

Utilising Software and Apps to Manage Scoliosis

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Abstract

Scoliosis, a complex spinal deformity characterized by abnormal curvature, affects millions of people worldwide. Managing scoliosis requires regular monitoring, exercise, and sometimes bracing or surgical intervention. In recent years, the advancement of technology has led to the development of software and mobile applications that aim to empower patients in managing their scoliosis effectively. In this article, we will explore the utilization of software and apps in scoliosis management, their benefits, and how they enhance patient engagement, monitoring, exercise, and treatment outcomes.

Keywords: Scoliosis • Scoliosis management • Scoliometer

Introduction

Utilizing software and apps in scoliosis management promotes patient engagement and provides educational resources to individuals and their families. These tools offer interactive platforms that deliver accurate and accessible information about scoliosis, its progression, and available treatment options. Patients can gain a better understanding of their condition, empowering them to make informed decisions about their healthcare [1].

Literature Review

These platforms often include features such as videos, animations, and 3D models that explain the mechanics of scoliosis, illustrate exercises, and demonstrate proper brace wear. By fostering patient engagement and education, software and apps can help patients feel more involved in their treatment journey and improve adherence to prescribed therapies [2]. Some apps use the device's camera to capture postural images, which are then analyzed to assess changes in the curvature of the spine. Patients can compare their images over time and share them with healthcare professionals, facilitating remote monitoring and reducing the need for frequent in-person visits. For patients prescribed with scoliosis braces, apps can serve as reminders for brace wear and help track the duration and frequency of usage. This data can be shared with healthcare providers, allowing them to assess compliance and make necessary adjustments to the treatment plan. Software and apps provide valuable tools for monitoring scoliosis progression and tracking treatment outcomes over time. These technologies enable patients to regularly capture and record data, such as spinal measurements, postural images, and brace usage [3].

Discussion

Software and apps offer exercise programs and rehabilitation tools tailored to individuals with scoliosis. These programs aim to improve spinal strength,

flexibility, and posture, ultimately aiding in the management of scoliosis [4]. By documenting spinal measurements and treatment milestones, software and apps enable patients to track their progress. Visual representations, such as charts or graphs, can illustrate improvements in spinal alignment or changes in curve magnitude, providing motivation and reinforcement throughout the treatment process. Apps can send notifications and reminders for various aspects of scoliosis management, including exercise sessions, brace wear, and scheduled medical appointments. These reminders help patients stay on track with their treatment plan and ensure they do not miss important activities or milestones.

An important note about the rapidly mutating Omicron variant: while the currently available vaccines have reduced neutralising capacity to this VOC, its detection in South Africa, where vaccine coverage is only 7.5%, may indicate that the vaccines are still protective against it. In an area with less vaccine coverage, the variant is more likely to mutate and spread. Multiple preprints published around the world are quickly demonstrating that a two-dose regimen is ineffective against the Omicron variant. A three-dose booster regimen has been shown to be more effective at protecting against and reducing morbid disease in people who have been exposed to this VOC. Several countries began testing various vaccines. Software and apps often provide forums or social networking features that allow patients to connect with others facing similar challenges. This virtual community provides a support system where individuals can share experiences, exchange advice, and find emotional support throughout their scoliosis journey [5,6].

Conclusion

The utilization of software and apps in scoliosis management empowers patients by providing educational resources, facilitating monitoring and progress tracking, offering exercise programs, and enhancing communication and support. These tools enable individuals to actively participate in their treatment journey, improve adherence to therapies, and achieve better treatment outcomes. By harnessing the power of technology, patients with scoliosis can benefit from increased engagement, more efficient monitoring, and enhanced support, ultimately leading to improved quality of life and long-term management of their condition.

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Conflict of Interest

None.

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