Chapter 5
Digital Health Technologies Enhancing Human Life

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ABSTRACT

"Digital Health Technologies: Enhancing Human Life" explores at how Digital Healthcare or Digital Health technologies are revolutionizing the way that healthcare is provided and how people's physical health is maintained. The way healthcare is accessible, provided, and managed is being completely transformed by digital health, an interdisciplinary approach that blends technology and medical services. Important developments that are emphasized for their contributions to bettering patient outcomes and managing chronic diseases include telemedicine, wearable technology, electronic health records, mobile health applications, and customized medicine. The chapter addresses the responsibilities that different stakeholders play in promoting the acceptance and integration of these technologies, including researchers, patients, healthcare professionals, and technology developers. It also looks at the possibilities for customized treatment as well as the difficulties with data privacy, security, and equal access. It also looks at the present and future consequences of digital health.

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INTRODUCTION

Multiple Digital Health Technologies (DTHs) are revolutionizing healthcare daily, resulting in an effective, coherent, and decentralized environment for health care services. eHealth is conceptualised by digital health to include digital patients using a wide range of smart connected devices (Andy Wai Kan Yeung, 2023) . Digital Health Technologies enhance patient engagement by continuous remote monitoring, education and personalized care (Angela M. Victoria, 2024). DTH has improvised the outcomes of patients by making health services and medical knowledge more accessible and user friendly (Nascimento, 2023) . The medical field is currently dealing with serious medical difficulties such as pandemics, epidemics, childhood illnesses, aging-related problems, infertility concerns, and neurodegenerative disorders that call for the highest level of treatment. The real-time accessibility and innovative technologies of these digital health platforms are driving their daily evolution and growth. Digital health is a broad field that encompasses more than simply technology and tools. It promises customer-centric and preventive care by integrating big data, artificial intelligence, robots, and machine learning with open, secure platforms (Mohd Javaid, 2022). The medical health environment has seen innovative advances that have resulted in digital transformations.

These include the use of robotic caregivers, wearable health monitoring technology, ingestible sensors, digital twins, and mobile health apps that enable remote health assessment and measurement. (Maksut Senbekov, 2020) Artificial intelligence is accelerating the development of vaccinations and treatments for serious illnesses, leading to significant scientific breakthroughs in this area. AI is making it possible for digital therapies, diagnostics, and personalized medical recommendations to empower patients with preferred treatment alternatives, early detection, and prevention, resulting in more regulated and efficient medical care. This is having a comprehensive effect on the medical field, where supply chain management and intelligent manufacturing are enabling prompt and affordable medical interventions that are essential to healthcare. (Milla Rosenlund, 2023) Digital health technologies, or DTHs, have significantly raised the bar and increased operational effectiveness in the medical field, resulting in better and more transformative experiences for all parties involved. Every day, physical health is being mapped using digital health technology. Apps exist for keeping track of your steps, and you can assess your blood pressure, blood sugar, weight, oxygen saturation, and fever at home with portable devices. The number of remote medical appointments is rising. Therefore, DHTs have enormous advantages for physical health, and the number of remote health appointments is rising.