Perceived Barriers to Management of Gestational Diabetes Mellitus (GDM) and Recommendations for Developing a Mobile App for GDM

Sanju Bhattarai,[1] Archana Shrestha,[2] Abha Shrestha,[1] Kusum Shrestha,[1] Jyoti Nepal,[1] and Shristi Rawal[3]

[1]Dhulikhel Hospital - Kathmandu University Hospital; [2]Kathmandu University School of Medical Sciences; and [3]Rutgers, The State University of New Jersey

Objectives: Mobile technology is increasingly used to augment management and treatment of gestational diabetes mellitus (GDM), however its use is limited in low and middle income countries like Nepal. We conducted a qualitative study in order to inform the development of a culturally-appropriate mobile app that supports management of GDM among patients in Dhulikhel Hospital, Nepal.

Methods: A total of 12 women with GDM diagnosis (either current or in the preceding 1 year) were recruited from a tertiary level hospital in Nepal. In order to explore the perceived barriers and facilitators to GDM management, we conducted focus group (1 with 4 participants) and in-depth interviews (IDIs; n = 8) with GDM patients, as well as IDIs with their spouses (n = 2) and GDM care providers (n = 5). Towards the end of the focus group and IDIs, the prototype for the proposed GDM app was shown, and feedback was sought on app's features and function. Focus group and IDIs were transcribed verbatim and thematic analysis was undertaken using manual coding.

Results: We identified several facilitators to GDM management including at the individual level (e.g., concern for baby's health), family level (e.g., accompaniment to hospital visits, emotional support) and health system level (e.g., universal GDM screening, team approach to management). Notable barriers included inadequate time for diet/lifestyle counseling during hospital visits, abrupt change in diet/lifestyle from pre- to post GDM diagnosis, misconceptions around diet and physical activity, as well as social/cultural barriers including food-centered traditions and festivities, and lack of decision-making power in the household. Majority of GDM patients and their spouses indicated that they lacked sufficient information to manage GDM and were frustrated by frequent hospital visits. All participants agreed that the proposed mobile app would be useful and relevant to women with GDM. They believed it would help overcome existing barriers by empowering pregnant women with information and tools to manage GDM and track their progress.

Conclusions: Our user research affirmed the potential utility of our target app, and provided important insight into app features that would need to be incorporated to meet patient needs and knowledge gaps, as well as address the barriers related to GDM management.