Assessing key stakeholders' perspectives on the acceptability and feasibility of an mHealth innovation for emergency obstetric referrals in Northern Iraq

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AIM: To assess the feasibility and acceptability of an mHealth intervention to reduce delays in reaching and receiving emergency obstetric care in northern Iraq.

INTRODUCTION
- Conflict has weakened the health system in Iraq.
- Negative impacts on maternal and neonatal health services for three million internally displaced people.
- mHealth may improve care delivery, maternal health outcomes (1) and patient data management (2).

METHODS
- A mixed methods qualitative study.
- Conducted in northern Iraq in 2018.
- 15 in-depth interviews (IDIs) were conducted with government officials, NGOs, ambulance staff on service delivery, referral processes, mobile usage.
- 11 focus group discussions (FGDs) with participatory activities (e.g. patient vignettes, app prototyping)
- Transcribed and translated data were coded iteratively and analysed thematically.

RESULTS
- 68 participants (36 women and 32 men) (see table 1).
- 3 major themes emerged from the discussions: humanitarian context, referral improvements, and mHealth potential.

Humanitarian context
- Conflict resulted in diminished health resources, health personnel and ambulances, and increased security measures.
- Patients have limited means to pay for transport or private care and women are reluctant to be transported in male staffed ambulances.

Referral improvements
- Identified gaps in communication and coordination of services with the current paper-based system.
- Ambulance drivers reported delays due to lack of patient information, poor road conditions, security checkpoints, and lack of communication about incoming hospital referrals.

mHealth potential
- Mobile phone application feasibility and acceptability focused on phone usage, access to information, connectivity and cost, and user-friendliness.
- Perceived benefits included geolocalization and case management archiving.

ADVOCACY IMPACT
- A mobile phone-based app to coordinate transportation for obstetric referrals was considered acceptable in this setting.
- Feasibility issues such as personal phone usage, airtime, and connectivity need to be addressed.
- Communication and coordination of care with the receiving hospital was identified as a priority.
- Gender considerations should address mHealth intervention limitations for obstetric referrals, eg. gender concordant care, female health workforce.
- Scale-up implementation has potential for advocacy of telecommunication private sector participation and patient decision making.

Table 1: Participant Demographics

Interview Type	Participant Category	Interviews/ Groups (N=26)	Participants (N=68)	Women (N=36)	Men (N=32)
In-depth interview (IDI)	Emergency Vehicles	5	5	0	5
	Hospital	0	0	0	0
	Primary Health Care Facility	1	1	1	0
	Coordination Actor	9	9	3	6
TOTAL IDI		**15**	**15**	**4**	**11**
Focus Group Discussion (FGD)	Emergency Vehicles	2	10	2	8
	Hospital	5	23	13	10
	Primary Health Care Facility	4	20	17	3
TOTAL FGD		**11**	**53**	**32**	**21**

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