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Obstetrics

Adapting antenatal care in a rural LMIC during COVID-19: A low literacy checklist to mitigate risk for community health workers

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KEYWORDS: Community health workers; COVID-19; Essential health care; Guatemala; Indigenous health; Mayan health; Pregnancy; Rural; Simulation training; Women's health

The COVID-19 pandemic is challenging health systems across the world. The potential for devastating consequences in resource-limited low- and middle-income countries (LMICs) is just beginning to be understood.¹ In the majority of LMICs, maternal healthcare is focused outside a health center through the use of community health workers and birth attendants. These essential workers provide the majority of maternal health care around the globe and are ill prepared for the highly transmissible nature of this novel virus and its consequences for their communities.² Little attention has been focused on their training and responsiveness during this pandemic.

Since the emergence of COVID-19, the Guatemala Ministry of Health (MOH) has reported a decreased uptake of antenatal care (ANC) at clinics and health posts in Sololá, a mainly indigenous region in the Western Highlands of Guatemala, due to both fear of interpersonal contact and limited availability of MOH staff due to COVID-19

infection. This is alarming given that Mayan women living in rural Guatemala have a maternal mortality rate double that of their non-Mayan counterparts (163 per 100 000 compared to 78 per 100 000).³

Saving Mothers Guatemala has piloted an ANC protocol aimed at safe maternal antenatal care for low-literacy community health-care workers during the COVID-19 pandemic (Fig. 1). A total of eight traditional birth attendants skilled in ANC delivery were trained in the protocol that was adapted from WHO, CDC, ACOG, and Guatemalan national guidelines and applied to this low-resource setting in Guatemala.

Implementation of the training was feasible due to: (1) an existing long-standing collaboration between the municipal branch of the MOH in Santiago Atitlan and Saving Mothers Guatemala, a local NGO with vast experience in training traditional birth attendants in basic ANC⁴; and (2) the acceptance by the community of receiving essential

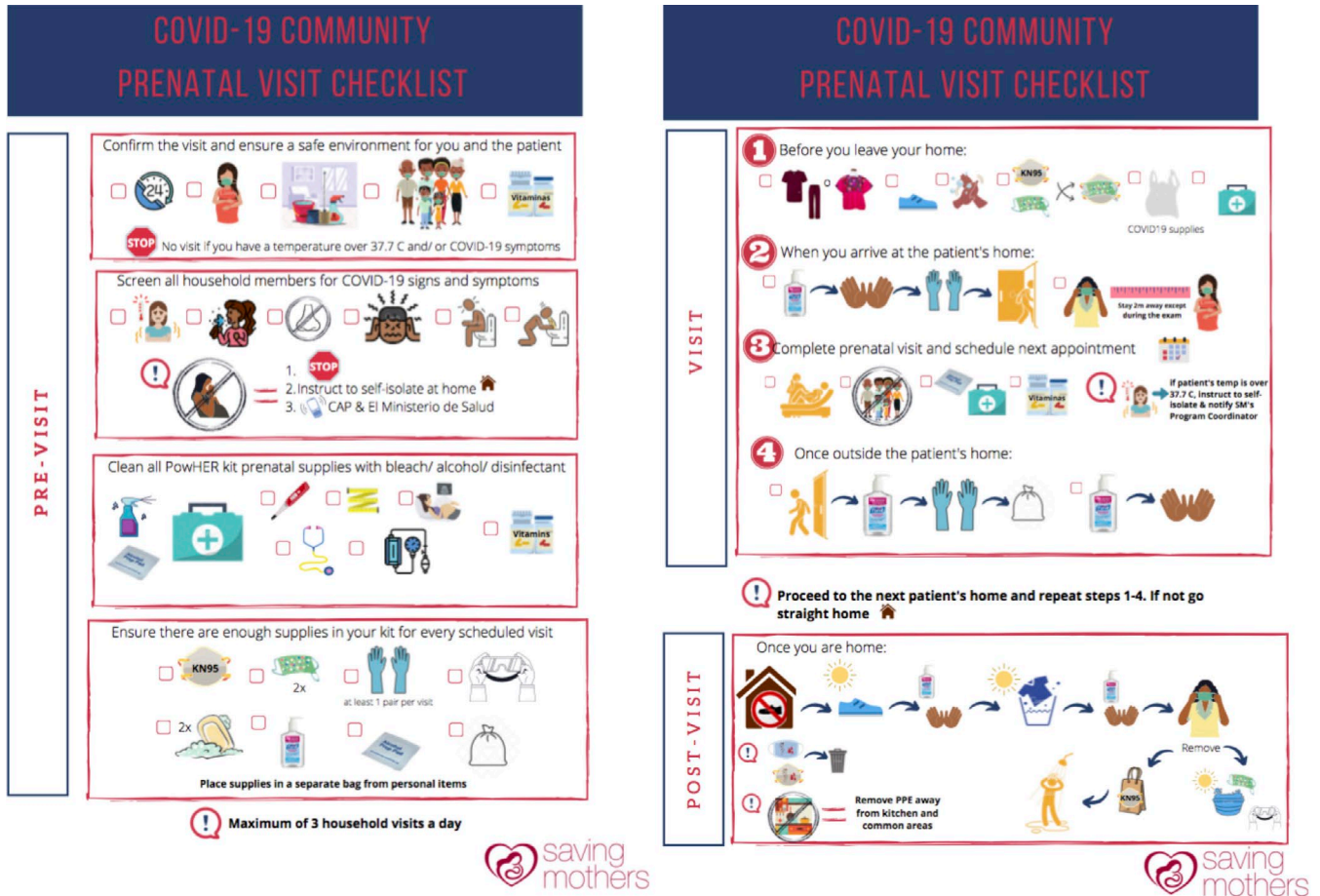


FIGURE 1 COVID-19 low literacy training checklist

health care during home visits as this mode of healthcare delivery is already integrated within the MOH health system.

The training, which took place over five sessions, addressed two recently recognized barriers for pregnant women accepting ANC in Santiago Atitlan: (1) feeling safe having healthcare providers inside their home; and (2) false information regarding the transmission of COVID-19. The checklist was used to facilitate training and emphasized four major topics to address these barriers: proper risk assessment prior to entering the home; understanding of COVID-19 transmission in pregnancy; infection control for both the healthcare worker and the pregnant woman; and proper use of personal protective equipment (PPE). Training was both lecture- and simulation-based in order to ensure understanding, especially for novel topics such as appropriate donning and doffing of PPE. Through simulation training the *comadronas* (traditional birth attendants) were observed and evaluated by the Saving Mothers team and their *comadrona* colleagues. This 360-degree evaluation further reinforced the checklist skills.

Successful training using our low literacy checklist as part of a larger COVID-19 training program is a valuable tool in improving ANC care in LMICs.⁵ In the evolving global setting of COVID-19, the low literacy checklist described here allows for ease of PPE execution and reinforcement of infection control.

AUTHOR CONTRIBUTIONS

SH consulted on training protocol details, and drafted and revised the manuscript. JBO, CMS, and EL contributed to the conception, design, and implementation of the training protocol. TS contributed to the design and implementation of the training protocol and revised the manuscript. All authors agreed with the final version of the manuscript.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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Obstetrics

Restructuring fetal medicine services in a low-resource setting during the COVID-19 pandemic: Experience from a tertiary care fetal medicine center

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KEYWORDS: Amniocentesis; COVID-19 pandemic; Pregnancy; Prenatal invasive diagnostic procedures; Ultrasound; Vertical transmission

Prenatal diagnosis and invasive fetal therapy, being a highly specialized aspect of antenatal care, are available only in select centers and present unique challenges during the COVID-19 pandemic. The tests are specific to gestational age, making time of vital importance. The impact of these interventions on the fetus in the setting of COVID-19 is unclear, posing challenges in balancing the risks and benefits of such interventions. Experience and key strategies for providing timely fetal medicine care during the pandemic are highlighted below.

1 | SCHEDULING APPOINTMENTS AND SCREENING BEFORE FETAL INTERVENTIONS

At the outset of reorganization, pregnant women with scheduled appointments were contacted and reassured. They were screened telephonically for symptoms before calling them to the facility for

counseling and testing. Part of the genetic counseling was also done telephonically and appointments rescheduled accordingly.

New appointments were scheduled via telemedicine in consultation with the genetics division and were prioritized based on gestational age and indications. New appointments and follow-up visits were strategically scheduled to avoid crowding of the waiting area and to ensure social distancing. Patients were instructed to limit the number of attendants, wear a mask, and practice hand hygiene and social distancing. Telephonic screening about their symptoms, history of significant travel, contact or occupational exposure or residence in a cluster, and presence of other risk factors was carried out.¹ In case of a positive screen, the clinical urgency of the intervention was reviewed. If the procedure could be safely postponed, the patient was advised to self-isolate for 14 days based on local guidelines and the appointment rescheduled for 2 weeks later.² If the pregnant woman had symptoms of COVID-19, it was decided that maternal symptoms would dictate further course. In mildly symptomatic patients or asymptomatic