

The Xochistlahuaca pilot¹

Setting: The 28,000 Nancue ñomda (Amuzgo) in Xochistlahuaca (Xochis) municipality, in the foothills of the Sierra Madre, make up around 9% of indigenous peoples in Guerrero. During a 2008 baseline study of the entire municipality and neighbouring Tlacoachistlahuaca (Tlacos), we asked women of childbearing age who had assisted them during pregnancy. From this information we identified 16 (out of 48 traditional midwives) who had attended a sizable number of births in Xochis. We randomised these into two waves of intervention, with 8 midwives in each wave.

The intervention: Each intervention midwife received logistical support from a male indigenous health promoter; she also received financial support to pay an apprentice; and she had access to a simple community birth centre (purpose built, rented or loaned).

Analysis: Women who had been attended by the intervention midwives and had given birth to children under the age of two years at the time of impact evaluation in February 2012 were considered exposed to the intervention. The remainder were deemed unexposed. We adjusted the analysis for clustering and excluded non-indigenous households.

We compared outcomes at two different levels of generalizability: a) between Nancue ñomndaa (Amuzgo) populations in intervention and control sites within Xochis, with exclusion of other ethnic groups; b) between the intervention group in Xochis and all control sites, including other ethnic groups, in both Xochis and Tlacos.

Main outcomes

Women exposed to the intervention were **no more likely to have pregnancy complications** than those who were not thus exposed. This was true in the overall comparison, including the Mixteco of Tlacos (19/79 exposed and 325/1527 controls reported complications; OR 1.15, 95%CI 0.68-1.95) and in the Amuzgo only group in Xochis (19/79 exposed and 166/694 controls reported complications; OR 1.01 95%CI 0.58-1.74).

Women exposed to the intervention were, although not significantly so, **less likely to have birth complications** than those who were not thus exposed. In the overall comparison (9/79 exposed and 235/1481 controls reported complications; OR 0.68, 95%CI 0.34-1.38) and in the Amuzgo group in Xochis (9/79 exposed and 137/547 controls reported complications; OR 0.52 95%CI 0.26-1.06). As a statement of non-inferiority, the implication is (with 95%confidence), there could not have been more than 6% more birth complications.

Secondary outcomes

Secondary outcomes show other advantages for women attended by intervention parteras:

1. Women in the intervention group were **more likely to have a doctor or a traditional midwife by their side**. In other words, they were less likely to give birth on their own. In the overall comparison, (80/80 exposed and 1293/1525 controls had a doctor or a traditional midwife with them; Chi-sq 14.22 1df) and in the Amuzgo group in Xochis

(79/79 exposed and 632/694 controls had a doctor or a midwife; chi-sq 7.66).

2. They were **more likely to choose their birthing position**. This was true both in the overall comparison (50/80 exposed and 645/1501 controls reported they could choose their position; OR 2.29, 95%CI 1.45-3.62) and in the Amuzgo group in Xochis (49/78 exposed and 278/693 controls reported they could choose; OR 2.52 95%CI 1.57-4.04).

3. They were **less likely to get cut** (episiotomy) while giving birth. In the individual analysis, this was true in the overall comparison (1/80 exposed and 245/1487 controls reported episiotomies; OR 0.06 95%CI 0.01-0.28) and in the Amuzgo group in Xochistlahuaca (1/79 exposed and 104/687 controls reported episiotomies; OR 0.07 95%CI 0.02-0.33).

4. They were **less likely to get infected vaginal wounds**. This was true in the overall comparison (0/68 exposed and 103/1417 controls reported infected vaginal wounds; chi-square 5.31) and in the Amuzgo group (0/67 exposed and 25/634 controls reported infected vaginal wounds; chi-square 2.74).

5. And **they paid less**. In the intervention area they paid an average of M\$216 (standard deviation 415) and in the control overall M\$870 (standard deviation 2673). The variances were far from homogeneous (Bartlett Chi-sq 211, p=0.0000), and the Kruskal-Wallis H was 22.7 (p=0.000002).

6. Not significant at the 5% level, women in the intervention area, even if not attended by the midwife, were **one half as likely to report domestic violence** (5/221 in intervention area and 43/1417 than women in all control sites OR 0.54 95%CIca 0.17-1.71).

The pilot demonstrated feasibility of a cluster-randomised controlled trial in this setting. Unable to measure mortality, the pilot suggested non-inferior performance of traditional midwives using birth problems as the principal outcome. In the process, we built capacity in Mexico for intercultural, multi-disciplinary and multi-centred research that achieves scientific validity while taking full account of local, environmental and cultural particularities. The challenge now is to replicate this study in other settings, this time measuring possible consequences like social cohesion.

ⁱ Andersson N. Neonatal survival, cultural safety and traditional midwifery in indigenous communities of Guerrero State, Mexico. <http://www.controlled-trials.com/isrctn/pf/80090228>