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Mobile Health App to Empower Parents of Premature Infants through Targeted Educational Resources

[Journal of the Liaquat University of Medical and Health Sciences](#) • Article • [Open Access](#) • 2026 • DOI: 10.22442/jlumhs.2025.01387

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Abstract

OBJECTIVE: This study aimed to develop a mobile health application to educate mothers of premature infants. **METHODOLOGY:** This study employed qualitative research methods, specifically semi-structured interviews and focus group discussions. This study was conducted from April to August 2025 at PKU Muhammadiyah Gombong and Banyumas Medika Siaga Hospital. A purposive sampling method was used to collect samples. This investigation was conducted in two phases. In the first phase, focus groups were used to determine the information needs of nurses (n=9) and mothers (n=12) through in-depth interviews. Based on the findings from the first stage, a prototype of a mobile health application was created in the second stage. Finally, a standard questionnaire was used to assess the application. This study used NVivo software. **RESULTS:** The findings showed that nurses highlighted critical areas, including premature infant care, home preparation, and the need for ongoing education and digital media resources. Key themes from the mothers' interviews

included the emotional complexity of having a premature infant, challenges faced in care, and the importance of family support. A mobile health application was developed to deliver educational materials, reflecting the findings that mobile-based education is preferred for its accessibility and effectiveness. This research underscores the importance of tailored educational interventions to enhance parental competence in caring for premature infants, thereby improving health outcomes. CONCLUSION: The findings support the use of a mobile health application as an effective tool to enhance parental education and reduce stress, with a high content validity score ($V = 0.81$). © 2026, Liaquat University of Medical and Health Sciences. All rights reserved.

Author keywords

Emotional support; Information needs; Mobile health application; Parental education; Premature infants

Indexed keywords

EMTREE medical terms

accuracy; adult; Article; clinical article; content validity; digital media; education; emotional support; family support; female; health care personnel; health outcome; human; infant; infant care; interview; male; nurse; nursing home; parent; physiological stress; prematurity; qualitative research; questionnaire; semi structured interview

Device trade names

Commercial names given to devices, used for branding and differentiation in the market, commonly referenced in scientific and clinical research.

NVivo software

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