

1 - Background

Previous research on mobile health (mHealth) in Nepal was focused on studying users' perspectives and the effectiveness of mHealth interventions, but the importance of the role of engineers and their perspectives on implementing mHealth interventions were often neglected. This study was aimed to fill the gap by obtaining insights from engineers to understand the barriers and facilitators of implementing mHealth interventions in Nepal.

2 - Aims and Purpose

- The purpose of this study was to investigate software engineers' perspectives on the barriers and facilitators of developing and implementing mHealth intervention in Nepal.

3 - Design and Methods

- This is a qualitative study, in which we conducted 16 semi-structured interviews with 16 engineers. The inclusion criteria were: 1) 18 years old or older, 2) bring professional software engineer, 3) having developed mHealth interventions to promote health, and 4) residing in Nepal for over 1 year. The interviews were recorded, transcribed verbatim, and thematically coded using NVivo. The fundamental interview questions were designed and refined based on an NIH-funded project in Malaysia.

4 - Primary Themes

Theme 1: Integrating the Nepali calendar to mHealth

- The Nepali calendar is more widely used in rural areas of Nepal than the Western calendar. To increase the usability of mHealth applications (apps), the Nepali calendar needs to be integrated into the mobile apps to prevent confusion among Nepali patients who have accustomed to using the Nepali calendar.

Theme 2: MHealth interventions need to be customized to Nepali language

- Nepal is a country with unique geographical and language system. MHealth interventions should be available in Nepali and English. To reach 90% of Nepalese, mHealth interventions need to support at a minimum of 7 languages.

Theme 3: Technical design

- To increase the adaptability of mHealth interventions, they should be designed to be able to work both online and offline. Nepal is in Himalaya mountain region, where geographic barriers place great challenges to Internet connection.
- Open-source frameworks are recommended to reduce operation and maintenance costs.
- Short message service can be used for free through a gateway model.

5 - Conclusion

- This study offers crucial insights into the design and implementation of mHealth interventions in Nepal. It highlights the critical need for Integrating essential elements, such as Nepali calendar, language, and technical features to ensure successful implementation of mHealth interventions in Nepal.