



Value of telemedicine in high-risk fetal-maternal pregnancies

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Objective

Difficult access to healthcare is a real problem in Colombia and many other places in the world and appropriate access to appropriate care is one of the Sustainable Development Goals of the World Health Organization (2016-2030). The rural population has the largest rate of maternal and perinatal mortality in Colombia. A telemedicine program for high-risk pregnant women in vulnerable settings would potentially help to reduce maternal and neonatal morbidity and mortality. We present our experience with the development and implementation of a telemedicine modality in assessment and surveillance of high-risk pregnancies in vulnerable settings.

Methods

The project was carried out between July 2014 and March 2015, between three healthcare institutions, in Cundinamarca (Colombia): the Simijaca Rural Health Centre, a first level care facility, the El Salvador Hospital of Ubaté, a second level care facility and the obstetric high-risk specialists form the Maternal-Fetal Unit at Ecodiagnóstico Health Centre in Bogotá (Colombia). The target population was pregnant women from Simijaca classified as obstetric high-risk patients. Simijaca's population has a rate of high-risk pregnancy population of 45%, with an important rate of neonatal mortality (12.9 deaths per 1000 live births reported by 2013), particularly preventable deaths. Before this project only 4 maternal visits were conducted per pregnancy were conducted locally in both high and low risk pregnancies and 70% of the patients required mobilisation to a higher level care facility. A descriptive pilot study was made with qualitative and quantitative approach on the implementation of a model for high-risk maternal attention. Surveys and interviews with pregnant women, their relatives, and health staff were made before and after the maternal attention. According to the recommendations for telemedicine studies, MAST methodology (Model for Assessment of Telemedicine) was used in order to evaluate Information Technology and Communications.

Results

During the study all appointments were done with an on-line modality (synchronous telemedicine). A number of 45 obstetric high-risk maternal care appointments via telemedicine were done, with an average time of 22 minutes (average 15-40) per appointment. Optimal care was delivered to all high-risk pregnancies included, without unnecessary mobilization to the high-level healthcare institution. No neonatal deaths occurred and only 5% of patients required mobilization to take further tests. An average of seven appointments was required per high-risk patient. During the study, overall costs and risks were lower. Patient adherence was improved.

Conclusion

This study shows that telemedicine programs are an inexpensive method to facilitate access to specialized medicine. This program improved access to specialist care, removing geographic barriers and decreasing economic costs. Communication among different health care centres improved with a direct benefit for the staff and patients. This can reduce maternal and fetal morbidity and mortality.