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# Traditional Midwifery Contribution to Safe Birth in Cultural Safety: Narrative Evaluation of an Intervention in Guerrero, Mexico

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## Abstract

A 2017 randomised controlled trial in Guerrero State, Mexico, showed supporting Indigenous traditional midwives on their own terms improved traditional childbirths without inferior maternal health outcomes. This narrative evaluation complements the trial to document participant experience of safer birth in cultural safety, transformative dynamics and implementation issues of the intervention. Stories came from 26 traditional midwives, 28 apprentices, 12 intercultural brokers and 20 Indigenous women who experienced the intervention. Their accounts indicate the intervention revitalised traditional midwifery and consolidated local skills through traditional midwife apprentices and intercultural brokers to support safe birth. According to the stories, communities reintroduced traditional perinatal care and reported positive health impacts for mothers, children, and other adults, which contributed to early collaboration with official health services. Challenges included remuneration and disinterest of younger apprentices and brokers. The intervention seems to have improved interaction between traditional and Western services, setting the stage for further intercultural dialogue.

## Keywords

indigenous maternal health, cultural safety, narrative evaluation, intercultural brokerage, traditional medicine, Me'Phaa, Nancue ñomdaa

## Introduction

In Indigenous communities in Mexico, as in many other Indigenous settings, women seek health care from traditional midwives, because of their cultural preferences and sometimes because they have no alternatives.[1–3] The considerable literature on traditional midwifery in Mexico[4] provides qualitative descriptions of traditional midwifery[5–12] and quantitative evidence from interventions to retrain[13,14] or replace them with Western health workforce, usually in favour of institutional childbirth.[15,16] An important and often ignored characteristic of traditional midwives is that they share the culture of their patients and contribute to its continuity by reaffirming the value of Indigenous ways.[6,8,17]

Maternal mortality in the Mexican state of Guerrero has long been among the highest in the country.[18] There is tension between traditional practices and official health services[19] despite constitutional recognition of indigenous rights and local initiatives to facilitate collaboration.[20] Earlier research found that fear of episiotomies and c-sections made indigenous women unwilling to have institutional childbirths.[21] Distance to or absence of official health services were additional barriers.[22]

International guidelines recommend replacing traditional midwifery with rapidly trained non-traditional birth attendants to increase access to Western health care and thus to improve maternal health outcomes.[23] This ignores potentially disruptive impacts on Indigenous societies and the associated health consequences.[24] Indigenous people and their allies worldwide are increasingly vocal about the need for cultural

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safety of health care, an approach to health promotion that does not negate their traditions or further their assimilation into majoritarian societies at the expense of their culture.[25] In Mexico, adjusting maternal health programs to the cultural diversity of the population is considered a good practice that contributes to reduce maternal mortality[26] and obstetric violence.[27] Very few initiatives in the country or in Latin America have focussed on supporting traditional midwifery on their own terms.[28–31]

A recent cluster randomised controlled trial (RCT) in four Indigenous groups in Guerrero State tested the idea that a co-designed intervention supporting traditional midwives, on their own terms, would not result in worse health outcomes and would have secondary benefits increasing cultural safety for indigenous groups. The co-designed intervention, implemented by local researchers at the *Centro de Investigación de Enfermedades Tropicales (CIET)*, provided support traditional midwives requested rather than assuming what help they needed.[32] Between 2015 and 2017, in 40 randomly selected intervention communities in predominantly Indigenous municipalities, traditional midwives received a small monthly stipend to reflect esteem for their role, to satisfy their basic needs and to allow time for practising and teaching midwifery. Each intervention midwife selected an apprentice, who received a scholarship to encourage her traditional training. Bilingual community members, chosen by their communities, received 2-months training as intercultural brokers to support their corresponding traditional midwives and to facilitate their communication with Western health personnel. Local official health personnel attended a workshop to increase their awareness of traditional midwifery. Another 40 communities provided a counterfactual control with usual health services.

After 21 months, a final survey of all women in intervention and control communities identified 872 completed pregnancies. Mothers in intervention communities had lower rates of perinatal deaths with fewer childbirth or neonatal complications (risk difference (RD) −0.06, 95% confidence intervals (CI) −0.09 to −0.02) and more traditional births at home with a traditional midwife and family present (RD 0.10 95%CI 0.02 to 0.18).[32] Among institutional childbirths, intervention communities had higher rates of traditional management of the placenta (RD 0.34 95%CI 0.21 to 0.48) but also more non-traditional cold-water baths after childbirth (RD 0.10 95%CI 0.02 to 0.19).

Supporting traditional midwives might also have had effects on less easily quantifiable outcomes. An important implication of cultural safety, for example, is that it should be assessed by those whose culture is threatened because only they know what is harmful or fortifying for their cultural identity, according to their worldviews.[33] We were interested in participant experiences or unexpected results from their engagement in the intervention to support traditional midwifery on its own terms. To complement the RCT results, we therefore conducted a narrative evaluation six months before the trial was completed.

## Methods

### *Stories of Most Significant Changes*

The evaluation used the Most Significant Change (MSC) technique[34] in two workshops for data collection with participants linked with the trial. We invited the 29 traditional midwives, 29 apprentices, and 12 intercultural brokers supported by the intervention in two municipalities in Guerrero[32] to share their experiences. ADJ and NM invited each participant in person, as is appropriate in local Indigenous customs. All those invited accepted the invitation, but three midwives and one apprentice could not participate for personal reasons. We held a 2-day workshop in each municipality in November 2016 in community centres for indigenous health in which participants usually gathered and felt safe.

The Most Significant Change (MSC) technique[34] focussed on accounts of strengths and positive experiences before the end of the RCT. This story-based technique is useful to identify changes that participants consider valuable results of the intervention.[35] Participants themselves identify what is valuable to them, a relevant feature in participatory research.[34] Our purpose was to characterise what changed in their eyes and to hear practical examples of how the intervention might have led to the change.[34,35] The purposive sample of informants did not attempt to address the full variation of experience across the intervention communities[28] but to identify emblematic cases following a criterion-i sampling strategy.[36] We assumed participants had knowledge of the intervention dynamics and could describe "what works when it works."[34,37]

### *Settings*

The study involved members of the *Me'Phaa*, and *Nancue ñomdaa* Indigenous groups in the southern Mexican state of Guerrero. They live in a mountainous region with difficult access to health services, and higher rates of maternal mortality than any other region of the state.[22,38] Guerrero State overall has among the highest maternal and infant mortalities in the country.[18,39–42] Indigenous communities are engaged mostly in low-income rural activities; many men leave to work in other Mexican states or in the USA. Those who remain face high rates of violence associated with the production and trafficking of illegal drugs. This violence also affects women during pregnancy,[43] and the culture of *machismo* often excludes women from decision making about the type of care they receive.[44] Both participating indigenous groups still use their traditional language, but they face gradual loss of culture and language associated with Western education and public services. The official maternal health programs in the state have to date focused on retraining and replacing traditional midwives with Western trained personnel and promoting institutional childbirth.[19]

## Workshops for Storytelling

At the beginning of each workshop, the lead author introduced himself and explained that the stories would help to understand how the project worked and how to continue with similar initiatives elsewhere. He clarified that the stories would not affect any payments/benefits due to participants and sought oral informed consent using a predefined script. On the first day of each workshop, each midwife and apprentice told their story in their traditional language; the intercultural broker who had worked with them in the project translated and wrote down each story in Spanish. On the second day, the brokers wrote down their own stories. Two indigenous community members supported translation for the researchers in each workshop. The facilitators (ADJ, NM and IS) began by asking participants to share their overall experience with the group: Please, share how you felt about the project and what you think has been valuable from this experience. The facilitators then asked participants for their stories:

a. Please tell me a story of something that happened to you, or to someone in your family or community, that explains the most significant change promoted by the project in the past year.
b. Why do you think this is the most significant story?
c. How do you think the project could improve to have more results like these?

Indigenous translators and field coordinators discussed how best to phrase these questions in the local languages which do not have direct translations for the words significant or important. They opted to translate a significant change as *a change that would make your heart feel happy.* The facilitator encouraged participants to narrate events that happened. To increase authenticity, the facilitator asked participants to give details (approximate dates and names of places), while not disclosing sensitive or private information. For the dissemination of results, we concealed any personal information. Most intercultural brokers had limited education and lacked experience writing in Spanish. A separate group of Spanish-fluent facilitators proofread the stories during the workshops. Participants confirmed the final versions conveyed their intended meaning. A file with the different versions of the stories is available.[45]

After the workshops, the intercultural brokers went back to their communities and identified 20 women community members they thought might have a story to tell. They collected the stories from the women in their houses, wrote them down and sent them to the field coordinators (ADJ and NM).

## Analysis

Four men and four women CIET researchers not involved in data collection coded the content of all the stories in a round table consensus. They followed a general inductive approach[46] to thematic analysis based on shared interpretation.[47] All researchers read each document and generated a list of codes using a spreadsheet. Each code described a section of the texts considered meaningful for the research objective.[48] Before assigning each new code, the group confirmed no existing code was suitable. Using printed copies of the stories, researchers highlighted and numbered sections corresponding to each code and registered the number in the spreadsheet. This process proceeded through all stories regardless of the point of saturation. IS summarised the list of codes into themes as presented in the results.

## Positionality of the Research Group

Two indigenous field coordinators (ADJ and NM), male and female, facilitated data collection and interaction with traditional midwives. Both studied health sciences at State University and have a history of collaboration and advocacy for their communities. The researchers at the *Centro de Investigación de Enfermedades Tropicales* (CIET) in Acapulco included five male and 6 female researchers who supported proofreading of stories during data collection and the round table analysis. All had experience working with Indigenous communities in Guerrero and deep knowledge of the intervention municipalities. The group included three senior researchers with decades of field and teaching experience, along with early career researchers. All explicitly embraced and promoted the concepts of cultural safety and intercultural dialogue[49] through a centre of participatory research (CIET) with almost 40 years of presence in the state.

Intercultural brokers from the project were involved in gathering the stories. Inclusion criteria for the intercultural brokers were: being a member of the relevant ethnic group, speaking Spanish and understanding traditional culture and Western health services.[28] During the intervention, the brokers co-designed and implemented activities to promote maternal health in their communities in coordination with traditional midwives and their apprentices.

The lead author facilitated all research steps: design, data collection, analysis and reporting. He is a mestizo male from Colombia and, at the time of data collection, was studying for a PhD in Family Medicine. He is a non-Indigenous researcher who has collaborated with Indigenous communities in Colombia since 2002. Based on strong links of collaboration with these communities, he promoted intercultural dialogue between Western and traditional medicine. He supported the training of intercultural brokers in Colombia before his involvement in this research project. He was not involved in the fieldwork of the intervention.

## Results

### The Story Tellers

We gathered 86 stories from 26 traditional midwives, 28 apprentices, 12 intercultural brokers and 20 indigenous women. The 15 *Me'phaa* and 11 *Nancue ñomndaa* traditional midwives (including two men) had de facto recognition in their communities, based on their decades of service and traditional knowledge. Most midwives were monolingual (speaking only an Indigenous language) and between 50–80 years of age. The 15 *Me'phaa* and 13 *Nancue ñomndaa* apprentices (all women) were selected by their mentors following their customs. Their ages varied from teenagers (granddaughters of the traditional midwife) to mature adults (advanced apprentices). Of the original 17 intercultural brokers, five from the *Nancue ñomndaa* group abandoned the program before the narrative evaluation. The remaining three men and nine women brokers had basic Spanish as their second language and had studied up to secondary school. Most were in their mid-20s, single or just married with small families. Ages of the 12 *Me'phaa* and eight *Nancue ñomndaa* beneficiary women who provided stories ranged from teens in their first pregnancy to multiparous mothers over 35 years of age. Some were single mothers, and others had the support of husbands and family.

### Thematic Analysis

According to the stories, the intervention brought up the *revitalisation of traditional midwifery*. This happened through direct support for their activities and apprentices. This change was parallel to the innovative *training of indigenous bilingual intercultural brokers* as community agents for health promotion. These new cadre *collaborated* with traditional midwives and their apprentices to provide care and support for pregnant women. The work of intercultural brokers and the institutional support of CIET generated a renewed recognition of traditional midwifery, and more indigenous mothers *returned to traditional care with account of positive health outcomes*, which set favourable grounds for *increased interaction with the official healthcare services.* In the following paragraphs, we present in detail how these changes were described in the stories.

### The Intervention Revitalised Traditional Midwifery and Allowed Its Continuity

Elderly traditional midwives were grateful for the financial support from the project because they did not make a living from their practice but from subsistence agriculture, crafts, or other activities. In their practice, they face challenges of their own advanced age and health problems, long walks through the country, no reimbursement of expenses, the need to stay with their patients for one or more days and having to leave their houses at any time. The cash support allowed them to buy food and encouraged their practice and teaching.

> "I like what I am doing, but it is not an easy road because sometimes pregnant women do not have the possibility to compensate for the service we provide. But we still take care of them." (Apprentice #8, Municipality 2)

The external resources provided by the project initially exacerbated rivalry among some traditional midwives, but intercultural brokers solved these conflicts and restored unity and coordination. Some other traditional midwives not directly supported by the project began to engage in its activities. The respectful attitudes of the implementation personnel motivated participation.

Regular meetings of traditional midwives and apprentices, promoted by the project, strengthened their bonds, allowed them to share knowledge between them, and ultimately to do a better job. The promotion of gardens of medicinal plants helped to recover and expand the availability of local therapeutic resources that elderly traditional midwives had available without leaving the household.

Traditional midwives were glad of the opportunity to share their knowledge and to teach family members or other women in their communities, ensuring that someone can provide services after they are unable to work or have died.

> "Before I used to work alone (…). Now I am happy and grateful for the project because I can teach what I know to other women. Someday I will die, and if I do not teach someone else, what I know will be lost." (Traditional midwife #3, Municipality 1)

Negative views of traditional midwifery in the community had made some apprentices feel ashamed and abandon training. The project encouraged them and allowed enrolment of new apprentices, with or without a stipend. For apprentices who were family members of their mentor, family bonds became stronger. Awareness of the needs of their community, making their mentor proud, and concerns about the loss of traditional knowledge after their mentor's death motivated apprentices to learn. Adverse experiences during pregnancy encouraged some women to become apprentices to help other women to avoid such problems.

> "After what I experienced, I decided to become an apprentice midwife to help other women so that what happened to me does not happen to them." (Apprentice #10, Municipality 1)

Apprentices recognised that midwifery is a profession of lifelong commitment, but not all of them demonstrated the same level of commitment to their mentors. Learning required sacrifices, like leaving their family to care for patients. Often initial learning occurred during the apprentice's own pregnancy and childbirth experience. Family support, having company of other apprentices and living closer to the mentor

facilitated the process. Most of the learning happened while apprentices visited patients with their mentors.

> "During the visits, I put into practice the things I knew and learned from experience. And I learned more because the midwife taught me new things" (Apprentice #3, Municipality 2)

Apprentices started providing primary care for their family members or neighbours' minor illnesses as an initial step towards their independent practice. As learning progressed, they gained confidence and courage; both considered to be essential characteristics of traditional midwives. Apprentices would start attending births in the presence of their mentors, and even advanced apprentices would have supervised practice.

Support from the apprentice facilitated the work of older traditional midwives. Advanced apprentices expanded the available human resources for maternal health care, and the younger ones, who had attended school, helped write or complete forms required by the official health system.

> "I go with the woman to the hospital. If I cannot go, my daughter, who is also a midwife, goes. With this project, my granddaughter (the apprentice) is helping us. Now we are three working together. (…) The work now is easier. She helps us with the forms we have to submit to the health centre (…) because she knows how to write and read." (Traditional midwife #3, Municipality 2)

Some apprentices were already traditional midwives but with less experience or recognition. After the death or retirement of some experienced midwives during the project, their advanced apprentices occupied their place with positive results and satisfaction of patients. Had it not been for the project, 'the knowledge of older midwives would have disappeared' (Apprentice #12, Municipality 2).

> "I am not only learning to treat women but all the things that my mother [the midwife] teaches me. When she is not present, and pregnant women in pain arrive, I massage and calm them. (…) Now, I can also cure some things when my children get sick." (Apprentice #8, Municipality 1)

## *Intercultural Brokerage and Local Collaboration*

The participating communities nominated the intercultural broker trainees, but not all nominees agreed to join the project because it meant spending time away from their families for training. Others were motivated by the opportunity of going to Acapulco (the largest city in the State) and learning in the university. Some were already users of traditional medicine and wanted to learn more about it. The 'kindness of instructors' (Intercultural broker #1, Municipality 2) facilitated the learning process.

Training helped intercultural brokers to recognise the important role of traditional midwives and the value of their own culture. They realised their culture was disappearing and felt more committed to recovering their traditional practices. After the training, they strengthened their links with their communities, improved their knowledge of their territory, and increased their use of the indigenous language.

> "Thanks to [the teachers who gave the training] because they made me understand that indigenous people who speak *Me'phaa* have the same value as [people] in the city. That is why we have to continue with our traditions and customs." (Intercultural broker #2, Municipality 1)

Early in the project, some intercultural brokers had difficulty explaining their role to communities. Working in coordination with indigenous local authorities, organising community meetings and supporting each other facilitated their work. As recognition of their work accumulated, they extended their reach to nearby communities. Intercultural brokers learnt by listening to the advice traditional midwives and apprentices gave to pregnant women. Some brokers went on to receive basic training as apprentices or combined the Western content on primary health care covered by the course with traditional concepts for health care. For female intercultural brokers, their own childbirth experience helped to consolidate the content they shared with other women. Intercultural brokers started using traditional medicine for taking care of their health and the health of their families before promoting it among pregnant women. Some intercultural brokers planted medicinal gardens and encouraged others to do so.

Intercultural brokers discussed with women the advice of traditional midwives, even those not receiving direct support from the project, on the best care options for pregnant women. They also coordinated follow-up of patients with health centres, facilitated health personnel visits to rural areas, helped pregnant women and other community members to navigate the health system and, on occasions, administered the treatments prescribed by the Western-trained doctors. Some community members asked intercultural brokers to intervene in family conflicts or requested direct support, such as small loans to pay for transportation. They served as translators for women coming from remote communities, although these women did not have the resources to pay for their time, transportation, food or lodging. Intercultural brokers received a small stipend, but all still had to work outside the project to cover their living expenses.

> "I told her I was going to lend her the money to go to the hospital in [municipality]. (…) I told his son to go see his mother, (…) she is alone and has no one to go to the hospital with (…) Then we went to the lady's house, and he took her to the hospital." (Intercultural broker #7, Municipality 1)

Intercultural brokers helped weigh and measure the baby or assess vital signs. The brokers helped mothers to get birth

certificates for their children, which reduced costs to the family and eliminated the inability of traditional midwives to issue a birth certificate, an important barrier to traditional childbirth. Traditional midwives valued this collaboration, but not all of them found it easy to initiate the relationship. One broker had to switch to another traditional midwife who was more interested in his support.

Traditional midwives were usually proud of their intercultural broker. Planning activities with the brokers increased traditional midwives' and apprentices' confidence, self-esteem and sense of validation.

> "The intercultural broker made me feel more confident about my work because I have his support, we have communication and work as a team." (Traditional midwife #9, Municipality 1)

### *Positive Outcomes of Recovering Traditional Care*

After the intercultural brokers started working in the community, pregnant women and other community members gave more importance to traditional midwifery and increased their interest in learning about traditional health care.

> "When the intercultural broker introduced the traditional midwife, and me, [community members] recognised us." (Apprentice #5, Municipality 1)

The project encouraged women to use traditional midwifery and medicinal plants:

> "Before this project, all women would go to the hospital for childbirth. With the project, they started to see traditional midwives more often" (Traditional midwife #7, Municipality 1)

Having good outcomes during pregnancy and childbirth increased the respect, esteem and confidence of women and their families towards traditional midwives, their apprentices, and intercultural brokers.

> "The family of the woman told all the community that, thanks to the [ritual] that I performed, everything went well. This made people return to the traditions." (Traditional midwife #10, Municipality 1)

Traditional midwives treat women with respect and good manners and respond promptly to their needs. Those who fail to do this have fewer patients. The strong sense of modesty related to physical examination was apparent even during traditional antenatal care. In general, women felt more respected when they received care from traditional midwives:

> "A woman told me that the care that I provide is good because I am careful when I work with them; I do not put my fingers in her part [vagina]; I do not put my hand inside to clean her womb; I do not cut their parts to allow the baby out. The woman thinks that is good. Doctors are very aggressive." (Traditional midwife #3, Municipality 2)

Most women attended by traditional midwives began childbearing before the age of 20 years. They described heavy workloads during pregnancy and lack of support from their partners. Women who felt they did not have other support sought help from the brokers and traditional midwives. Traditional midwives advised pregnant women and their partners to reduce their workloads during pregnancy and to adopt other self-care practices (no running or lifting heavy burdens and taking baths with medicinal plants). They also instructed women on how to push and to breathe in labour. Traditional midwives provided postpartum care lasting from a few days to several weeks, during which they also attended the baby's health.

The stories portrayed young mothers who decided to have their first child at home after receiving traditional antenatal care, despite having a health centre close; women with previous institutional childbirth who changed their preference to home-births; and women who, despite receiving traditional care or having solved a health need, preferred institutional childbirth because they felt safer there. Whether women would start with Western or traditional care was not clear in the stories. Receiving antenatal care from traditional midwives was not a reason to avoid official health care facilities; when needed, traditional midwives encouraged institutional childbirths even for women with multiple traditional childbirths.

> "When I found out I was pregnant, I was afraid and did not know what to do or where to turn. My mother recommended me to see the traditional midwife. (…) The midwife advised me on how to take care of myself during pregnancy (…) I visited the midwife every month (…) and also went to the health post to be examined by the doctor (...)." (Beneficiary young mother #1, Municipality 1)

Mothers recommended their pregnant daughters to visit a traditional midwife for antenatal care. Usually, mothers-in-law, mothers, or relatives asked the services of midwives for pregnant women. The pregnant women's families had a crucial role in deciding the place of birth and were actively involved in all the processes of traditional childbirth.

> "*Doña* [midwife] came to visit me by surprise (…) She told me that she came to visit me because my mother-in-law asked her to attend to my pregnancy, and, well, she agreed." (Beneficiary mother #11, Municipality 2)

Beneficiary families expressed satisfaction about childbirth at home and its lower cost. Community members saw not having to go to the hospital as a positive outcome. Some families did not use Western medicine and preferred to take care of all their needs with traditional medicine.

> "Then Ms [patient] and her family thanked me for my work because I did not send her to the hospital despite her complicated situation." (Male midwife, Municipality 1)

Some indigenous women shunned institutional care and preferred traditional midwifery in fear of caesarean section and forced sterilisation.

> "[The patient] did not want to have surgery at [regional centre]'s hospital. She went back to the village seeking for my help to have her baby at home. (…) I positioned the baby to untangle the umbilical cord. [The patient] is 16-year-old, and her baby was born well and is healthy." (Traditional midwife #12, Municipality 1)

> "At the health centre they told me that they had to operate on me because I am already old and, after the operation to have my child, they would operate on me so that I would no longer have children. That scared me (…), so I decided to go to [midwife]." (Beneficiary mother #6, Municipality 2)

Mothers also shunned western health services due to low-quality care, personnel unavailable, bad experiences, distance, or cost of transportation (not having the USD 5 to pay for a rural taxi) or because it was easier to have services with traditional midwives.

> "The health personnel asked her [the patient] to wait until other pregnant women, who arrived before, had received care. But, as she was having heavy pain, she went to see me. (…) After that, the other pregnant women thought it was important to see me rather than the health personnel because I provided care quickly." (Traditional midwife #11, Municipality 1)

> "In my community, there are often no doctors or nurses to care for a pregnant woman. They come when they want to." (Apprentice #7, Municipality 2)

People also look for traditional midwives after Western care has failed to solve health problems. They also expect them to treat traditional diseases or give a second opinion about diagnostics or treatment alternatives.

> "After institutional childbirth, [patient] was still having abdominal pains. Although she was treated at the hospital, her pains did not subside. (…) I gave the woman a massage and a tea [infusion of medicinal plants] and let her rest. Hours later, the woman's pain was gone." (Apprentice #10, Municipality 1)

Traditional midwives described detailed antenatal care practices, and they referred complex cases to traditional healers (*curanderos*), to more experienced traditional midwives or to the hospital. Intercultural brokers joined these discussions about care. They endorsed prompt referrals whenever these were necessary and thus increased the credibility of traditional midwives and apprentices, recognising the final decision had to be made by the patient and her family. As a result, women felt more confident when traditional midwives were with them and would even proceed against the advice of Western health care providers.

> "When the pains became stronger, I was afraid. (…) I think all women are afraid of that moment, but I had already decided to give birth here, so I plucked up my courage. [The midwife] was with me all night. That gave me courage. The next morning, I had my baby." (Beneficiary mother #5, Municipality 2)

Beneficiaries reported complicated cases managed by traditional midwives for pregnancy (pains in the legs, intense abdominal pain, bleeding, breech presentation and headaches and dizziness), childbirth (nuchal cord, haemorrhage, teenager mother, mothers above 40, multiparous woman over 35 and tweens), postpartum (abdominal pain) and neonatal complications. The stories emphasised accounts of positive outcomes after using traditional therapeutic resources such as massages (*sobadas*) to position the baby in the womb or medicinal plants as part of elaborated treatments over several follow-up visits. Other therapeutic resources in the stories included childbirth positions, goat tallow, wafts, sweating and postpartum diets. Healing practices encompassed prayers and rituals to mobilise spiritual help. The notion of cold and hot balance in the body was central in the practice of traditional midwives.

> "She came to my house early, around 7 am. (…) She had a headache and felt dizzy, and her eyesight was dimmed. She was worried and asked me if she had to go to the hospital. I tried to reassure her and proposed to cure her with a herbal preparation from the bush. I told her that we would go down to the hospital if it did not make her feel well. She trusted me, and we went to her house to do the treatment. [She described the treatment]. She fell asleep at about 10 am and woke up at about 4 pm. Then she said she felt fine and so there was no more need to go to the hospital. A few hours later, the contractions started, and around 7 pm, the baby girl was born without any problems." (Traditional midwife #6, Municipality 2)

Stories reported that traditional midwives could detect pregnancy during the massages without lab tests and indicate the baby's gestational age and sex. They also detected whether twins came in the same amniotic sac and recognised labour progress without vaginal examination. These techniques identified signs that Western anatomy has not described:

> "After the *sobada* [massage] I became aware that the woman was indeed pregnant." (Traditional midwife #11, Municipality 1)

> "I touched with my hand the lower part of [the patient]'s back and felt a small warm ball; thus, I knew the second baby was about to be born." (Traditional midwife #9, Municipality 2)

Traditional midwives provided additional services as bonesetters or healers, not only for mothers but also for children, adults or the elderly. Traditional midwives also advised about family dynamics to prevent child abandonment and identified risky pregnancies thanks to their familiarity with young mothers; they provided advice and mediated with families to solve conflictive situations and enable family support for these mothers.

> "A young girl from the secondary school visited me and asked for help to have an abortion. I calmed the girl and talked with her parents. (…) They understood and supported her during the rest of the pregnancy" (Traditional midwife #4, Municipality 1)

### *Increased Interaction With Western Health Services*

Some traditional midwives have participated in government programs and received training and materials like scissors to cut the umbilical cord or instruments to weigh and measure babies. Traditional midwives valued and applied pertinent knowledge that they receive in their training, even an elder one over 80 years old:

> " My son (…) told me the baby was born dead. (…) I was very worried (…). I remembered a training that I had in [the regional capital] some years ago, where a doctor told us what to do when the baby is born without signs of being alive. That is what I did (…) until the baby reacted and started crying (…) I am very happy because the baby is crawling now." (Traditional midwife #9, Municipality 2)

As far as the health staff permitted, traditional midwives would go with their patients to the hospital, and intercultural brokers facilitated communication in Spanish.

> "I disagree with the way the hospital is working now. The new girls [nurses] (…) do not let you go with the pregnant woman. The women do not like this because they want me to enter with them." (Traditional midwife #3, Municipality 2)

Having positive results during home childbirths motivated the interest and positive attitude of the Western health personnel and positive health outcomes reduced visits to health centres.

> "[After the treatment of my child's diarrhoea] I felt very happy because I was able to cure my child without having to go to the health centre. Then my sisters did the same with their children and they were healed. (…)The midwife was happy that I was able to cure my daughter and gave me more recipes to put into practice." (Intercultural broker #4, Municipality 1)

Positive attitudes of health personnel motivated and encouraged the practice of traditional midwives in a context of institutional restrictions and programs against them. It also increased collaboration with some Western providers, who even referred patients to traditional midwives or accepted childbirth at home.

> "The nurse was very happy (…). She thanked me and the intercultural broker for being present during childbirth [at the woman's house in the company of the nurse]. Later, the nurse organised a meeting with five traditional midwives, the intercultural broker and nine pregnant women. She invited us to work together. Before, the interaction with the nurse was very tense. Now she is open to working with us." (Traditional midwife #7, Municipality 1)

## Discussion

The stories of participants are compatible with the RCT intervention — supporting traditional midwives on their own terms — helping to revitalize traditional midwifery and to consolidate local skills for safe birth in cultural safety through intercultural brokerage. Several participants described more positive attitudes towards traditional practices among community members and reported increased use of local resources benefitting childbearing women before, during and after childbirth, including some complicated cases. The stories indicated likely additional impacts on primary health care of children and adults. Stories described women discussing health care alternatives and accessing institutional care, through translation and companionship to navigate the official health system. They described the intervention fostering early collaboration between traditional midwives and Western health care providers.

Among the actionable implementation issues, the stories identified a lack of continuity of intercultural brokers, limited commitment of some midwife apprentices and interpersonal challenges in building rapport between the midwives, their apprentices, and the intercultural brokers. Although the intervention included financial support for all three, all needed to work outside the project to cover their living expenses.

The stories described how pregnant women used both traditional and Western health care. As the two systems coexist, coordination and communication could improve access to the best option available. Primary health care offers an opportunity to consolidate mutual collaboration.[50] The stories collated here showed traditional midwives willing to collaborate when they feel respected and acknowledged. Part of the concern about traditional midwives as skilled birth attendance relates to early management of complications.[51] Participant accounts included early referrals, positive outcomes and successful use of local resources to manage complicated cases during pregnancy, childbirth and postpartum. These accounts suggest new areas of potential coordination with official health services.

Austard et al. reported that a navigation program reduced access barriers to facility-based care among indigenous childbearing women in Guatemala.[52,53] The program in

Guerrero also did this, not only as a one-way referral to facility-based care. It also extended the options for women to attend traditional practitioners for primary care. Incorporating concepts of cultural safety in medical education could advance this process with more positive attitudes of Western health personnel towards traditional practitioners.[54] Instead of attempting to retrain traditional midwives,[50,55] the intervention engaged with decolonizing approaches[56] fostering midwife apprenticeships and intercultural brokers.

The discussion on the best strategy to remunerate indigenous community health workers to avoid conditioning health actions on external incentives is ongoing.[57] The stories identified the commitment of local stakeholders to their communities as the primary motivator of their practice. Other studies have also found motivation of Indigenous health workers does not rely solely on payments.[58]

### *Strengths and Limitations*

Narrative inquiry uses stories to describe human action, experiences and interpretations of the world.[59] It is a powerful means to convey *paradigmatic understanding* based on concepts and arguments that articulate into logic theories of causality and to describe *narrative cognition* that deals with human intentions, vicissitudes and experiences located in time and place.[60] Story-based evaluation can therefore incorporate elements from both perspectives, enriching understanding of the issue under study.

The narratives of change recorded here gave insights into likely mechanisms of impact of the intervention according to participant experiences. These results are coherent with the confirmed impacts on safe birth and cultural safety tested using quantitative methods in the context of a cluster randomised controlled trial.[32]

Monolingual traditional midwives shared their stories in traditional language, and trained intercultural brokers wrote them in Spanish. During the workshop the research team had opportunity to cross confirm the content of the stories with the support of additional translators who triangulated the content as the write up progressed. The relative simplicity of the questions facilitated their translation into terms that traditional midwives could relate to.

The selection of participants and wording of the request for stories intentionally favoured stories of positive changes rather than problematic aspects of implementation. It is possible that participants who received direct support had more interest in presenting positive stories. The results of this application of the MSC did not pretend a full evaluation of impact but explore what worked well. Our confidence in the stories of midwives was increased by the detailed description in the accounts, often confirmed by the broker and apprentice.

Dart and Davis[35] reported beneficial effects on staff morale after using this technique in resonance with the strength-based approach to identify what is going on well, do more of it, and build on it.[61] This approach aligns with the increasing focus on positive experiences to identify the proper care for pregnant women.[62] Further research should evaluate sustainability of the identified changes.

## Conclusions

Narrative evaluation complemented the RCT quantification of the impact of an intervention to support traditional midwives on their own terms. The stories expanded our understanding of what can change with an intervention to promote cultural safety from the perspective of community members. Participants suggested traditional midwives can have an increased and safe role in the primary health care of women, children and other adults, even when patients need to go to the official health care system. The intervention seems to have improved interaction between traditional midwives and Western practitioners, but further intercultural dialogue is necessary to consolidate it and to extend its benefits. The role of intercultural brokers could be instrumental in this process. Longer term sustainability will require innovative remuneration strategies and independence of external support.

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### Author Contributions

IS designed the study, coordinated data collection and analysis and drafted the initial manuscript. NA designed the trial in Guerrero and conceived a qualitative mid-term evaluation. SP coordinated the intervention in support of traditional midwifery and led the local researchers. ADJ and NM helped as field coordinators and coordinated data collection in Xochistlahuaca and Acatepec, respectively. AC, CA and AM helped to organize the findings for this report. All authors read, contributed to, and approved the final manuscript.

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## Ethical Approval

The trial in Guerrero received ethical approval from all participating communities (2015) and the Ethics Committee of the *Centro de Investigación de Enfermedades Tropicales* of the *Universidad Autónoma de Guerrero* (reference 2013–014). McGill's Faculty of Medicine Institutional Review Board approved the narrative evaluation (reference A06-B28-17B). Participants provided oral consent using predefined formats authorized during the ethics reviews.

## Data Availability

The anonymised stories used in this study are available from the corresponding author on reasonable request. According to the agreements with participating communities, to ensure the protection of participants and governance of data, before the information can be shared, the requester will need to present a plan for data analysis. Also, the requester will need to complete the procedure for ethical approval of the secondary analysis in accordance with the procedures defined by the Ethics Committee of the *Centro de Investigación de Enfermedades Tropicales* of the *Universidad Autónoma de Guerrero*.

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