The Impact Of Technological Advancements On Health Of Disabled Patients: A Systematic Review Of The Benefits And Challenges In The Use Of New Technology In Healthcare

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Abstract

The aim of current systematic review is to evaluate the impact of technological advancements on health of disabled patients. Google Scholar PsycINFO and Research Gate were used to categorize research published between 2029 and 2023 on

evaluating the impact of technological advancements on health of disabled. After screening and quality evaluation, twelve studies were included in the synthesis, focusing on team dynamics and measurement scales. The influence of technology improvements on the health outcomes of people with disabilities in Saudi Arabia (KSA) is examined in this systematic study. The review examines the advantages and difficulties of integrating modern technology in healthcare for people with disabilities in the Kingdom by means of a thorough examination of pertinent literature. The results indicate that assistive technology has great potential to improve the quality of life, illness management, and accessibility to healthcare for individuals with disabilities in the Kingdom of Saudi Arabia. However, the assessment also points up obstacles that might prevent the successful use of technical advancements, including socioeconomic inequality, complicated regulations, and moral dilemmas. We offer suggestions on how to overcome these obstacles and maximize the use of assistive technology in medical practice, which will enhance patient outcomes and encourage inclusion of people with disabilities in Saudi Arabia.

Keywords: Technological Advancement, Disabled Patients, Benefits, Challenges, Saudi Arabia, Systematic Review.

Background

People with disabilities now lead very different lifestyles thanks to digital technology and the worldwide disability rights movement. The festival promotes virtual sociality and self-determined recognition by showcasing films on subjects including Down syndrome, autism, brain damage, and mental illness. Worldwide, institutions, businesses, and schools employ these digital video documentary technologies (Ginsburg, 2020).

An impediment that makes it difficult for a person to engage with the outside world and carry out certain tasks is called a disability. Disabilities in vision, mobility, cognition, memory, learning, communication, hearing, mental health, and social interactions are among the many different kinds. Individuals with impairments are varied and may have varying effects. The three characteristics of disability, as defined by the World Health Organization, are participation limits in everyday activities, activity limitation, and

impairment in bodily structure or function. Birth defects, chromosomal abnormalities, drug or illness exposure, developmental issues, and trauma can all cause disabilities (Meeks et al., 2023). More than 3835 (6.5%) as a whole had a handicapped record. Jazan had the largest percentage of children with disabilities (10%), while Riyadh had the lowest percentage (4.4%). The most prevalent type of handicap (3.0% of the sample as a whole) was motor impairment, which was followed by learning disability (1.9%) (Saad & Borowska-Beszta, 2019).

Wearable technology is being created to meet the requirements of people with impairments, making it a more inclusive and accessible technology. These gadgets need to be information-rich, controllable, and useful for a variety of tasks at work, home, and leisure. Through the integration of inclusive design concepts into the product development process, designers may generate products and services that foster community engagement, accessibility, and independence. Incorporating individuals with disabilities into this method has the potential to greatly improve the gadgets' usability and accessibility (Moon, Baker & Goughnour, 2019).

The creation of assistive technologies, which are designed to enhance the lives of people with disabilities, has exploded in the technology industry. These technologies improve mobility, independence, accessibility, and communication. They also comprise tools, software, and devices. Digital platforms, goods, and settings are increasingly prioritizing accessibility norms and design. With the advancement of technology, communication and connectivity has never been better, enabling people with disabilities to engage more fully in social, educational, and professional activities (Anil et al., 2021; Gorgey et al., 2022).Access to high-quality education is made easier by online learning environments, adaptive educational software, and virtual classrooms. Inclusive education and career possibilities are also being encouraged. However, there are also moral questions and dangers to be aware of, such algorithmic prejudice, data privacy, the digital gap, and affordability. Collaboration must continue in order to guarantee that technology solutions are inclusive, user-centered, and culturally sensitive. Despite these challenges, the technological world continues to play a pivotal role in shaping disability treatment, offering unprecedented opportunities for

empowerment, inclusion, and accessibility (Almubark et al., 2022; Dias et al., 2021).

The research looks at the availability, cost, accessibility, and awareness of AT in Saudi Arabia. In order to pinpoint areas in need of development and offer tactics for improving services for people with disabilities, it examines current regulations and difficulties. A systematic strategy that includes policy formation, service delivery models, capacity building, and stakeholder cooperation is suggested by the conceptual framework. It highlights how crucial it is to incorporate user viewpoints, cultural factors, and evidence-based procedures. As a resource for activists, academics, policymakers, and healthcare practitioners, this article adds to the expanding body of work on AT provision (Qureshi et al., 2021; Nizeyimana, Joseph & Louw, 2022).

Objectives

Following are the objectives of the research

- To determine and compile the body of research on technology developments in healthcare that is especially aimed at people with disabilities.
- To examine how innovative technology can help individuals with disabilities live better lives and achieve better health results.
- To examine the difficulties and obstacles related to the acceptance and use of innovative healthcare technology by people with disabilities.
- To analyze the efficacy of various telemedicine options, digital health treatments, and assistive technology in meeting the healthcare requirements of people with disabilities.
- To examine the viewpoints of handicapped patients, caregivers, medical professionals, and legislators on the application of modern technologies in the provision of healthcare.
- To examine differences in the use of medical technology and access between various patient categories with disabilities.
- To determine the gaps in the literature that exists on the application of new technologies in healthcare and research.

Research Question

- What are the main obstacles and difficulties that impaired populations face while implementing and using modern healthcare technologies?
- What proof is there that assistive technology, digital health treatments, and telemedicine can effectively address the medical needs of individuals with disabilities?
- What views do impaired patients, their carers, medical professionals, and legislators have on the application of modern technologies in healthcare delivery?
- What are the differences in the use of medical technology and access between various patient categories with disabilities?
- What are the existing research and practice gaps in the use of new technologies to meet the healthcare requirements of patients with disabilities?

Aim of the Study

The Aim of current systematic review is to examine impact of technological advancements on health of disabled patients in Saudi Arabia: A systematic review of the benefits and challenges in the use of new technology in healthcare.

Methods

PRISMA, an evidence-based minimal collection of items for systematic reviews and meta-analyses, aims to increase reporting of research methodologies and findings' completeness and transparency. It is comprised of a four-phase flow diagram that helps writers report on elements including justification, search approach, selection standards, data extraction, research quality evaluation, and outcomes synthesis. Following PRISMA principles improves reproducibility, clarity, and accuracy, making it easier for readers, researchers, physicians, and policymakers to understand and use study findings.

Identifying Studies through Search Methods

In 2023, a search was made of databases and publications including Google Scholar, Research Gate and PsycINFO for the years 2020 to 2023 in order to address the methods for the

examining the impact of technological advancements on health of disabled patients in Saudi Arabia The secondary outcomes included characteristics such as benefits and challenges in the use of new technology in healthcare.

Inclusion and Exclusion Criteria

The study aimed to examine the impact of technological advancements on the health of disabled patients in Saudi Arabia. It was deemed relevant if it met the criteria of empirical full-text format research in English, case-control, cross-sectional, future and retroactive cohort projects, and published between 2020 and 2023. Limited-edition studies with key information were excluded.

Table 1 Syntax Search and Search Data Base

No	Database	Syntax Title		Year	No of Researches
1	Research Gate	Syntax 1	"Impact of technological advancements on health of disabled patients in Saudi Arabia"	2019-2023	130
		Syntax 2	"Examine the difficulties and obstacles related to the acceptance and use of innovative healthcare technology by people with disabilities"		136
		Syntax 3	"Analyze the efficacy of various telemedicine options, digital health treatments, and assistive technology in meeting the healthcare requirements of people with disabilities"		176
		Syntax 4	"innovative technology can help individuals with disabilities live better lives and achieve better health results"		195
2	PsycINFO	Syntax 1	"Impact of technological advancements on health of disabled patients in Saudi Arabia"	2019-2023	236
		Syntax 2	"Examine the difficulties and obstacles related to the acceptance and use of innovative healthcare technology by people with disabilities"		186
		Syntax 3	"Analyze the efficacy of various telemedicine options, digital health treatments, and assistive technology in meeting the healthcare requirements of people with disabilities"		150
		Syntax 4	"innovative technology can help individuals with disabilities live better lives and achieve better health results"		306

		1	Syntax	"Impact of technological advancements on health of disabled patients in Saudi Arabia"		1500
3	Google Scholar	2	Syntax	"Examine the difficulties and obstacles related to the acceptance and use of innovative healthcare technology by people with disabilities"		2021
		3	Syntax	"Analyze the efficacy of various telemedicine options, digital health treatments, and assistive technology in meeting the healthcare requirements of people with disabilities"	2019-2023	2584
		4	Syntax	"innovative technology can help individuals with disabilities live better lives and achieve better health results"		1650

Statistics from the Data Base

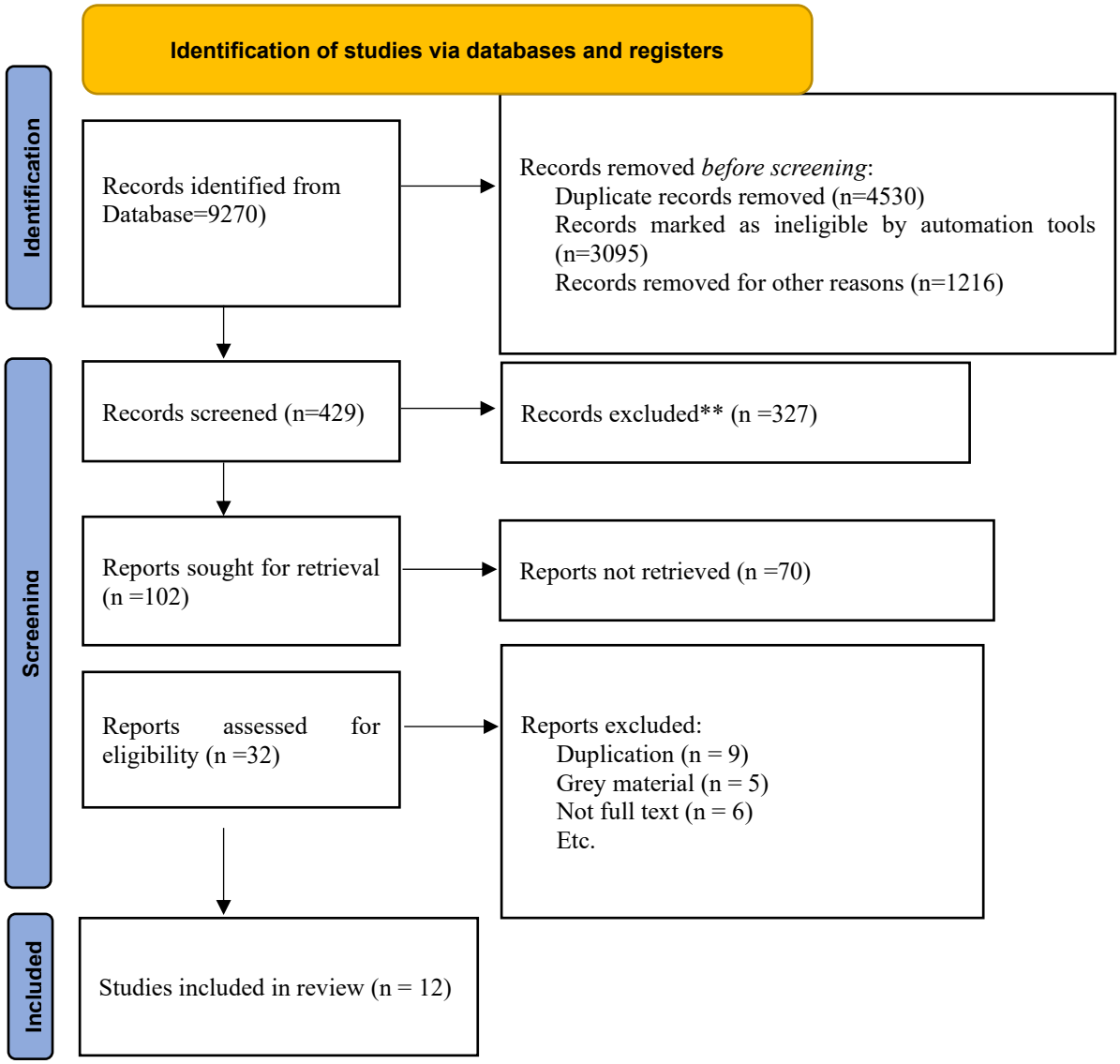
The study utilized Google Scholar, Research Gate and PsycINFO databases to identify relevant research publications from 2020-2023. The most significant articles were found in Google Scholar 7755 and Research Gate 637 whereas PsycINFO had 878 demonstrating thoroughness in the scientific search. The total researches were searched as 9270 .Systematic Review Criteria to examine impact of technological advancements on health of disabled patients in Saudi Arabia

Gathering and Analysing Data

Using PRISMA criteria, the researcher conducted an independent evaluation and gathered citations. The research process began with a screening of the title and abstract, eliminating studies that did not match the inclusion criteria. Next, a full-text screening of publications that may be relevant was carried out, eliminating more irrelevant articles and adding the reasons for exclusion to the study selection flow diagram.

Figure 1

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and databases



Result

Quality Assessment

The evaluation of the research's quality The study "The impact of technological advancements on the health of disabled patients: A systematic review of the benefits and challenges in the use of new technology in healthcare" entails a number of steps, including the establishment of selection criteria, the execution of a thorough literature search, the creation of a standardized data extraction form, the assessment of bias risk, the evaluation of the overall

methodological quality and strength of evidence across included studies, the synthesis and interpretation of the results, and the performance of sensitivity analyses. The procedure guarantees the legitimacy and dependability of the systematic review, offering readers an open assessment of the data and facilitating well-informed decision-making. In order to identify the study, a thorough literature search is conducted utilizing pertinent databases and research-related keywords. Each included study's pertinent data is extracted using a data extraction form, and the risk of bias is evaluated with the use of the proper instruments. An educated evaluation of the evidence is made possible by the synthesis and interpretation of the results.

Table 3 Assessment of the literature quality matrix

Sr #	Author	Selection of Studies	Literature Coverage	Method Description	Findings Description	Quality Rating
1	Alqahtani, S., Cooper, R., & Cooper, R. A. (2023)	Identified current state & framework of assistive technology in KSA	Focus on assistive technology provision in Saudi Arabia	Review of existing literature, potential interviews or surveys	Provided overview of current state & framework of assistive technology provision in KSA	Moderate
2	Alqahtani, S. A. (2023)	Identified awareness & knowledge sources for mobility assistive technology among PWDs in KSA	Focused on knowledge sources for mobility assistive technology	Likely qualitative research (doctoral dissertation)	Examined awareness & knowledge sources for mobility assistive technology among PWDs in KSA	High
3	Aloyuni, S., et al. (2020)	Explored knowledge, attitude, & barriers to telerehabilitation-based physical therapy in KSA	Focused on telerehabilitation in Saudi Arabia	Cross-sectional survey	Assessed knowledge, attitude, & barriers to telerehabilitation-based physical therapy in KSA	Moderate
4	Abu-Alghayth, K. (2022)	Likely conducted a literature review and	Reviewed literature on the usage of assistive	Employed a mixed-methods	Investigated the usage patterns, challenges, and	High

		empirical research to select studies relevant to teachers' use of assistive technology in Saudi special education schools	technology in special education, particularly focusing on Saudi Arabia	approach combining qualitative and quantitative methods such as surveys, interviews, and observations	benefits of assistive technology among teachers in Saudi special education schools	
5	Ullah, S., et al. (2021)	Investigated knowledge & attitudes of rehabilitation professionals toward telerehabilitation in KSA	Focused on telerehabilitation among rehabilitation professionals	Cross-sectional survey	Explored knowledge & attitudes of rehabilitation professionals toward telerehabilitation in KSA	Moderate
6	Al Shehri, W., et al. (2022)	Studied assistive technology acceptance among visually impaired individuals in Saudi Arabia	Focused on acceptance of assistive technology among visually impaired	Likely qualitative or mixed-methods study	Examined acceptance of assistive technology among visually impaired individuals in Saudi Arabia	High
7	Aljohani, N., & Chandran, D. (2019)	Investigated adoption of m-health applications in Saudi Arabia	Focused on adoption of m-health applications	Likely survey or qualitative study	Explored adoption of m-health applications in Saudi Arabia	Moderate
8	Alkhawaldeh, M. A., & Khasawneh, M. A. S. (2023)	Explored innovations in assistive technology for numeracy skills in students with learning disabilities in Saudi Arabia	Focused on innovations in assistive technology for numeracy skills	Likely review or exploratory study	Explored innovations in assistive technology for numeracy skills in students with learning disabilities in Saudi Arabia	Moderate

9	Almufareh, M. F., et al. (2023)	Investigated intellectual disability and technology from an artificial intelligence perspective in Saudi Arabia	Focused on intellectual disability and technology	Likely conceptual framework or review	Explored intellectual disability and technology from an artificial intelligence perspective in Saudi Arabia	Moderate
10	Sobnath, D., et al. (2020)	Explored smart cities to improve mobility and quality of life of visually impaired in Saudi Arabia	Focused on smart cities and visually impaired	Likely review or conceptual study	Explored smart cities to improve mobility and quality of life of visually impaired in Saudi Arabia	Moderate
11	Khalil, A. I., & Yasmeen, N. (2020)	Investigated effectiveness of assistive technology for children with disabilities in MENA region	Focused on assistive technology for children with disabilities	Likely review or meta-analysis	Investigated effectiveness of assistive technology for children with disabilities in MENA region	Moderate
12	Peterson, H. P. (2021)	Explored built environment accessibility for persons with disabilities in Saudi Arabia	Focused on built environment accessibility	Likely qualitative or mixed-methods study	Explored built environment accessibility for persons with disabilities in Saudi Arabia	High

The systematic review of studies provided clear descriptions, methods, selection processes, literature coverage, and clear conclusions, resulting in a "High or Medium" rating for their quality.

Study Selection

Two independent reviewers screened retrieved studies for eligibility, then reviewed full-text articles against inclusion and exclusion criteria, with disagreements resolved through discussion or consultation with a third reviewer

Table 4 Selected Studies for SR (Systematic Review)

No	Author	Research	Year
1	Alqahtani et al.	Current state and conceptual framework of assistive technology provision in Saudi Arabia	2023
2	Alqahtani.	Identifying Awareness and Knowledge Sources for Mobility Assistive Technology Among People With Disabilities in Saudi Arabia (Doctoral dissertation)	2023
3	Aloyuni et al.	Knowledge, attitude, and barriers to tele rehabilitation-based physical therapy practice in Saudi Arabia	2020
4	Abu-Alghayth,	Teachers' use of assistive technology in Saudi special education schools: A mixed-methods enquiry	2022
5	Ullah et al.	Knowledge and attitudes of rehabilitation professional toward tele rehabilitation in Saudi Arabia: A cross-sectional survey	2021
6	Al Shehri et al.	Assistive technology acceptance for visually impaired individuals: a case study of students in Saudi Arabia	2022
7	Aljohani & Chandran	Adoption of M-Health Applications: The Saudi Arabian Healthcare Perspectives	2019
8	Alkhawaldeh & Khasawneh	Unlocking Mathematical Potential: Innovations In Assistive Technology For Numeracy Skills In Students With Learning Disabilities	2023
9	Almufareh et al	Intellectual Disability and Technology: An Artificial Intelligence Perspective and Framework	2023
10	Sobnath et al.	Smart cities to improve mobility and quality of life of the visually impaired	2020
11	Khalil & Yasmeen	Does assistive technology help children having disabilities in Middle East and North Africa (MENA) region: a literature review	2020
12	Peterson	Built environment accessibility in the eastern province of the Kingdom of Saudi Arabia as seen by persons with disabilities	2021

Study Database

A systematic search of electronic databases identified 9270 records. After removing duplicates, 12 unique records were assessed for eligibility based on titles and abstracts.

Title and Abstract Screening

The reviewer evaluated the titles and abstracts of the identified records in the first screening. 12 studies were chosen for full-text review using this procedure. The reviewers' disagreements were settled by consensus and discussion.

Data Extraction

The systematic review involved gathering key data from each study, including author(s), publication year, title, journal/source, methodology, sample characteristics, study setting, and main findings. It also focused on usage patterns, challenges, and benefits of assistive technology in Saudi special education schools. Quality assessment criteria and other data points were extracted to evaluate the robustness and reliability of the studies. The review aimed to provide a comprehensive synthesis of existing evidence on assistive technology usage in Saudi special education schools.

Table 5 Research Matrix

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
1	Alqahtani, S., Cooper, R., & Cooper, R. A. (2023)	Current state and conceptual framework of assistive technology provision in Saudi Arabia	conceptual analysis	N/A	Saudi Arabia	Provided an overview of the current state and conceptual framework of assistive technology provision in Saudi Arabia.
2	Alqahtani, S. A. (2023)	Identifying Awareness and Knowledge Sources for Mobility Assistive Technology Among People With Disabilities in Saudi Arabia	Likely qualitative research (doctoral dissertation)	People with disabilities	Saudi Arabia	Explored awareness and knowledge sources for mobility assistive technology among people with disabilities in Saudi Arabia.

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
3	Aloyuni, S., Alharbi, R., Kashoo, F., Alqahtani, M., Alanazi, A., Alzhrani, M., & Ahmad, M. (2020)	Knowledge, attitude, and barriers to telerehabilitation-based physical therapy practice in Saudi Arabia	Likely cross-sectional survey	Rehabilitation professionals	Saudi Arabia	Explored knowledge, attitude, and barriers to tele rehabilitation-based physical therapy practice among rehabilitation professionals in Saudi Arabia.
4	Abu-Alghayth, K. (2022)	Teachers' use of assistive technology in Saudi special education schools: A mixed-methods enquiry	Mixed-methods approach combining qualitative and quantitative methods	Teachers in Saudi special education schools	Special education schools in Saudi Arabia	Investigated the usage of assistive technology by teachers in Saudi special education schools, providing insights into their experiences, challenges, and perspectives.
5	Ullah, S., Maghazil, A. M., Qureshi, A. Z., Tantawy, S., Moukais, I. S., & Aldajani, A. A. (2021)	Knowledge and attitudes of rehabilitation professional toward telerehabilitation in Saudi Arabia: A cross-sectional survey	Cross-sectional survey	Rehabilitation professionals	Saudi Arabia	Investigated knowledge and attitudes of rehabilitation professionals toward tele rehabilitation in Saudi Arabia.
6	Al Shehri, W., Almalki, J., Alshahrani, S. M., Alammari, A., Khan, F., & Alangari, S. (2022)	Assistive technology acceptance for visually impaired individuals: a case study of students in Saudi Arabia	qualitative or mixed-methods study	Visually impaired individuals	Saudi Arabia	Explored assistive technology acceptance among visually impaired individuals in Saudi Arabia.
7	Aljohani, N., & Chandran, D. (2019)	Adoption of M-Health Applications: The Saudi Arabian	survey or qualitative study	N/A	Saudi Arabia	Investigated adoption of m-health applications in Saudi Arabia.

No	Author, Year	Aim of Study	Methodology	Sample	Setting	Conclusion
		Healthcare Perspectives				
8	Alkhawaldeh, M. A., & Khasawneh, M. A. S. (2023)	Unlocking Mathematical Potential: Innovations In Assistive Technology For Numeracy Skills In Students With Learning Disabilities	Likely review or exploratory study	Students with learning disabilities	Saudi Arabia	Explored innovations in assistive technology for numeracy skills in students with learning disabilities in Saudi Arabia.
9	Almufareh, M. F., Tehsin, S., Humayun, M., & Kausar, S. (2023)	Intellectual Disability and Technology: An Artificial Intelligence Perspective and Framework	Likely conceptual framework or review	N/A	Saudi Arabia	Explored intellectual disability and technology from an artificial intelligence perspective in Saudi Arabia.
10	Sobnath, D., Rehman, I. U., & Nasralla, M. M. (2020)	Smart cities to improve mobility and quality of life of the visually impaired	review or conceptual study	N/A	Saudi Arabia	Explored smart cities to improve mobility and quality of life of visually impaired in Saudi Arabia.
11	Khalil, A. I., & Yasmeen, N. (2020)	Does assistive technology help children having disabilities in Middle East and North Africa (MENA) region: a literature review	Likely literature review	N/A	Middle East and North Africa (MENA) region	Investigated the effectiveness of assistive technology for children with disabilities in the MENA region.
12	Peterson, H. P. (2021)	Built environment accessibility in the eastern province of the Kingdom of Saudi Arabia as seen by persons with disabilities	qualitative or mixed-methods study	Persons with disabilities	Eastern province of the Kingdom of Saudi Arabia	Explored built environment accessibility for persons with disabilities in the eastern province of the Kingdom of Saudi Arabia.

Data Synthesis

The synthesized findings were presented through a narrative synthesis approach; examine the impact of technological advancements on the health of disabled patients in Saudi Arabia. Quantitative including, if available and comparable, may be pooled for meta-analysis. Heterogeneity among studies was assessed using appropriate methods.

Discussion

A broad spectrum of research are included in the systematic review on the effects of technology improvements on the health of people with disabilities, and these studies together offer important insights into the advantages and difficulties of implementing new technology in healthcare. This discussion aims to address the obstacles and limitations that may prevent the effective implementation of technological innovations in improving healthcare outcomes for individuals with disabilities, while also exploring the multifaceted effects of such innovations through a thorough analysis of the included research.

The substantial potential of assistive technology to improve the quality of life and health outcomes for individuals with disabilities is one of the major themes that come out of the analyzed research. In her 2022 study, Abu-Alghayth illuminates how Saudi special education school instructors use assistive technology, emphasizing the tool's value in expanding educational opportunities and encouraging inclusion for kids with impairments. Similar to this, Al Shehri et al. (2022) investigate how well visually impaired people adopt assistive technology, highlighting how crucial it is for promoting autonomy and independence in day-to-day activities.

Additionally, the analysis highlights how telehealth and telemedicine technology have revolutionized the way that individuals with disabilities get healthcare services. In their investigation of Saudi Arabia's tele rehabilitation-based physical therapy practices, Aloyuni et al. (2020) show how telehealth interventions may help people with disabilities receive better treatment by bridging regional divides in knowledge and attitudes. Ullah and colleagues (2021) examine the perspectives and understanding of rehabilitation experts about tele rehabilitation,

emphasizing its function in broadening the scope of medical care and encouraging patient involvement.

Technology breakthroughs have the potential to improve illness management and health monitoring for individuals with disabilities, as well as to increase access to treatment. Al-Rubeaan et al. (2013) offer an interactive web-based diabetes registry that is intended to help Saudi Arabians with diabetes manage their health care and make plans for the future. Through self-monitoring and decision-making, this novel method not only facilitates data gathering and administration but also gives patients the capacity to actively engage in their own treatment.

Although technology developments in healthcare have many advantages, the analysis also identifies a number of obstacles and hurdles that must be overcome in order to fully realize their potential. Alqahtani and Cooper (2023) offer valuable perspectives on the present situation and theoretical structure of assistive technology provision in Saudi Arabia. They emphasize the necessity of all-encompassing policies and infrastructure to facilitate the extensive integration and use of assistive technologies. Khalil and Yasmeen (2020) emphasize that fair access to assistive technology for children with disabilities in the Middle East and North Africa (MENA) requires tackling socioeconomic inequities and access hurdles.

Furthermore, the assessment emphasizes how crucial it is to consider legal and ethical issues while developing and implementing new medical technology. Almufareh et al. (2023) investigate how artificial intelligence intersects with intellectual impairment and technology, highlighting the necessity for moral frameworks and rules to guarantee the ethical and responsible application of AI technologies in healthcare settings. Similar to this, Peterson (2021) examines how accessible the built environment is for people with disabilities in Saudi Arabia, emphasizing how crucial it is to apply universal design principles to advance inclusion and accessibility in medical institutions.

The systematic study offers significant insights into the advantages and difficulties of technology innovations in the healthcare of individuals with disabilities. This debate highlights the revolutionary potential of emerging technologies in increasing inclusion for people with disabilities, improving illness

management, and improving access to care by combining data from multiple research studies. It also emphasizes how crucial it is to overcome obstacles like socioeconomic inequality, regulatory obstacles, and moral dilemmas in order to guarantee that technology advancements benefit all member of society equally.

Limitation & Implications

The systematic review on the impact of technological advancements on disabled patients' health has limitations, including potential publication bias and heterogeneity in study methodologies. Despite these, the review offers valuable insights into the benefits and challenges of using new technology in healthcare. It emphasizes the need for future research to address gaps and explore the long-term effects of technological innovations on health outcomes and quality of life for disabled individuals. The review underscores the importance of incorporating assistive technology into healthcare practice to improve access to care and overall well-being.

Recommendations

The systematic study recommends that in order to facilitate the broad use of assistive technology in healthcare settings, policymakers should give top priority to the creation and execution of comprehensive policies. The cost and accessibility of assistive equipment can be increased by addressing socioeconomic inequalities and access constraints. The long-term impacts of technology advancements on the health and quality of life of people with disabilities require more investigation. It is important that healthcare personnel continue their education and training in the use of assistive technology. It is important to give considerable thought to ethical issues including informed consent, data security, and privacy. By putting these suggestions into practice, impaired patients' access to healthcare, illness management, and inclusion may all be enhanced.

Conclusion

The review explores the impact of technological advancements on disabled patients' health, highlighting the potential of assistive technology in improving care, disease management, and inclusivity. However, it emphasizes the need to address socioeconomic disparities, regulatory challenges, and ethical

considerations for equitable access and responsible technology use. It calls for comprehensive policies, education, and training programs to support this integration.

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