GROUP PREGNANCY CARE STUDY REPORT

Assessment of Feasibility and Acceptability of Delivering Group Pregnancy Care Using Mobile Health Techniques in Kenya

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Reported by: HERA -NGO based in Kenya
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Background

Group Pregnancy Care study that Help REACH Africa (HERA) is conducting is in partnership with Yale University led by Principal Investigator Jinfeng Ding and Co-Principal Investigator Dr. Mildred Mudany, the Executive Director for Help REACH Africa. The study seeks to assess the feasibility and acceptability of mHealth-based Group Pregnancy Care among pregnant women and postnatal mothers in Machakos County, Kenya.

Help REACH Africa in collaboration with Yale University set out to conduct a feasibility and acceptability of delivering group pregnancy care using mobile health technology in Machakos County, Kenya. Ten health facilities in Machakos County were selected for the Group Pregnancy Care Study. The facilities were selected based on their implementation of Group Pregnancy Care in Machakos County. HERA has been implementing Group Antenatal care in 32 health facilities in Machakos County. GANC is a group-based ANC service where mothers of the same gestational period meet for at least eight antenatal visits in the health facility and receive ANC services as a group. During the meeting, the health care provider sets up a screening area where each mother takes turns to be screened and the health education takes place in the group. Mothers have the opportunity to learn and support each other through their pregnancy journey. GANC has worked well with over 95% of mothers delivering with a skilled birth attendant and over 90% taking on family planning. They have formed support groups as

mothers which outlast the pregnancy period. However, HERA in partnership with Yale University would like to reach more women with Group Pregnancy Care. This will ensure that all pregnant women have access to vital information and are able to make important decisions which will lead to a better health outcome. Mobile technology promises to reach many more women who cannot possibly come for Group ANC because of distance to the health facility, money to travel and time constraints.

Mobile Health (mHealth) is the use of mobile technology to offer healthcare services to patients or technical support to health service providers in a direct, low-cost, and engaging manner. mHealth can help overcome the barrier of long distances by providing remote GPC services to pregnant women who live far away from healthcare facilities. This improves engagement and participation, leading to better maternal and neonatal outcomes. Additionally, mHealth platforms can facilitate the involvement of husbands and other family members in GPC sessions, even if they are unable to travel long distances. mHealth interventions can also enhance the sustainability and scalability of GPC. By mobilizing the health delivery model, such as through mobile phones, administrative costs can be reduced, efficiency can be improved, and the program's impact can be better monitored and evaluated.

In 2016, WHO explicitly recommended Group Pregnancy Care (GPC) as a means of promoting a positive antenatal and postnatal care experience in LMICs. (World Health Organization, 2016) Unlike the traditional model of individual antenatal and postnatal care delivery, GPC is a comprehensive approach that encompasses physical assessment, education, skill development, and peer support. By participating in GPC, women can benefit from both the expertise of their healthcare provider and the knowledge, experience, and support of their peers. Consequently, GPC can be seen as a way of fulfilling essential components of a woman-centred care framework, including respect and safety, women's empowerment, involvement and participation, collaborative healthcare, as well as shared information and decision-making

Objectives

Primary Objective

The primary objective of this study is to determine mobile technology (i.e., mobile phones and Internet, etc.) access and usage patterns among pregnant women in Kenya.

Secondary Objective

The secondary objectives of this study are to:

- Examine the perceived usefulness, self-efficacy, privacy concerns, and ICT knowledge related to the adoption of mobile health-based antenatal care among pregnant women in Kenya.
- Explore perceived benefits and challenges, attitudes, perceptions, and preferences towards

mobile health-based antenatal care among pregnant women, their significant family members and GPC facilitators in Kenya.

Methodology

Institutional Review Board -USIU/A/IERC/SU0306-2023

As a requirement before conducting research in Kenya, the PI and Help REACH Africa applied and obtained IRB approvals from Yale University and the United States International University Africa (USIU) respectively.

Research Licence-NACOSTI/P/23/28587

HERA applied and acquired a research license from NACOSTI (National Commission for Science Technology and Innovation) before embarking on the Group Pregnancy Care Feasibility and Acceptability study in Machakos County.

Machakos County Research Authorization

HERA applied and received a letter of authorization from the Machakos County, Department of Health before carrying out research in the county.

Training of Data Collectors

All the data collectors underwent a two-day training. During this training, they got familiar with the data collection tools, were reminded of data ethics, completed the data confidentiality forms, participated in role plays of scenarios during interviews, and went through the consent forms which every individual respondent had to complete before any interviews would take place and asked all the questions for clarification. This was an important exercise to prepare data collectors for this exercise.

Recruitment

From the 32 health facilities implementing Group Pregnancy Care in Machakos County, Kenya, 10 health facilities were selected for the study. These facilities are Kimutwa, Kamuthanga, Kyeleni, Katangi, Kithyoko, Athi-River, Mbiuni, Kangundo, Nguluni, and Mlolongo Health Facilities. Each facility was assigned a facility code (01-10) For a health facility to participate in this study, the following criteria had to be met: Located in Machakos county in Kenya, enrol a minimum of 30 new pregnancy care clients per month, availability of community health extension workers or community health volunteers assigned and working in the health facility, a minimum of two staff during all working hours, on-site availability of antenatal care, postnatal care, and modern family planning services, permission granted by health facility management to participate in study

Convenient sampling was used to recruit pregnant women and a few postnatal mothers for the cross-sectional survey. All the pregnant women attending the GPC visits at the facilities were

screened by the study staff to determine their eligibility before being engaged in the study. Six pregnant women were randomly selected to participate in the focused group discussions.

Family members accompanying the pregnant women to the health facilities were approached by a study staff, screened for eligibility, and were then engaged in a semi-structured interview which were recorded.

Purposive sampling was employed to recruit the maternal care providers. In order to participate in the study, the following criteria was used: must be working in a participating/selected health facility and providing, antenatal care, or postnatal care, currently involved in providing GPC at the health facility and willing to participate in the study. The maternal care providers were interviewed using the semi-structured questionnaires which were recorded and transcribed.

Data Collection

Data collection for the GPC study was divided into two phases; Phase I and Phase II. In both phases of the study, HERA was required to engage 150 pregnant women on the GPC online survey questionnaire, conduct at least two focused group discussions, and at least four semi-structured interviews for both healthcare providers and family members accompanying the pregnant women. In total, HERA was required to conduct 300 interviews with pregnant women, four focus group discussions, 10 semi-structured interviews with maternal care providers, and 10 semi-structured interviews with family members accompanying the pregnant women.

Machakos County provided a County Representative Health Coordinator who guided the team through the various health facilities during data collection

Consent

Consenting was done for every study participant before engaging them in the GPC interviews. After signing the consent form each study participant was given a copy of the signed document while a duplicate of the signed document remained with the data collector for purposes of accountability.

Phase I

HERA visited nine different health facilities in Machakos County and conducted 164 surveys with pregnant women and a few postnatal mothers in Phase I of the study. The surveys with pregnant women and postnatal mothers were done through an online survey system referred to as Qualtrics.

Additionally, HERA conducted 9 semi-structured interviews with healthcare providers, one from each facility visited in phase I. HERA also conducted 9 interviews with family members at the

facilities visited during the first phase of the study. The semi-structured interviews were captured through note taking as well as the use of recorders.

HERA carried out three focused group discussions with pregnant women and one focused group discussion with healthcare providers. The focused group discussions were captured by note taking and a recorder.

Phase II

In Phase II of the GPC study, HERA carried out 136 surveys with the pregnant women through Qualtrics, one semi-structured interview with a family member, and two other interviews with maternal care providers. A total of five facilities were visited by the team from HERA. Four of these facilities had not met the threshold set for each facility in Phase I as far as interviews with pregnant women were concerned.

Results

Phase I

● HERA surpassed its target for Group Pregnancy Care for Phase I where it managed to engage a total number of 164 pregnant women on the GPC online survey questionnaire out of the 150 set for Phase I.

● HERA carried out four focused group discussions in the first phase of the phase of GPC study; three with pregnant women and one with healthcare providers.

● HERA successfully conducted 9 semi-structured interviews with maternal care providers and another 9 interviews with family members accompanying the pregnant women to the health facilities in Machakos County. In total HERA visited 9 health facilities out of the 10 facilities that were marked for the whole study.

Phase II

● HERA managed to carry out 136 interviews with pregnant women, 1 interview with a family member, and two interviews with healthcare providers.

In total, HERA managed to carry out 300 interviews with pregnant women, 11 semi-structured interviews with maternal care providers, and 10 semi-structured interviews with family members in the whole phase of the study.

Transcriptions

A total of 25 interview recordings have been transcribed.

The tables below show a summary of the activities done by HERA during the both phases of the study.

Health Facility	Facility Code	Phase I (Pregnant Women)	Phase II (Pregnant Women)	Total
Kimutwa	01	3	42	45
Kamuthanga	02	1	29	30
Kyeleni	03	11	-	11
Katangi	04	12	11	23
Kithyoko	05	12	-	12
Athi-river	06	40	-	40
Mbiuni	07	13	14	27
Kangundo	08	41	-	41
Nguluni	09	31	-	31
Mlolongo	10	-	40	40
Total	-	**164**	**136**	**300**

Semi-Structured Interviews

Interviews	Focused Group Discussion	Maternal Care Providers	Family Members	Total Interviews
Phase I	4	9	9	22
Phase II	-	2	1	3
Whole Phase	**4**	**11**	**10**	**25**

It is noteworthy that all targets for this study were met with 100% achievement.

Observation

1. Most of the health facilities in Machakos County were far apart and some of the pregnant women had to travel long distances to the health facilities.
2. Each facility has a specific day for the Group Pregnancy Care visit.

3. Most of the pregnant women engaged in the online survey were very excited about the idea of accessing pregnancy care from a healthcare provider through their mobile phones.
4. Kithyoko Health facility had very young expectant ladies most of whom were of adolescent or early adulthood ages between 18 and 23 years of age and others even below 18 years of age.
5. Most pregnant women including accompanying spouses/family members were willing to be interviewed
6. Kangundo, Nguluni, and Mlolongo Health facilities had a high influx of pregnant women and also had an active Group Pregnancy care program for expectant mothers.
7. The coordination by the Machakos County RH coordinator made the whole activity of data collection smooth and uninterrupted.

Challenges

1. Scarcity of funds to purchase data bundles as more focus is to put food on the table
2. Some facilities have days with no or very few pregnant women visiting the facility for group ANC
3. Most of the expectant mothers did not have smartphones but had the traditional feature phone therefore implementation of the mHealth-based group pregnancy care will have to be cognizant of that prior to implementation.
4. Most of these facilities were quite remote and difficult to access owing to poor road infrastructure. This therefore limits accessibility to proper healthcare for these expectant mothers.
5. The remoteness of these facilities was accompanied by challenges such as lack of electricity and poor network connection. This therefore poses a great threat to the implementation of the MHC programme as it poses the question of just how effective implementation will be if these women do not even have access to proper electricity to charge their phones or lack network connectivity.

Recommendations

1. There was a need to document information that was given voluntarily outside the standard questionnaire.
2. Proper training of the healthcare workers prior to the implementation of the MHC will be required before implementation of the program will be in order.

3. Facilitation of the individuals and healthcare workers with the relevant phones and/or requirements will be necessary to promote the implementation of the same.

Conclusion

The purpose of this research was to assess the feasibility and acceptability of implementing mHealth-based Group Pregnancy Care among pregnant women in Kenya. Based on the

observations made and the challenges shared by the study participants, it can be concluded that a number of factors will have to be considered before the successful implementation of the program. In conclusion, analysis of the responses provided by pregnant women, healthcare providers, and family members will provide important insights into the adoption of the mHealth Group Pregnancy Care model.