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The Future of Speech Therapy for Autism: Bridging Technology and Personalized Care



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Researchers have been working on autism since the 1980s [1]. Autism spectrum disorder (AUD) is a complex neurodevelopment condition that affects people's interaction with others, behavior, communication, and social interaction. Although autism may be a lifelong condition, appropriate support, services, and treatments can improve a person's symptoms and daily functioning. Individuals with autism often face challenges with speech and language development are prominent. Speech therapy (ST) plays a role in gaining control over verbal communication. An effective speech therapy can enhance the quality of life by addressing communication difficulties. Traditionally, the treatment of autism has a multidisciplinary approach that aims to address the diverse needs of individuals on the spectrum. Advancements in technology are revolutionizing the field by offering various possibilities for personalized care and improved outcomes. Healthcare professionals diagnose autism by assessing a person's development patterns and behaviors. Currently, speech therapy is delivered through face-to-face interactions with a trained therapist. Because parents of autistic children consistently identify language and social communication skills as a top priority. This approach has limitations, like scheduling conflicts, limited access to geographical constraints, and specialized care [2].

Telepractice platforms and virtual reality systems (VR), offer novel opportunities for accessible, personalized, and engaging therapy experiences. Telepractice is an online therapy service via technology-based platforms that allows long-distance interventions, breaking geographical barriers and expanding access to specialized care. Specifically, telepractice capitalized on communication practices such as video conferencing, and data tracking tools to facilitate effective communications and reduce barriers like distance. It is a very effective and low-cost method for conducting and completing online sessions for individuals with autism spectrum disorder [3].

The use of mobile technology in various countries become a necessity in the lives of people and also makes it a potential medium of intervention for people diagnosed with autism. It also enhances social skills, language development, and communication abilities. Virtual reality is an essential tool for healthcare intervention, offering realistic scenarios for practicing communication strategies and social interaction. Virtual reality interventions can lead to more stable and faster communication skills over time [4].

Advancements in artificial intelligence has enabled therapists to analyze data and identify patterns to meet the unique needs of each individual with autism. Technology is poised to facilitate collaboration and communication among individuals, and promote consistency across various settings. Researchers are involved in creating and training robots to interact with autistic children. We can empower individuals with autism to reach their full communication potential with the help of these latest technologies.

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