Abstract

Conceptual Model for M-Health Utilization: A Nigerian Adaptation

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Abstract

Background: Compliance with Antenatal Care (ANC) and Postnatal Care (PNC) regimen is a known determinant of pregnancy outcomes. In most developing countries, access to Skilled Birth Delivery (SBD) and Childhood Immunization (CIm), socio-cultural beliefs, physical and financial barriers significantly influence perinatal health outcome. Mobile health (M-Health) is an emerging strategy for improving healthcare utilization and compliance but the extent to which it may influence uptake of available maternal and infant welfare services in Nigeria is not documented in literature. Nurses are the fulcrum for maternal healthcare but their knowledge and roles in the use of M-Health are not known in Nigeria.

Objective: This study was designed to assess the effects of M-Health Nursing Intervention (MHNI) on uptake of maternal health services in Oyo South Senatorial District.

Methods: This quasi-experimental study involved four out of nine local government areas randomly selected and allocated into Experimental (EG) and Control (CG) groups [a semi-urban and an urban each]. All the 12 Primary Health Care facilities which had nursing personnel were purposively selected. Forty-eight nurses (EG: 21 nurses; CG: 27 nurses) and 383 literate pregnant women (EG: 191 women; CG: 192 women) at gestational age of 4-6 months, registered at the PHC were recruited consecutively. Experimental group nurses were trained on M-Health and mobile telephones were given to nurses and registered pregnant women to facilitate communication. Over an 8-month period, pregnant women received free voice calls and health promotion text messages from nurses. At baseline, 3-month and 6-month, nurses' knowledge about MHNI was assessed in EG and CG using a non-weighted 42-item pretested questionnaire. Outcome evaluation checklist was used to document utilization and completion of the following six indices among pregnant women: ANC, PNC attendance, SBD, Intermittent Preventive Treatments in pregnancy (IPTp), Tetanus Toxoid (TT), and CIm within 6 weeks of birth. Data were analyzed using descriptive statistics, Chi-square, repeated measures ANOVA and logistic regression at P=0.05.

Results: In the EG, knowledge score significantly increased from 21.9±4.5 at baseline to 23.6±4.6 and 23.2±5.6 at three-month and six-month respectively while there was no significant difference in knowledge score among CG over the study period. Comparing EG with CG, significant differences were documented in ANC attendance (66.8% versus 53.1%; OR:1.7, CI: 1.2-2.7), uptake of IPTp (47.6% versus 18.4%; OR:1.7, CI: 1.2-2.7), CIm (62.6% versus 46.9%; OR:1.9, CI: 1.3-2.8) and TT (64.5% versus 54.1%; OR:1.02, CI: 0.5-1.9), SBD (69.8% versus 36.3%; OR:1.0, CI: 0.6-1.6), PNC (69.0% versus 51.0%; OR :2.1, CI: 1.4-3.2). Significantly more women in the EG who completed ANC had IPTp (OR: 14.9, CI: 6.3-35.7); TT (OR: 8.2, CI: 1.7-39.9) and SBD (OR: 2.3, CI: 1.2-4.5) than those who did not. Likewise in CG, more women who completed ANC had IPTp (OR: 21.9, CI: 5.1-94.1) and SBD (OR: 2.0, CI: 1.1-3.8).

Conclusions: Mobile health nursing intervention improved uptake of maternal health services among pregnant women. Policy makers need to consider the adoption of mobile health to enhance uptake of maternal health services and improve pregnancy outcome.

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KEYWORDS

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Multimedia Appendix 1

Extended abstract.

[PDF File (Adobe PDF File), 349KB-Multimedia Appendix 1]

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