Introduction

Most obstetric complications occur around the delivery period and often cannot be predicted. Therefore, skilled attendance at delivery and access to emergency obstetric and neonatal care are crucial for decreasing maternal mortality\(^3\) and neonatal mortality.\(^2\) There are enormous disparities in skilled attendant use within low- and middle-income countries, disadvantaging poor people and those living in rural areas.\(^3\) Many of these disparities stem from differences in geographic and financial access to services but, in some settings, barriers created by cultural differences are important.

Cultural background influences beliefs, norms and values in relation to childbirth and health service use; furthermore, certain ethnic groups experience discrimination by health staff, causing them to avoid services.\(^4\) Several Latin American studies find that indigenous women are much less likely to have skilled attendants at delivery than other population groups.\(^4\)\(^6\)

Setting

Ayacucho, in the south-central Andes, is one of Peru’s regions with the highest maternal mortality ratios. In 2000, the maternal mortality ratio was around 50 per 100,000 live births in Lima but more than 300 in Ayacucho.\(^7\) Three-quarters of Ayacucho’s population are indigenous and speak mostly the Quechua language. Poverty is extreme, educational levels are low and illiteracy is widespread, especially among women. The region was hit hard during the internal conflict between the Shining Path guerrilla group and the military in the 1980s.

In 1997, the international nongovernmental organization, Health Unlimited, started working in isolated communities in Ayacucho, initially by building links between local communities and the health system through training volunteer community health agents.\(^8\) In response to high maternal mortality, the plight of indigenous women with problems during labour and the lack of contact with the government health system, an intervention study that introduced culturally appropriate delivery services was initiated in Santillana (Huanta province) in 1999.

Santillana district had 6158 inhabitants in 1993 and 7305 inhabitants in 2005.\(^9\) Most people live in dispersed communities and work as subsistence farmers. Transport is mainly by foot, with public transport running once weekly from the district capital to some communities. The project involved the government health centre of the district capital with its catchment area of 17 villages.

The objective of the project was to increase delivery service use by building trust between health-care providers and communities and by making services responsive to the communities’ needs. The accompanying study aimed to document the implementation process for future replication and to evaluate the project’s impact.

Methods

The project of cultural adaptation of delivery services was conducted in four phases over 2 years starting in October 1999: (i) detailed formative research, (ii) design of a new culturally adapted delivery model, (iii) implementation of this...
model, and (iv) evaluation of implementation and impact. A fifth, post-project phase of monitoring and data collection is still ongoing, giving over 7 years of follow-up to date (Box 1).

Results

Design of the intervention

The intervention to make delivery services culturally appropriate involved features such as a rope and bench for vertical delivery position, inclusion of family and traditional birth attendants in the delivery process and use of the Quechua language. Table 1 summarizes selected findings from the first, formative research phase and how each of these translated into the new delivery model. All proposed solutions were implemented, except for the improvements in referral systems and retention of health professionals.

Satisfaction levels

After the new culturally adapted vertical delivery model was implemented in the health centre of San José de Secce in 2000, it was chosen by most women delivering there. By 2000, two-thirds of deliveries were done in the culturally adapted way, and this rose to more than 86% in 2001 and 94% in 2004. The evaluation survey after completion of the project in October 2001 showed that 49% of local women knew of the culturally adapted service, as did 72% of influential people (traditional birth attendants, community leaders and community health agents). All 16 women interviewed who had used the service reported that they felt comfortable in the delivery room, gave birth in their own clothes, had their husband present and received the placenta. Seventeen (approximately 90%) of the women were satisfied with the service and felt well-attended, would use it again and recommend it to others; 13 (approximately 80%) said Quechua was spoken; and 11 (approximately 70%) listed the rope and bench for vertical delivery as the best feature of the service. All seven health professionals interviewed were satisfied with the model, considered it successful in meeting population needs and increasing facility deliveries and wanted to continue using it.

Impact on delivery service use

Of 52 births in the area at baseline in 1999, only 3 (6%) were delivered in the health centre, 19 (37%) were attended by a health professional at home while the remaining 30 home births (58%) were attended by traditional birth attendants or family (Fig. 1).

While numbers are small, the changes after implementing the culturally appropriate service were striking: the percentage of deliveries in a health facility increased to 83% (2007) and the percentage of deliveries under skilled attendance to 95% (2007), with most of the change taking place in the first 2 years after implementation and a further shift from attended home deliveries towards facility deliveries thereafter (Fig. 1).

Other project achievements were that traditional birth attendants informed health centre personnel of pregnancies and births, sought their help and even started to refer women and newborns to the health centre, something that did not occur before the project and which reflected an improvement in the relationships between traditional birth attendants, community health agents and health centre personnel.

Sustainability of the model

The culturally adapted delivery model is still used by nearly all women delivering at the project health centre. The community health agents continue to provide family planning, antenatal care, delivery risks and other reproductive health topics, and posters and radio programmes about the changes were produced in the Quechua language.
work in the area and health officials in Santillana district have publicly thanked them for their crucial role. Data collection has continued after the end of the project.

In 2004, the health centre in San José de Secce was evaluated as the best health facility in Huanta province. The project is known to the Ministry of Health and has been labelled a “successful experience” for maternal health care. It was presented as an example to health facilities in the region and visitors have come to learn from its success.

Discussion

Global strategy documents for reducing maternal mortality cite the need for skilled attendants and even facility births. Yet in many settings such care, while potentially life-saving, can be unfriendly, degrading or even abusive to women. It can also expose them to unnecessary medical intervention and harmful medical practices that are not evidence-based. The literature shows the difficulties in changing provider behaviour.10

This study clearly demonstrates the feasibility of creating and implementing a model of skilled delivery attendance that integrates modern medical and traditional Andean elements. The key factor for the project’s success was its participatory approach which ensured that the delivery services really met the needs of the local population. This led to a dramatic increase in their use which has been sustained well beyond the initial project life. Lessons learned are summarized in Box 2.

While adequate funds are necessary to implement such a new model and ensure quality care and referral capacity, much can be achieved on a relatively small budget. The total budget of this project was US$ 68 125 with the implementation costs per health facility of around US$ 2500.

Limitations

That total births in the project area more than doubled over the observation period suggests underreporting during the first few years. However, since most of this underreporting is likely to be among home births, this implies that the true increase in facility births is probably even greater than observed. The small number of births and the lack of clear data on maternal or neonatal mortality are limitations of the study. We are aware that delivery service use can only save lives if both personal and
medical quality of care is assured and if emergency services are functioning.

**Outlook**

After finishing this project, Health Unlimited built similar delivery rooms in four other facilities in Ayacucho and also started an analogous project with two indigenous communities in the Peruvian Amazon rainforest. Unfortunately, the process of replication by governmental bodies is slow. Despite new training modules for health providers on “interculturality” and a Ministry of Health protocol from 2005 making vertical delivery position an option for all women nationwide, most health facilities still do not meet the cultural and basic human needs of indigenous women.

Rather, attempts to coerce the population into behaving in ways that health professionals desire are still common, as for example with the illegal practice of imposing *de facto* fines for providing birth certificates for children born at home, a practice used by some health professionals under pressure to meet targets. Instead of ascribing the high levels of home births to “cultural preferences” or “ignorance,” the health system should first strive to offer high quality and financially, geographically and culturally accessible services respecting the needs and human rights of the people they serve. The experience of San José de Secce, along with other similar projects in Peru show what can be achieved and how.

It is interesting to note that the only proposed solutions in this project that were not implemented, namely improvements in referral systems and retention of health professionals, are those linked to wider health systems issues not controlled by local health professionals. As clearly expressed by Sundari, “the existing state of affairs in the health-care system that contributes to high maternal mortality is not the consequence of mere inept planning or poor organizational and managerial capacity. It is a reflection of the priorities set by an elitist system in which the poor and powerless do not count”. To change this requires strategic decisions to address the systemic inequities in the Peruvian health care system and society as a whole. It also requires the active involvement of the marginalized sections of society and a respectful attitude to women and traditional cultures.

**Fig. 1.** Change in place of birth and delivery assistance as a percentage of births per year between 1999 and 2007, Ayacucho, Peru.

**Box 2. Lessons learned for culturally adapted delivery care**

1. Facilitated dialogues between health professionals and the communities are crucial in building mutual respect. Community health agents are an important link.
2. Health professionals need to have a sense of urgency, recognize that the existing services are not meeting the population’s needs and be willing to allow the full participation of all actors in deciding what type of services should be offered.
3. Simple changes such as respecting certain preferences or language or allowing the company of relatives can have a massive impact both on service satisfaction and use.

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Claudia Lema, Eduardo Bedriñana and Rosa Malca are also affiliated with the Peruvian Programme, Health Unlimited, Ayacucho, Peru. J Jaime Miranda is also affiliated with Salud Sin Límites Perú, Miraflores, Lima, Peru.

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Résumé
Adaptation culturelle des services d'accouchement dans l'Ayacucho rural, au Pérou

Problématique Parmi les femmes indigènes pauvres du Pérou rural, la mortalité maternelle est particulièrement élevée et le recours aux soins en établissement est faible, en partie du fait du manque d'adaptation sur le plan culturel du système de soins de santé.


Contexte local L'organisation non-gouvernementale internationale Santé sans frontières et son partenaire au Pérou, l'organisation Salud Sin Limites Perú, ont mené le projet dans le district de Santillana, dans l'Ayacucho.

Modifications pertinentes Le modèle couvrait des aspects tels que l'utilisation d'une corde et d'un banc pour l'accouchement en position verticale, la participation de la famille ou d'accoucheuses traditionnelles à l'accouchement et l'utilisation de la langue Quecha. La proportion des naissances intervenues dans un établissement de soins est passée de 6% en 1999 à 83% en 2007, avec des niveaux de satisfaction élevés.

Enseignements tirés La mise en œuvre d'un modèle d'accouchement assisté par du personnel qualifié intégrant des éléments médicaux modernes et des éléments Andins traditionnels est faisable durablement. Les femmes indigènes n'ayant reçu qu'une éducation formelle très limitée font appel à ces services si leurs besoins sont satisfaits. Cette observation contredit les attitudes faisant porter la responsabilité aux victimes qui attribuent les taux élevés de naissance à domicile à « des préférences culturelles » ou à « l'ignorance ».

Resumen
Adaptación cultural de los servicios de maternidad en el Ayacucho rural, Perú

Problemática La mortalidad materna es particularmente alta entre las mujeres pobres indígenas de las zonas rurales del Perú. El uso que estas hacen de los servicios asistenciales es bajo, en parte porque el sistema de atención de salud adolece de insensibilidad a los factores culturales.

Enfoque Se desarrolló un modelo de atención obstétrica culturalmente idóneo para comunidades rurales pobres y aisladas. Dicho modelo se puso en práctica entre 1999 y 2001 en cooperación con profesionales sanitarios y comunidades indígenas quechuas, y posteriormente se reunieron datos sobre el lugar del parto y la atención recibida hasta 2007.

Contexto local La organización no gubernamental internacional Health Unlimited y su organización asociada peruana, Salud Sin Limites Perú, dirigieron el proyecto en el distrito de Santillana de Ayacucho.

 Cambios destacables El modelo incluye componentes tales como el uso de una cuerda y un banco para el parto vertical, la participación de familiares y de parteras tradicionales en el alumbramiento y el uso del quechua. La proporción de nacimientos atendidos en centros de salud aumentó del 6% en 1999 al 83% en 2007, con niveles altos de satisfacción.

Enseñanzas extraídas La aplicación de un modelo de atención al parto por personal cualificado que integra elementos médicos modernos y elementos andinos tradicionales es una opción viable y sostenible. Si se atienden las necesidades, las mujeres indígenas con bajo nivel de instrucción usan efectivamente los servicios de maternidad. Ello contradice una actitud extendida de culpabilización de las víctimas que atribuye el alto nivel de partos a domicilio a las «preferencias culturales» o a la «ignorancia».
Lessons from the field
Birthing services in rural Peru

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