing literature on the use of digital storytelling and health coaching in chronic disease management. The review focuses on the potential benefits of combining these approaches and identifying research gaps. A literature search was conducted across electronic databases (PubMed, Scopus, Google Scholar) using keywords related to digital storytelling, health coaching, and chronic disease management. Studies meeting the inclusion criteria were analyzed to identify key themes and research gaps. The findings indicate that digital storytelling enhances patient understanding of their condition, promotes better communication with healthcare providers, and increases patient engagement. Health coaching effectively helps patients set and achieve health goals through a structured and personalized approach. The combination of these methods provides a more holistic approach to chronic disease management. Integrating digital storytelling and health coaching provides a personalized, empathetic, and coordinated method for addressing chronic illnesses. However, further research is required to enhance integration strategies and evaluate the sustained impact of these methods across different long-term health conditions.

**Keywords:** chronic disease management; digital storytelling; health coaching; holistic approach; patient engagement

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## **INTRODUCTION**

Chronic diseases such as diabetes, hypertension, and heart disease pose major challenges to global healthcare systems. According to the World Health Organization (WHO), non-communicable diseases account for approximately 71% of all global deaths, with around 15 million deaths occurring each year among individuals aged 30-69 (World Health Organisation, 2022). Chronic disease management requires a holistic and sustained approach, including patient education, lifestyle changes, and regular health monitoring. In this context, innovations in management strategies are essential to improve patients' quality of life and reduce the burden on healthcare systems (Sulfikar & Rajab, 2024).

Digital storytelling has emerged as an effective tool for supporting chronic disease management. This method allows patients to share their personal experiences through digital media such as videos, blogs, or multimedia presentations. Research shows that digital storytelling can enhance patient engagement, strengthen communication between patients and

healthcare providers, and improve patients' understanding of their conditions (Haigh & Hardy, 2011). For instance, a study by Charon & Marcus, (2016) found that patient narratives can improve the quality of clinical interactions and help healthcare providers understand the social and emotional context of the patient's illness.

Health coaching is another approach that has proven effective in chronic disease management. Health coaching involves interactions between patients and health coaches who assist patients in setting and achieving health goals through ongoing, personalized support. Empirical evidence shows that health coaching can improve health outcomes, including glycemic control in diabetes patients, blood pressure reduction in hypertensive patients, and increased physical activity (Thom et al., 2018). For example, a meta-analysis by Kivelä et al., (2014) found that health coaching significantly improved health outcomes across various chronic disease populations.

While both digital storytelling and health coaching have shown significant benefits, the potential of combining these approaches in chronic disease management remains underexplored. The combination could offer a more holistic approach by blending the emotional and personal elements of storytelling with the structured support of health coaching. According to Lohr et al., (2022), integrating digital narratives and coaching could strengthen the therapeutic relationship and enhance patient motivation to adhere to care plans. Therefore, it is crucial to explore how these approaches can be integrated to optimize chronic disease management. This scoping review uniquely contributes to the existing literature by addressing the intersection of digital storytelling and health coaching in chronic disease management, an area that has received limited attention. While previous studies have examined the individual benefits of these approaches, this review synthesizes available evidence to evaluate their combined potential. By identifying gaps and offering insights into the integration of these methods, this review provides a foundation for future research and practical implementation in clinical settings.

Research indicates that the combination of digital storytelling and health coaching may provide greater benefits than when used separately. Digital storytelling offers patients a platform to reflect on and share their disease journey, which can lead to increased self-awareness and acceptance of their condition. On the other hand, health coaching provides the structure and support needed to implement sustainable lifestyle changes. For instance, a study by Lupton, (2013) showed that patients participating in digital storytelling felt more empowered and motivated to manage their conditions. Furthermore, research also suggests that the use of digital technology in health education can improve accessibility and patient engagement. With technological advances, digital interventions can be tailored to individual needs and accessed anytime and anywhere. This is particularly relevant in the context of the COVID-19 pandemic, where direct access to healthcare services has been limited. A study by Fotis et al., (2023) found that digital-based interventions significantly improved patient engagement and health outcomes.

However, despite the evidence showing the potential benefits of combining digital storytelling and health coaching, several challenges remain. One of the main challenges is ensuring that these interventions are accessible to all patients, including those who may have limited access to technology or difficulty using digital tools. Additionally, further research is needed to identify the best ways to integrate these approaches into clinical practice and evaluate their long-term effectiveness. This scoping review aims to identify and analyze the existing literature on the use of digital storytelling and health coaching in chronic disease management. By exploring the available scientific evidence, this study is expected to identify gaps in the literature and provide recommendations for future research and practice.

## **METHOD**

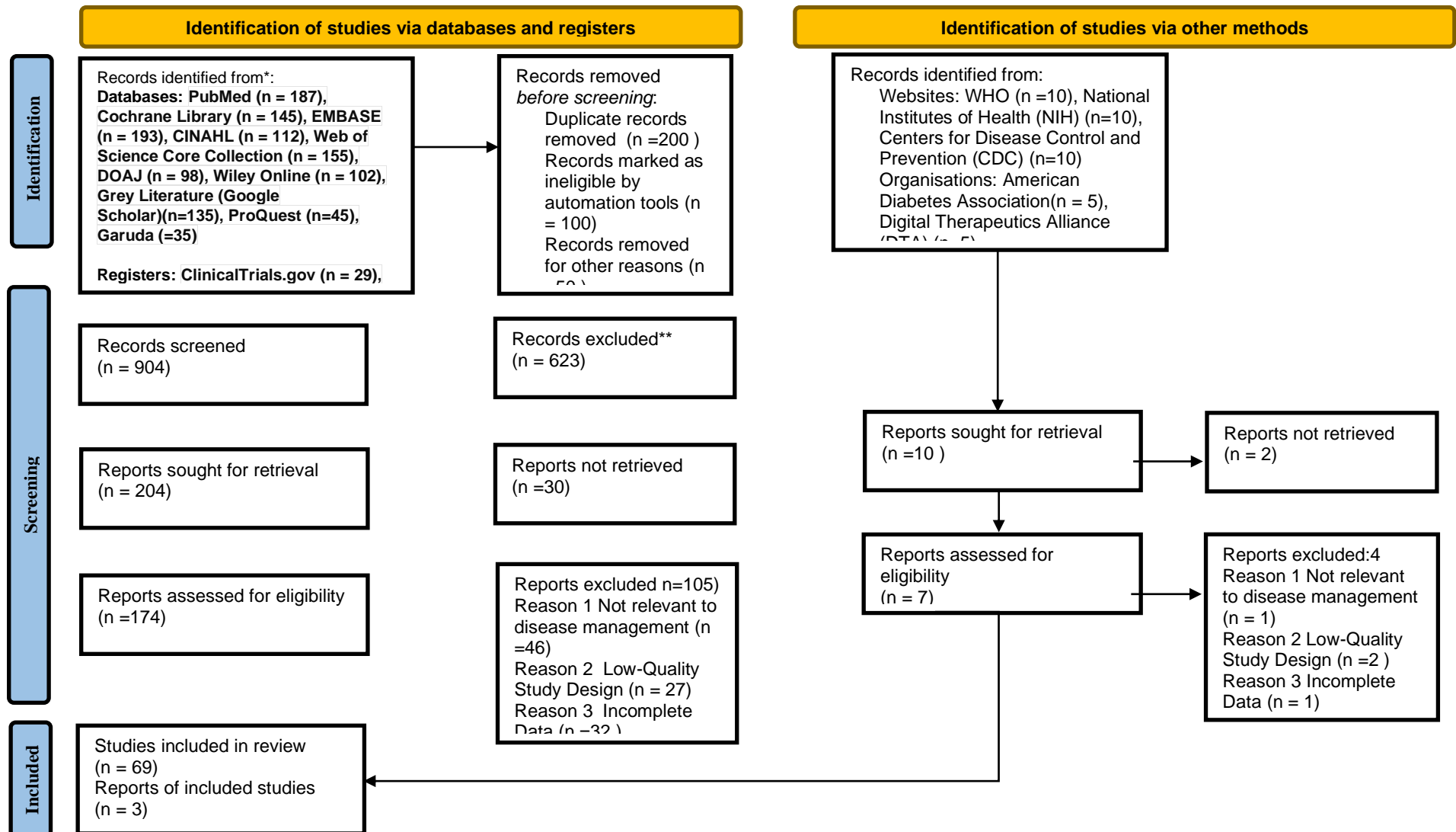
The study design follows the guidelines provided by The Joanna Briggs Institute, which is widely used for synthesizing research evidence and classifying existing literature based on its characteristics, features, and volume (Peters et al., 2017). The methodology for this scoping review includes systematic steps, such as focusing on a specific topic, formulating clear research questions, justifying inclusion and exclusion criteria, and ensuring transparent procedures (Tricco et al., 2018). To identify relevant studies and develop the search strategy, keywords such as "digital storytelling," "health coaching," and "chronic disease management" were used. Searches were conducted across multiple databases and registries, including PubMed, Cochrane Library, EMBASE, CINAHL, Web of Science, DOAJ, Wiley Online, Google Scholar, ProQuest, Garuda, ClinicalTrials, and WHO ICTRP. The review was limited to studies published in English between 2015 and 2020, focusing on chronic disease management. The selection process began with 1,254 records from various sources. After removing duplicates (200 records) and excluding records that did not meet the inclusion criteria (100 records) or were removed for other reasons (50 records), 904 records remained for further screening. Of these, 623 records were excluded for being irrelevant or not aligning with the study's focus.

A total of 204 reports were processed, of which 30 were inaccessible. After evaluating 174 reports, 105 were excluded due to relevance, study quality, or incomplete data. This left 69 relevant articles for inclusion. Additional records were identified through websites such as WHO, NIH, and CDC, as well as citation searches, resulting in 3 more relevant articles. In total, 72 articles were included in the review, providing a comprehensive perspective on the integration of Digital Storytelling and Health Coaching in chronic disease management, in accordance with PRISMA guidelines (Figure 1) (Peters, M. D., Godfrey, C. M., McInerney, P., Soares, C. B., Khalil, H., & Parker, 2015). The study protocol for this scoping review has been registered with PRISMA for scoping reviews, available at <http://prisma-statement.org/Extensions/ScopingReviews>. Ethical approval was not required as per the regulations of our country. However, we adhered to all relevant ethical principles, such as avoiding fabrication, falsification, plagiarism, and redundancy (BERA, 2011). In terms of eligibility criteria, we ensured that only articles meeting the following requirements were included: the focus was on patients with chronic diseases, adult patients were involved as respondents, and the intervention examined involved both digital storytelling and health coaching. Additionally, only articles published in English and between 2015 and 2024 were considered for inclusion (Table 1).

## **RESULT**

### **Characteristics of the Reviewed Articles**

The analysis of the 72 reviewed articles shows that research on digital storytelling and health coaching interventions in chronic disease management comes from various countries, with the largest contribution from the United States (25 articles), followed by South Korea (8 articles), Canada (6 articles), Australia (5 articles), and the United Kingdom (4 articles). Additionally, other articles originate from countries such as China, Indonesia, Germany, and several countries in Europe and Asia. The types of study designs used include randomized controlled trials (RCTs) (48 articles), pilot studies (10 articles), longitudinal cohort studies (8 articles), as well as systematic reviews and scoping reviews (6 articles).



Picture 1. Flowchart Including Database Searches, Registers, and Other Sources as well as Study Inclusion and Exclusion

## **Types of Study Designs**

Of the 72 articles reviewed, various study designs were used to assess the effectiveness of digital storytelling and health coaching in chronic disease management. The most common was the Randomized Controlled Trial (RCT), used in 48 articles, such as Andreae et al., (2021), which showed that a peer-coached storytelling program improved medication adherence in diabetes patients. Ten articles used pilot studies to test the feasibility and early impact of interventions, like Zarifsaniey et al., (2022), who explored digital storytelling to enhance self-management in adolescents with type 1 diabetes. Eight articles employed longitudinal cohort studies, such as Bailey et al., (2020), which assessed the long-term effects of digital interventions on chronic musculoskeletal pain. Additionally, six articles used systematic and scoping reviews, like Shakeri Hossein Abad et al., (2021), which examined the use of digital technologies in public health surveillance. These designs reflect a variety of approaches to validating the role of digital storytelling and health coaching in chronic disease management.

## **Population**

The populations studied in these articles mostly consisted of patients with various chronic diseases. For example, Type 1 and Type 2 diabetes patients were the focus for improving self-management and glycemic control, as in the study by E. Kang et al., (2021). Some studies also examined asthma patients, focusing on digital technology for disease management, like Khusial et al., (2020), who evaluated a mobile health system for asthma. In COPD patients, health coaching was tested to improve inhaler use, as in Willard-Grace et al., (2020). Cancer patient studies aimed to improve quality of life and reduce distress, such as Yun et al., (2020) on cancer survivors. Lastly, studies on cardiovascular disease and hypertension patients looked at telehealth-based health coaching, like Alencar et al., (2020) for obese patients at risk. Overall, these articles highlight how digital storytelling and health coaching improve self-management, reduce symptoms, and enhance quality of life for chronic disease patients.

## **Types of Interventions**

The interventions in this research include various approaches to support chronic disease management and help patients achieve their health goals. Digital storytelling, for example, involves patients sharing their experiences in managing chronic diseases, such as the study by Carlson et al., (2021), which used digital storytelling to reduce diabetes health disparities in rural Latino patients. Health coaching through mobile apps and web platforms is another common approach, with Azelton et al., (2021) evaluating its effectiveness in managing Type 2 diabetes at home, focusing on individual support and behavioral strategies. Some studies also combine digital storytelling and coaching to provide holistic support, like the intervention tested by A. M. Lohr et al., (2023) for Hispanic/Latino patients with Type 2 diabetes. Additionally, digital health technologies, such as mobile apps, telehealth, and mHealth devices, are used to help patients monitor their conditions, as seen in Gong et al., (2020), which employed a mobile app to support self-management in Type 2 diabetes patients. Overall, these interventions combine technology with human-centered approaches to improve chronic disease management, empower patients, and enhance their quality of life.

## **Types of Chronic Diseases**

Research on digital storytelling and health coaching primarily focuses on chronic diseases. In Type 1 and Type 2 diabetes, interventions aim to improve self-management and glycemic control. For example, Sherifali et al., (2021) demonstrated that health coaching can improve glycemic control and quality of life in Type 2 diabetes patients. Some studies also explore interventions for asthma and COPD, such as Benzo et al., (2021), who showed the effectiveness of home-based health coaching and rehabilitation for managing COPD

symptoms. In cancer, Tran et al., (2020) highlighted how digital technology can facilitate patient data collection to improve prostate disease management. In cardiovascular disease and hypertension, Giravi et al., (2022) emphasized the potential of digital interventions to support pain management and reduce opioid dependence. Overall, the use of digital technology through health coaching, digital storytelling, and mHealth applications has significant potential to enhance chronic disease management and improve patients' quality of life.

### **Intervention Duration**

The duration of the interventions varied across studies, influencing the outcomes. Some studies, like Pamungkas et al., (2022) on diabetes coaching, showed that a 6-month intervention improved self-management. Most interventions lasted between 6 to 12 months, such as Yun et al., (2020), which found that a 12-month intervention improved physical activity and distress management in cancer survivors. A few studies, like Lewinski et al., (2022), showed that telehealth was effective for managing chronic conditions over more than 12 months.

### **Primary Outcomes**

The reviewed interventions showed significant results, especially in diabetes management. Several studies reported a significant reduction in HbA1c, such as Andreae et al., (2020), who found that a peer-coached digital storytelling program lowered HbA1c by 1%. Kang et al., (2021) also reported similar results in their health coaching and electronic health management program. Digital storytelling and health coaching also improved medication adherence, as seen in Carlson et al., (2020), where digital storytelling enhanced patient engagement and adherence. Health coaching also improved glycemic control and quality of life in Type 2 diabetes patients, as shown by Sherifali et al., (2021).

### **Secondary Outcomes**

Health coaching and digital storytelling interventions improved the quality of life for chronic disease patients, addressing physical, emotional, and social aspects. Yun et al., (2020) found improvements in physical activity, weight management, and stress management among cancer survivors. Programs like HeLP-Diabetes reduced distress in Type 2 diabetes patients, with Andreae et al., (2020) reporting significant distress reduction. Interventions also boosted self-efficacy, as seen in Zarifsaniey et al., (2022), who observed increased self-efficacy in Type 1 diabetes management among adolescents. Additionally, many interventions reduced metabolic markers such as blood pressure, cholesterol, and body mass index. Azelton et al., (2021) reported significant reductions in these markers in Type 2 diabetes patients participating in digital health coaching.

## **DISCUSSION**

The findings of this scoping review demonstrate that digital storytelling and health coaching are effective strategies for improving chronic disease management. Randomized controlled trials (RCTs) provide strong evidence of their efficacy. The use of digital health technologies, such as mobile apps and telehealth, offers greater flexibility and accessibility for patients (Kang et al., 2021; Azelton et al., 2021). Combining digital storytelling with health coaching offers a holistic approach to supporting chronic disease patients. This approach not only enhances medication adherence and self-management but also improves quality of life and patient engagement, as observed in peer-coached storytelling programs for diabetes patients (Andreae et al., 2021). Health coaching, in particular, has been shown to improve glycemic control and quality of life for Type 2 diabetes patients (Sherifali et al., 2021).

However, several research gaps need to be addressed. Many interventions involving digital technology require access to devices and technical skills, which may not be available to all

patients, particularly older populations or those from low socioeconomic backgrounds. Research has shown that populations with limited technical skills or access to digital devices face significant barriers to using these technologies (Carlson et al., 2020). Therefore, to overcome these barriers, future research should focus on developing more inclusive technological solutions that are accessible to individuals with limited access to devices or technical knowledge. Additionally, addressing these accessibility challenges could involve the provision of community-based support or training programs for patients, especially in underserved or older demographics.

Furthermore, most studies have primarily assessed short-term effects, with few evaluating the long-term sustainability of these interventions. Long-term studies are crucial to understanding the lasting impact of digital storytelling and health coaching on chronic disease management. There is also significant variation in intervention methods and standards, which makes cross-study comparisons difficult. To enhance the robustness of future research, standardizing intervention methods and procedures is necessary for more accurate and reliable comparisons (Benzo et al., 2021; Azelton et al., 2021). Recent studies reaffirm the effectiveness and added benefits of digital interventions in chronic disease management. A. M. Lohr et al., (2023) examined the effectiveness of digital storytelling in Hispanic/Latino individuals with Type 2 diabetes and found that it improved patient understanding and engagement in self-management. This study demonstrates how digital narratives can address cultural and linguistic barriers in healthcare. Similarly, Zarifsaniey et al., (2022) showed that digital storytelling significantly improved self-management behaviors in adolescents with Type 1 diabetes, highlighting the importance of tailored interventions. Additionally, Shahil Feroz et al., (2022) explored digital health interventions for pregnant women at high risk of preeclampsia and eclampsia in low- and middle-income countries, demonstrating that digital technology can be adapted to diverse contexts and still yield positive outcomes, despite unique accessibility challenges.

To address existing research gaps, future studies should prioritize the development of inclusive technological solutions, evaluate long-term intervention outcomes, standardize intervention methods, and explore strategies for maintaining patient motivation over time. Research should focus on creating accessible technology solutions for various population groups, particularly those with limited technical skills or digital device access (E. K. Kang et al., 2021). In conclusion, the reviewed articles provide a strong foundation for developing more effective and integrated intervention programs to improve health outcomes and quality of life for chronic disease patients. Further research is necessary to assess the long-term effectiveness of these interventions across different disease contexts and to address technology accessibility challenges. Future research can focus on developing more inclusive and sustainable solutions to support chronic disease patients worldwide (Shakeri Hossein Abad et al., 2021).

## **CONCLUSION**

Digital interventions like digital storytelling and health coaching show significant potential in improving chronic disease management through holistic and personalized approaches. Digital storytelling allows patients to emotionally share their experiences with illness, while health coaching provides direct guidance to achieve health goals. The combination of these approaches can foster more empathetic and coordinated interactions between patients and healthcare providers. However, further research is needed to optimize this integration, understand how these interventions can be effectively adapted to different chronic disease contexts, and evaluate their long-term effectiveness. To bridge these gaps, policymakers should prioritize funding for inclusive digital health solutions that ensure accessibility for

underserved populations, particularly those with limited access to technology. This could include providing subsidies for devices or expanding internet infrastructure in rural or low-income areas. Health systems should also consider integrating digital health tools with traditional care models to offer a more seamless patient experience. Standardizing procedures and conducting deeper evaluations of long-term health outcomes are also crucial. Practitioners, on the other hand, can contribute by providing ongoing support and training for patients to ensure they can effectively use digital health technologies. Furthermore, it is essential to develop tailored interventions that address the specific needs of diverse patient groups, considering factors such as age, cultural background, and technological proficiency. Thus, further development of the digital storytelling and health coaching combination could provide a solid foundation for more effective and sustainable intervention programs for chronic disease patients.

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