



UTILIZING ANIMATED VISUALS AS AN ALTERNATIVE COMMUNICATION FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDER (ASD)

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Abstract

Introduction: The National Medium-Term Development Plan in Indonesia underscores the crucial need to enhance health accessibility, with a specific emphasis on disability inclusion, particularly for individuals with Autism Spectrum Disorder (ASD). Recognizing the alignment of this initiative with Sustainable Development Goals (SDGs) 10 and 11, the Indonesian government is committed to ensuring equal healthcare opportunities for individuals with disabilities. The significant number of autistic students in Indonesia further highlights the urgency of addressing these concerns.

Objectives: To address communication challenges in healthcare for individuals with autism, we developed and implemented "Sorari," aiming to enhance effective communication, promote social inclusion, and improve articulation of health-related needs.

Method: Following the ADDIE concept and qualitative approach we developed "*Sorari: Sorakeun Kanyeri*", a product focusing on alternative communication methods, with a specific emphasis on visual aids. User-friendly principles were validated through checklist evaluations.

Result: "*Sorari: Sorakeun Kanyeri*" positively impacted accessibility, facilitating more effective communication and promoting social inclusion in healthcare settings. User and expert evaluations validated its feasibility through a checklist, ensuring user-friendly relevance for individuals with autism.

Conclusion: While "*Sorari: Sorakeun Kanyeri*" has shown success in enhancing communication and social inclusion, it is crucial to acknowledge the individual variability in communication needs. Regular assessments and adjustments are necessary to identify successes, challenges, and areas for improvement. Continuous support from a multidisciplinary team, including health promoters, disability specialists, therapists, special education teachers, and families, is vital for the sustained benefit of individuals with communication difficulties in accessing healthcare services.

Keywords: Accessibility, Autism Spectrum Disorder, Communication Disorders, Health Inclusion

INTRODUCTION

The National Medium-Term Development Plan in Indonesia places a significant emphasis on enhancing healthcare accessibility, particularly in the context of inclusivity for individuals with disabilities. Within this framework, the government is committed to ensuring equal healthcare opportunities for individuals with Autism Spectrum Disorder (ASD). This commitment aligns with the broader global agenda of achieving Sustainable Development Goals, specifically Goal 10 addressing the reduction of inequalities, and Goal 11 focusing on sustainable urban development through inclusivity.

In the Indonesian context, the number of autistic students reached 144,102 in 2019 (1). Addressing the healthcare needs of individuals with autism becomes paramount. While the government has shown increased attention to disability-related issues, including the enhancement of inclusive health infrastructure, challenges persist. Despite improvements in inclusive health infrastructure, there is a recognized need for more comprehensive solutions, particularly in facilitating adequate access to healthcare environments.

This study, motivated by the existing challenges, undertakes a literature review to understand the current state of healthcare accessibility for individuals with autism. The literature reveals that, despite strides in inclusive health infrastructure, individuals with autism often face difficulties in developing language skills, hindering their ability to effectively communicate pain or discomfort verbally (2). This communication barrier necessitates alternative methods to bridge the gap and ensure timely and accurate expression of health-related concerns.

In light of these findings, the study introduces a novel solution called "*Sorari: Sorakeun Kanyeri*," a product designed based on the ADDIE concept (3). This product focuses on alternative communication methods, specifically utilizing visual aids, symbols, and images to represent symptoms and health conditions. The intention is to empower individuals with autism to convey their health-related needs more effectively in healthcare settings.

The research objectives of this study are to assess the effectiveness of "*Sorari: Sorakeun Kanyeri*" in improving communication for individuals with autism and to evaluate its impact on social inclusion in healthcare environments (4). By addressing the communication challenges faced by this population, the study aims to contribute to the broader goal of enhancing healthcare accessibility and inclusivity for individuals with autism in Indonesia.

METHODS

The experimental design for this study embraced a qualitative approach, focusing on a single-session usability test involving ten individuals diagnosed with medium to high-functioning autism. The participants, voluntarily recruited from a therapy center, formed a diverse group, contributing valuable insights into the effectiveness and usability of the communication tool. The study unfolded in the controlled environment of the therapy center, ensuring a familiar and comfortable setting for participants. Ethical considerations are also necessary, as we got from the therapists and teachers concerned. The primary measuring tool employed was the verbal descriptions provided by participants, emphasizing their ability to articulate the content and meaning represented by the animated images. The experiment commenced with detailed explanations by speech therapists, who played the role of facilitators, ensuring a clear understanding of the test's purpose. Participants were then prompted to verbally describe each animated image, providing qualitative data that was later analyzed to assess the tool's efficacy in facilitating communication about health-related symptoms (5). This comprehensive approach aimed to refine and optimize the innovative

"*Sorari: Sorakeun Kanyeri*," aligning it more closely with the unique needs and experiences of individuals with autism.

RESULTS AND DISCUSSION

The implementation of "*Sorari: Sorakeun Kanyeri*" in teaching individuals with autism has demonstrated notable effectiveness by leveraging their familiar patterns and routines, fostering comfort and certainty. The integration of animated images in expressing discomfort contributes to the formation of valuable communication habits (6). Active involvement of parents empowers them as effective partners, providing necessary support and enhancing their autistic children's confidence in using the product. This not only expands opportunities for social interaction among autistic children but also reinforces their grasp of two-way communication. (7)

Incorporating "*Sorari: Sorakeun Kanyeri*" into daily routines proves seamless, particularly in family settings, where animated images serve as reliable communication tools. This allows children with autism to actively express their feelings, enhancing their communication skills with the support and guidance of involved parents. Moreover, the tool's role in establishing communication habits related to expressing discomfort holds the potential to boost confidence and participation in broader social interactions for individuals with autism (8). The adaptable nature of animated images facilitates comfort and engagement in various social situations. (9)

Utilizing the strengths of repetitive patterns and routines common in individuals with autism, the "*Sorari: Sorakeun Kanyeri*" product emerges as an effective tool for building communication habits that facilitate the expression of feelings and experiences. Consequently, individuals with autism can approach communication challenges more confidently, feeling supported and better prepared for daily social interactions (10).

After the user testing phase, responses were meticulously gathered through a checklist, and subsequent analysis yielded an evaluation score to categorize the instructional media's suitability. The calculated feasibility score of 75% aligns with Arinkunto's (11) "Decent" category. Importantly, it should be emphasized that this material feasibility assessment is grounded in qualitative methodology. This approach involved seeking input from individuals with autism, asking them whether the presented images adequately represented their symptoms. By emphasizing the qualitative nature of the process, it underlines that the material effectively meets the prescribed eligibility criteria by actively engaging the target audience in assessing the representativeness of the images in expressing their symptoms.

CONCLUSION

The analysis and discussion conducted in the study have yielded valuable insights into the development and implementation of a communication tool for individuals with autism. The Analyze phase underscored the importance of meeting specific media requirements, such as contrast, simplicity, and representativeness (12). Moving to the Design phase, the creation of a prototype involved sketching and storyboarding (13). The Development phase, marked by expert validation and user assessment, confirmed the alternative communication media's validity and appropriateness. The Implementation phase involved testing with 10 individuals with medium to high-functioning autism. Finally, the Evaluation phase identified strengths, notably the media's representativeness, while recognizing the need for further simplification of certain elements.

In conclusion, the comprehensive process of developing and testing alternative communication media has demonstrated its potential effectiveness in addressing the communication needs of individuals with autism (14). The positive validation from both experts and users underscores its viability as a valuable tool in supporting communication for individuals with ASD. However, the acknowledgment of areas for improvement, particularly in simplifying certain elements, highlights the ongoing nature of refining such tools to better cater to the diverse needs of individuals with autism. Overall, this study contributes to the growing body of research aiming to enhance the quality of life and communication experiences for individuals with Autism Spectrum Disorder (15).

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