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Obstetric referrals from a rural clinic to a community hospital in Honduras

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ABSTRACT

Objectives: referrals between health care facilities are important in low-resource settings, particularly in maternal and child health, to transfer pregnant patients to the appropriate level of obstetric care. Our aim was to characterise the obstetrical referrals from a rural clinic to a community referral hospital in Honduras, to identify barriers in effective transport/referral, and to describe subsequent patient outcomes.

Methods: we performed a descriptive retrospective study of patients referred during a 9-month period. We reviewed patient charts to review diagnosis, referral, and treatment times at both sites to understand the continuity of care.

Results: ninety-two pregnant patients were referred from the rural clinic to the community hospital. Twenty six pregnant patients (28%) did not have complete and accurate medical records and were excluded from the study. The remaining 66 patients were our study population. Of the 66 patients, 54 (82%) received antenatal care with an average of 5.5 ± 2.4 visits. The most common diagnoses requiring referral were non-reassuring fetal status, hypertensive disorders of pregnancy, and preterm labour. The time spent in the rural clinic until transfer was 7.35 ± 8.60 hours, and transport times were 4.42 ± 1.07 hours. Of the 66 women transferred, 24 (36%) had different primary diagnoses and 16 (24%) had additional diagnoses after evaluation in the community hospital, whereas the remaining 26 (40%) had diagnoses that remained the same. No system was in place to give feedback to the referring clinic doctors regarding their primary diagnoses.

Conclusions: our results demonstrate challenges seen in obstetric transport from a rural clinic to a community hospital in Honduras. Further research is needed for reform of emergency obstetric care management, targeting both healthcare personnel and medical referral infrastructure. The example of Honduras can be taken to motivate change in other resource-limited areas.

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Introduction

When analysing obstetric care in low-resource settings, it has been shown that maternal/neonatal morbidity and mortality are strongly linked to healthcare access during intrapartum events

(Lee et al., 2009). Numerous studies note that complications during labour and childbirth are responsible for an estimated one-half of maternal deaths, one-third of stillbirths, and one-fourth of neonatal deaths (McClure et al., 2007; Lawn et al., 2009; Cousens et al., 2011; Oestergaard et al., 2011; Pasha et al., 2013). Several studies suggest a large potential reduction in intrapartum-related neonatal deaths and implementation of widespread comprehensive emergency obstetric care with improvements in facility delivery (Lawn et al., 2009; Kamath-Rayne et al., 2015).

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However, access to basic emergency obstetric care (intravenous administration of antibiotics, oxytocics and anticonvulsants; assisted vaginal childbirth; manual removal of retained placenta; and removal of retained products) is challenged by delays in decision-making associated with referral, transport, care and communication. Delays in decision-making thereby lead to associated increase in morbidity and an increase in healthcare spending for reproductive care (Lee et al., 2009).

Honduran healthcare is decentralised, such that small rural clinics refer and transport patients to facilities with more experienced staff and more advanced technology to care for sick patients. A decentralised healthcare model is not unique to Honduras, and guidelines already exist for targeted improvement of these systems in low-resource areas. The Mesoamerican Health Initiative in Latin America aims to address deficiencies in access to certain targeted interventions for maternal and newborn health (Lozano et al., 2011). These include skilled childbirth care, emergency obstetric care, neonatal care, and contraceptive family planning. A Honduran specific study from the 1990s by Omaha, et al., suggested four points to improve the linkages between clinics and hospitals in Honduras to better manage overall patient load: first, increase awareness regarding the importance of a referral system; second, ensure that key patient information is efficiently communicated between institutions; third, allow open crosstalk between institutions regarding referral cases and patient load; and finally, educate patients and staff on the efficient use of healthcare services in Honduras (Omaha et al., 1998).

Despite these recommendations, little detailed information exists that describes the full referral process from a rural setting to a regional community hospital, and the outcomes of the patients involved, to determine whether these recommendations are being achieved. According to 2012 census data, 83% of births in Honduras take place in the presence of a professional healthcare worker, such as a licensed nurse, auxiliary nurse, or doctor (Instituto Nacional de Estadística, 2013). Although this percentage gives an indication of the availability of healthcare, it fails to reveal the condition in which pregnant women arrive at healthcare facilities, the quality of care in the facilities, and the complications that arise along the continuum of care.

Therefore, the purpose of this retrospective study was to characterise the obstetrical referrals from a rural clinic to community referral hospital in Honduras, and to describe subsequent maternal and neonatal outcomes.

Methods

The study setting was Intibucá, a mountainous rural department in southwest Honduras with a population of about 180,000, 86.6% living in rural conditions (Censo De Poblacion Y Vivienda, 2001). The annual birth rate is 40.5 live births per 1000 people and the infant mortality rate is 42.1 deaths per 1000 live births (Censo De Poblacion Y Vivienda, 2001). The neonatal mortality rate is 18 deaths per 1000 live births (Instituto Nacional de Estadística, 2013). The estimated maternal mortality ratio was 120 deaths per 100,000 live births in 2013, continuing on a steady decline from 130 deaths per 100,000 live births in 2005 (WHO et al., 2013). Public transport is widespread and inexpensive, but road conditions in many areas make transport inefficient and slow, especially when considering emergency health services.

We performed a descriptive retrospective study of pregnant patients initially seen at the Shoulder-to-Shoulder Clínica Materna-Infantil (Maternal-Fetal Care Clinic) located in rural Santa Lucía, Intibucá, Honduras. These patients were referred to the Hospital Enrique Aguilar Cerrato, a community hospital in La Esperanza, Intibucá, Honduras during the nine-month period from

July 2012 to May 2013. We obtained approval for the study from the Institutional Review Board at Cincinnati Children's Hospital Medical Centre, the Shoulder-to-Shoulder Board of Trustees, the Director of Hospital Enrique Aguilar Cerrato, and the regional representative for the Department of Intibucá in the Honduran Ministry of Health.

The rural clinic serves a catchment population of 36,000 in partnership with another nearby clinic to handle basic healthcare, minor surgery, and routine childbirth (Shoulder to Shoulder, 2014). Each month, medical staff at the rural clinic delivers approximately 10–15 babies and refers 5–10 obstetric patients to the community hospital. The clinic has one minor surgical room for trauma/wound care, three labour beds, one delivery bed, and three postpartum beds. Typical clinic day-shifts are staffed by one general practitioner, two medical student interns, one registered nurse, and one nursing assistants. Typical clinic night-shifts are staffed by one medical student intern and one nursing assistant. The medical staff in the rural clinic only attends deliveries for women with non-complicated pregnancies, whereas women with complicated pregnancies are referred elsewhere. Therefore, multi-fetal pregnancies, preterm pregnancies, mothers with conditions requiring caesarean section, uterotonic medications, or more specialized consultation are transferred to the community hospital for advanced care.

The study community hospital is one of 14 community hospitals in Honduras. Obstetric admission to this hospital is achieved by direct presentation or through referral services from rural clinics in the surrounding vicinity when obstetric complications are identified (Instituto Nacional de Estadística, 2013). The community hospital staff delivers 300 babies per month, with approximately 75% vaginal deliveries, and 25% caesarean deliveries. The community hospital has two operating rooms for general use, nine labour beds, two delivery beds, three immediate postpartum beds, and six long-term maternity recovery beds. Typical hospital day-shifts in labour and childbirth are staffed by one attending obstetrician, one general practitioner, two medical student interns, one registered nurse, and four nursing assistants. Typical hospital night-shifts are staffed by one attending obstetrician, one medical student intern, and three nursing assistants.

The rural clinic and the community hospital are separated by 80 km and 3500 m of elevation gain. During the study period, about 75% of the route was paved asphalt and 25% unpaved dirt and rock. For emergencies, such as preterm labour or conditions requiring caesarean section or uterotonic medications, transport services were available 24 hours a day from local drivers, paid on a per trip basis operating one clinic-owned truck. Referred pregnant patients were accompanied by a patient care assistant or nurse, and in some high-risk cases, a doctor, personnel permitting. For non-urgent referrals, patients were sent unsupervised in private cars or public buses to the community hospital. Examples of non-urgent referrals included a history/diagnosis of post-date pregnancies, decreased fetal movement, cephalopelvic disproportion, or unresolved infections during pregnancy. In rare cases of advanced obstetric emergencies unable to be cared for in the community hospital, secondary referrals were made to the highest-level national public care facility available, Hospital Escuela (Teaching Hospital) in Tegucigalpa, Honduras, 190 km away, about a three-hour drive on paved roads from the community hospital.

To conduct our study, we reviewed the charts of all pregnant patients who presented to the rural clinic during the study period. We limited our analysis to pregnant patients that were referred to the community hospital who had complete medical records. At both sites, medical history charts were handwritten, paper records organised according to patient medical record number. Medical record numbers were unique at each site.

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