

Reimagining Accessibility for Deaf Youth Through Multimedia Education Across South and South Asia

Sangeet Kayastha
Nishant Kumar
Safalta Maharjan
Anju (Awnu) Shrestha

Abstract

Deaf and Hard-of-Hearing (DHH) youth often face significant barriers in accessing Sexual and Reproductive Health and Rights (SRHR) information because most education and health communication systems are not designed with accessibility in mind. Limited availability of sign language resources further restricts their participation in health education.

This study explored a peer-led digital media initiative implemented in Nepal, Bhutan, Laos, and Pakistan. Forty-eight deaf youth participated in producing sign language-based podcasts and multimedia content over one year. Digital platforms such as YouTube and podcast channels were used to share the content, supported by subtitles and offline distribution to improve accessibility. Audience feedback and digital engagement were used to understand the initiative's reach and impact.

The project produced multiple SRHR-focused episodes and created a platform for deaf youth to share lived experiences and communicate health information in sign language. Peer-led storytelling strengthened participants' confidence and encouraged inclusive community dialogue on SRHR topics.

Accessible digital media and youth-led storytelling can help bridge communication gaps in SRHR education and support more inclusive health communication for deaf communities.

Keywords: Deaf youth, SRHR, accessibility, sign language, digital inclusion, peer education

Sangeet Gopal Kayastha is a researcher and youth advocate, serving as Founder and Coordinator (HR) at Y-PEER Asia Pacific Center, focusing on community development, education, and inclusive work.

Nishant Kumar is a youth peer educator and advocate at Y-PEER Nepal, working on sexual and reproductive health and rights, youth engagement, and community-based education initiatives.

Safalta Maharjan is an emerging youth leader and treasurer at Y-PEER Nepal, actively engaged in social development, youth engagement, community outreach, and advocacy.

Anju Shrestha(Awnu) is a co-founder of Working Group on Disabilities and 2030 Agenda and also a board member of Y-PEER Nepal with passionate youth advocate engaged in community-based initiatives, focusing on youth empowerment, education, and social awareness programs.

*Authors Email: sangeet_medecd2025@kusoed.edu.np
nishant@ypeernepal.org
safalta.np07@gmail.com
awnustha@gmail.com

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1.1 Background

Globally, deaf and hard-of-hearing (DHH) individuals represent a significant and growing population. According to the World Health Organization, more than 430 million people worldwide have hearing disabilities, and this number is projected to rise to over 700 million by 2050 (WHO, 2021). Despite these numbers, DHH individuals remain among the most underserved groups in health communication and education systems, particularly in relation to Sexual and Reproductive Health and Rights (SRHR).

Access to SRHR information is often limited for deaf adolescents and young people because Comprehensive Sexuality Education (CSE) programs are commonly delivered through spoken lectures, written materials, or audio-based resources. These formats frequently exclude learners who rely primarily on sign language and visual communication (UNFPA, 2018). As a result, many deaf youths lack access to accurate and age-appropriate SRHR knowledge.

Research indicates that communication barriers between deaf individuals and health professionals significantly affect health outcomes. Health facilities frequently lack sign language interpreters, accessible visual materials, and staff trained in deaf-sensitive communication (Kuenburg, Fellingner, & Fellingner, 2016). These barriers contribute to lower health literacy levels among deaf communities and reduced access to preventive health services.

The situation is particularly challenging in South and Southeast Asia, where disability-inclusive education and healthcare systems are still evolving. SRHR programs rarely integrate accessibility considerations, which often leads to the exclusion of deaf youth from national health campaigns and youth education initiatives.

Scholars and practitioners increasingly advocate for inclusive communication frameworks such as Universal Design for Learning (UDL) and accessible health

communication models (Burgstahler, 2015). These frameworks emphasize the use of multiple communication formats, including visual media, captioned videos, and sign language interpretation, to ensure equal access to information.

At the same time, emerging civil-society initiatives have demonstrated promising strategies for addressing these gaps through peer education and digital media approaches. For example, organizations such as Y-PEER Nepal have piloted accessible e-courses, produced sign-language SRHR podcasts for deaf youth, and organized national training-of-trainers (TOT) programs that position deaf youth as leaders and content creators.

Similarly, the Working Group on Disabilities and the 2030 Agenda (Disabilities2030), in collaboration with Y-PEER Asia Pacific Center, Thailand, has implemented regional initiatives such as “The Power of Sign for SRHR.” These initiatives bring together deaf youth for accessible learning sessions and produce sign-based digital resources. Such approaches demonstrate how peer-led and sign-language-centered digital interventions, including YouTube videos, sign-language podcasts, and captioned multimedia materials, can expand access to SRHR knowledge and foster community engagement among DHH young people.

Digital technology presents a valuable opportunity to bridge communication gaps by enabling information to be delivered in visual and interactive formats that are more accessible for deaf audiences.

Building on these developments, this study examines a regional youth-led multimedia initiative that used sign-language podcasts to promote SRHR education among deaf youth across four countries: Nepal, Bhutan, Pakistan, and Laos. The initiative was implemented through youth networks associated with the Y-PEER Asia Pacific Center and the Working Group on Disabilities and the 2030 Agenda.

Overall, although DHH youth face intersecting educational, health-system, and communication barriers, peer-led digital initiatives that center sign language and

accessible multimedia content offer a practical and scalable pathway for improving SRHR knowledge, participation, and health outcomes among deaf and hard-of-hearing young people across the region.

1.2 Objectives of the study

The general objective of this study is to explore how Deaf and Hard-of-Hearing (DHH) teenagers access information on Sexual and Reproductive Health and Rights (SRHR) and how modern technology and accessible modes of communication facilitate this access. The study aims to highlight existing barriers, identify gaps in education and service delivery, and propose pragmatic ways of increasing the inclusiveness and accessibility of SRHR information for DHH teenagers.

Specifically, this study seeks to:

- To assess the current level of access to SRHR information among Deaf and Hard-of-Hearing youth.
- To identify communication and education barriers that limit SRHR learning opportunities for deaf communities.
- To examine the role of multimedia tools in improving accessibility to health information.
- To evaluate the effectiveness of youth-led digital content in promoting SRHR awareness.
- To propose recommendations for strengthening inclusive SRHR education initiatives.

1.3 Literature Review & Theoretical Framework

1.3.1 SRHR Education and Disability Inclusion

Sexual and reproductive health education is recognized as a fundamental human right and a critical component of adolescent development. However, global evi-

dence suggests that youth with disabilities often face systemic barriers in accessing SRHR information and services (Groce et al., 2014).

These barriers include:

- Lack of accessible educational materials
- Social stigma surrounding disability and sexuality
- Limited health services tailored to persons with disabilities
- Absence of trained interpreters and inclusive communication systems

For deaf individuals, the reliance on sign language creates additional challenges. Many educational programs assume literacy in written language, yet sign languages have distinct grammatical structures that differ significantly from spoken languages (Napier & Leeson, 2016).

1.3.2 Universal Design and Accessible Communication

The Universal Design for Learning (UDL) framework promotes flexible educational approaches that accommodate diverse learning needs. UDL emphasizes providing multiple means of representation, engagement, and expression (Burgstahler, 2015).

In the context of deaf education, accessible communication strategies include:

- Sign language interpretation
- Visual storytelling
- Captioned multimedia content
- Graphic and video-based learning tools

These approaches can significantly improve comprehension and participation among deaf learners.

1.3.3 Peer Education and Youth Participation

Peer education models have long been used in youth health promotion programs. Studies show that young people often respond more positively to mes-

sages delivered by peers who share similar experiences and communication styles (Medley et al., 2009).

For deaf communities, peer-to-peer learning can be particularly effective because it allows information to be shared within culturally and linguistically appropriate environments.

1.3.4 Digital Media and Inclusive Education

Digital media platforms increasingly play a role in health communication and public education. Video-based platforms enable content creators to integrate multiple accessibility features, including sign language, subtitles, and voice-overs.

Recent studies suggest that digital storytelling and multimedia education can empower marginalized groups by providing platforms for self-representation and advocacy (Lambert, 2013).

This study draws on these theoretical perspectives to explore how youth-led multimedia production can improve accessibility and participation in SRHR education for deaf youth.

1.4 Methodology

The study applies a mixed-methods research approach, combining both qualitative and quantitative techniques. This approach is appropriate for understanding not only the measurable outcomes of the project but also the experiences and perspectives of the participants.

Key research methods included:

- Analysis of podcast content produced in four participating countries.
- Observation of youth participation during the production and discussion processes.
- Discussions and consultations with deaf youth, sign-language interpret-

ers, and deaf associations.

- Thematic analysis of conversations related to SRHR topics.
- Social media analytics to measure audience reach and engagement.

A total of 48 deaf youth participated in the project, with 12 participants from each country. Their involvement included content creation, storytelling, and discussion of SRHR topics through sign-language podcasts.

The methodology allowed the researchers to capture both statistical engagement data and real-life experiences of DHH youth.

1.5 Data Collection Methods

The study employed three primary data collection methods. First, participant observation was conducted, in which researchers and mentors systematically documented the entire podcast development process, including topic selection, recording sessions, editing and production, and dissemination activities. Second, digital engagement analytics from YouTube and other social media platforms were analyzed to examine viewership trends, sharing patterns, and overall audience engagement. Third, qualitative community feedback was gathered through discussions with deaf associations, viewer comments, and input from teachers and youth facilitators. The podcast initiative spanned twelve months and followed a structured development process. This included training deaf youth in digital storytelling, selecting sexual and reproductive health and rights (SRHR) topics relevant to their communities, recording episodes in sign language, editing videos with subtitles and voiceovers, and disseminating the content through both online and offline channels. Each participating country produced six podcast episodes, culminating in a total of twenty-four episodes across all four countries.

1.6 Results

The SRHR Deaf Podcast served as an innovative and practical tool for improving access to Sexual and Reproductive Health and Rights (SRHR) information

among Deaf and Hard-of-Hearing (DHH) communities in Nepal, Bhutan, Pakistan, and Laos. By enabling deaf youth to create and share content in their own sign languages, such as Nepali Sign Language (NSL) and Pakistani Sign Language (PSL), the project addressed a long-standing gap in accessible SRHR education. Each country produced six short episodes, typically under fifteen minutes, which were designed to be visually engaging, easy to understand, and suitable for peer sharing. The inclusion of subtitles and occasional voiceovers made the content accessible to both deaf and hearing audiences, promoting broader awareness and inclusivity. The podcasts were mainly distributed through social media platforms and were also used in deaf schools, youth groups, and community events as educational resources. In addition, offline versions of the episodes were made available for free download, allowing deaf associations and community organizations to use them in areas with limited internet access. Overall, the initiative helped fill an important information gap while encouraging peer learning, dialogue, and community engagement among deaf youth.

1.7 Discussion

The findings highlight the potential of accessible digital media in addressing longstanding barriers to SRHR education among deaf youth. By prioritizing sign language as the central communication format, the podcast initiative directly addressed one of the most significant obstacles faced by deaf learners. The use of visual storytelling and multimedia content aligned with principles of Universal Design for Learning, ensuring that information was presented in accessible formats.

The youth-led nature of the project also played a critical role in its success. When deaf youth were actively involved in designing and presenting the content, the discussions became more authentic and relevant to their peers. This approach strengthened community ownership and increased trust in the information presented. The initiative also demonstrated the importance of peer-to-peer learning. Sensitive topics such as SRHR are often difficult to discuss within traditional educational settings. The podcast format provided a safe and informal space for

open dialogue.

However, the project also revealed several implementation challenges. Producing sign-language multimedia content requires additional resources, including specialized filming techniques, sign language interpretation, and captioning. These factors increase production costs and time requirements.

Despite these challenges, the benefits of inclusive communication strategies far outweigh the limitations. Accessible digital platforms offer scalable solutions for reaching marginalized communities that are often excluded from traditional education system.

1.8 Conclusion

The Sexual and Reproductive Health and Rights (SRHR) Deaf Youth Podcast represents an important milestone for Deaf and Hard-of-Hearing (DHH) communities in South and Southeast Asia. Implemented in Nepal, Bhutan, Pakistan, and Laos, the initiative introduced a sign language-based digital storytelling approach to address gaps in SRHR education among deaf youth. A distinctive feature of the project was its youth-led design: deaf young people themselves conceptualized, hosted, and presented the podcast, ensuring that the discussions reflected their lived experiences, concerns, and perspectives.

The project faced several initial challenges, including the sensitive nature of SRHR topics, the limited availability of trained deaf facilitators, and the technical and financial requirements of multimedia production. Although additional countries were initially considered, the pilot phase focused on four countries to maintain a manageable scope. Despite these constraints, the podcast gained strong engagement within the DHH community and was widely shared through Deaf Associations, disability organizations, and social media platforms.

A major strength of the initiative was its participatory and peer-led approach. The project created a safe and accessible platform where deaf youth could openly discuss issues such as relationships, consent, and reproductive health in sign

language. The involvement of SRHR professionals in the content development process helped ensure the accuracy and relevance of the information while maintaining the authenticity of the participants' discussions. The use of national and local sign languages, including Nepali Sign Language (NSL) and Pakistani Sign Language (PSL), enhanced comprehension and relatability, while subtitles and voiceovers expanded accessibility to hearing audiences and educators.

The impact of the podcast extended beyond online platforms. Several deaf schools, youth groups, and community organizations began using the episodes as educational resources for awareness and discussion activities. The availability of downloadable offline versions was particularly valuable in rural and remote areas where internet connectivity is limited, allowing teachers, peer educators, and community workers to integrate the content into local learning environments.

At the same time, the project highlighted practical challenges associated with producing accessible multimedia content. Sign language-based podcasts require additional time, technical expertise, and resources for recording, interpretation, editing, and accessibility features. Nevertheless, the results indicate that such investments are valuable, as they contribute to greater inclusion, empowerment, and knowledge sharing among marginalized youth.

Overall, the Deaf Youth Podcast demonstrates the potential of digital technology and peer-led communication in addressing barriers to SRHR information. By providing deaf youth with opportunities to lead, create content, and communicate in their own languages, the initiative strengthened confidence, leadership, and community engagement. The project offers a promising model for inclusive health communication and highlights the importance of accessible, youth-driven approaches in improving SRHR education for deaf and hard-of-hearing young people.

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