Implementing community-based perinatal care: results from a pilot study in rural Pakistan

Zulfiqar A Bhutta,[a] Zahid A Memon,[a] Sajid Soofi,[a] Muhammad Suhail Salat,[a] Simon Cousens[b] & Jose Martines[c]

Objective This pilot study investigated the feasibility of delivering a package of community-based interventions for improving perinatal care using lady health workers (LHWs) and traditional birth attendants (*Dais*) in rural Pakistan.
Methods The intervention was implemented in four of eight village clusters (315 villages, total population 138 600), while four served as a comparison group. The LHWs in intervention clusters received additional training focused on essential maternal and newborn care, conducted community education group sessions, and were encouraged to link up with local *Dais*. The intervention was delivered within the regular government LHW programme and was supported by the creation of voluntary community health committees.
Findings In intervention villages, there were significant reductions from baseline in stillbirth (from 65.9 to 43.1 per 1000 births, $P < 0.001$) and neonatal mortality rates (from 57.3 to 41.3 per 1000 live births, $P < 0.001$). The proportion of deliveries conducted by skilled attendants at public sector facilities also increased, from 18% at baseline to 30%, while the proportion of home births decreased from 79% to 65%. A household survey indicated a higher frequency of key behaviours (e.g. early and exclusive breastfeeding, delayed bathing and cord care) in intervention villages.
Conclusion The improved stillbirth and neonatal mortality rates observed indicate that community health workers (i.e. LHWs and *Dais*) can be effective in implementing a community and outreach package that leads to improved home care practices by families, increased care-seeking behaviour and greater utilization of skilled care providers. These preliminary observations require confirmation in an adequately powered trial.

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Une traduction en français de ce résumé figure à la fin de l'article. *Al final del artículo se facilita una traducción al español.* الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Background

Globally, some 4 million neonatal deaths occur each year, the majority within the first few days of birth in communities with poorly developed health systems.[1] There is evidence that a small number of effectively delivered interventions could substantially reduce newborn deaths in low-income communities.[2,3] Although a few, large-scale, community-based randomized trials have been carried out, understanding of how these interventions can best be delivered in public health-care systems is limited.[3–6] Consequently, there is an urgent need to evaluate the effectiveness of intervention programmes.[7]

We developed a package of interventions for improving perinatal and newborn care that could be implemented by lady health workers (LHWs), traditional birth attendants (*Dais*) and members of the local community in rural Pakistan. Here we present our experience and the findings of a pilot study that involved implementing the package of interventions in a rural part of Sindh province, in preparation for a larger randomized trial. The trial is registered in the International Standard Randomised Controlled Trial Registry (ISRCTN16247511).

Methods

Study site

The Hala and Matiari subdistricts (hereafter called Hala), located 250 km north of Karachi, comprise two towns and 1400 villages with a population of 0.6 million. The population largely works on the land and development indicators are typical of rural Sindh. A household survey conducted in 2000–2001 reported infant and neonatal mortality rates of 82 and 43 per 1000 live births, respectively.[8] In 2002, a memorandum of understanding was signed between Aga Khan University in Karachi and the Directorate of Health of the government of Sindh to undertake collaborative work on maternal and newborn care in the area.

Pre-existing health infrastructure and services

In Pakistan, a typical district health infrastructure comprises basic health units, rural health centres and a referral hospital. However, in many rural settings, staffing levels are inadequate and referral systems function poorly. Almost 70% of births take place at home, usually attended by a *Dai*.[9] Basic health units do not function after 14:00 and some do not have trained medical staff. Current training programmes for public sector nurses and physicians place little emphasis on common early neonatal problems.

To address some of these limitations, the government of Pakistan

[a] Department of Paediatrics and Child Health, Aga Khan University, Karachi, Pakistan.
[b] London School of Tropical Medicine and Hygiene, London, England.
[c] Department of Child and Adolescent Health, World Health Organization, Geneva, Switzerland.
Correspondence to Zulfiqar A Bhutta (e-mail: zulfiqar.bhutta@aku.edu).
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introduced the Lady Health Workers (LHW) programme in 1994. Women from local communities, with at least 8 years of formal education, undergo 6 months of training to deliver care in the home,[10] and each LHW is responsible for a population of about 1000 (i.e. approximately 200 families). By the end of 2006, some 93 000 LHWs had been trained and they covered 60–70% of the rural population. The official stipend for LHWs is 1800 Pakistan rupees (approximately US$ 30) per month plus local travel costs. Although LHWs receive no training in delivering babies, they should liaise closely with *Dais* and medical staff at basic health units or rural health centres to monitor growth and to provide antenatal care, contraceptive advice and immunization services. An external evaluation of the LHW programme concluded that it was effective in delivering family planning services and immunization services and in the management of diarrhoea.[11,12] However, indicators of newborn care were not evaluated.

Development and implementation of the intervention package

We developed an intervention package that involved the community and the two main providers of primary care: the LHWs and *Dais*. The intervention consisted of three components:

1. LHW training in home-based newborn care

An enhanced module was developed in collaboration with the Directorate of Health for incorporation into the regular LHW training programme. It covered community mobilization, basic newborn care and group counselling. Box 1 lists the topics covered by both the standard LHW training programme and the additional module used in the intervention. Standard LHW training takes 18 months, including 3 months of lectures. Our training programme added an extra day every 3 months, making a total of 6 extra days. The LHWs were encouraged to identify all pregnant women in their area, to provide basic antenatal care and to work with the *Dais* to identify when the birth would occur. In addition, LHWs were encouraged to visit mothers at specific times: twice during pregnancy, within 24 hours of birth, and on days 3, 7, 14 and 28 after delivery. No resuscitation equipment or injectable antibiotics were provided, and only travel costs were reimbursed.

2. Dai *training for basic newborn care*

The *Dais* largely work independently of the public health sector. The last large-scale *Dai* training programme in Pakistan was conducted almost three decades ago but no system for supervision or follow-up was put in place.[13] We developed a 3-day voluntary training programme in basic newborn care for *Dais*, which included basic resuscitation and immediate newborn care. Only the cost of transport and meals was reimbursed. The *Dais* were also encouraged to attend LHW-led community education sessions. Training for LHWs and *Dais* was carried out between August and September 2003.

3. Community organization and mobilization and group education sessions

Two community mobilizers from Aga Khan University assisted LHWs in identifying community volunteers, who helped set up community health committees for maternal and newborn care in their villages in close liaison with LHWs. These committees supported LHWs in conducting 3-monthly group education sessions in the intervention villages and helped to establish an emergency transport fund for mothers and newborns. Sessions were attended by women of reproductive age, adolescent girls and older women. The LHWs used standard materials, specially developed flip charts and a two-part video docudrama on pregnancy and newborn care made in the local language to promote the knowledge and behaviour detailed in Box 1.

In communities in which the intervention package was not implemented, the LHW training programme continued as usual, with regular refresher sessions, but no attempt was made to link LHWs with the *Dais*. Special training in basic and intermediate newborn care was offered to all public-sector rural health centre and hospital-based medical and nursing staff, irrespective of whether the intervention was implemented in their community. All health-care facilities were provided with basic and intermediate newborn care equipment courtesy of the United Nations Children's Fund (UNICEF) in Sindh.

Data collection

In total, 24 village clusters were identified from the catchment areas of primary care facilities. They comprised the estimated sample required for the final cluster-randomized trial.[14] Each cluster contained a basic health unit or a rural health centre which provided the training base for the corresponding LHW. Eight clusters were randomly selected for this pilot study. A baseline household and facility survey was carried out in these eight clusters between May and June 2003 to assess their socioeconomic characteristics and baseline perinatal and neonatal mortality rates,

Box 1. **Curriculum of the lady health worker training programme**

Standard curriculum (all village clusters)

1. Promotion of antenatal care
2. Iron and folate use in pregnancy
3. Immediate newborn care
4. Cord care (cleaning and avoiding the use of traditional materials, such as ash and lead powder)
5. Promotion of exclusive breastfeeding

Additional curriculum (for intervention village clusters)

1. Promotion of adequate maternal nutrition and rest
2. Early breastfeeding (within the first hour) and colostrum administration (avoidance of prelacteal feeds)
3. Thermoregulation
4. Home care of low-birth-weight infants
5. Treatment of neonatal pneumonia with oral trimethoprim-sulphamethoxazole
6. Recognizing sick newborns and danger signs requiring
7. Training in group counselling and communication strategies

Table 1. **Baseline characteristics of the intervention and control village clusters, June–August 2003**

Characteristics	Intervention village clusters					Control village clusters				
	Bhanoth	Bhit Shah	KK Nizamani	Suhrab Pur	Total	Miran Pur	Khyber	Khandu	Pir Jhando	Total
Demographic characteristics										
Population	12 461	25 099	20 741	15 782	74 083	12 953	26 025	14 852	10 687	64 517
Households	1 630	3 810	3 170	2 538	11 148	1 828	3 941	2 184	1 592	9 545
Villages	28	35	50	37	150	27	60	46	32	165
Women of reproductive age	3 085	6 397	5 416	3 850	18 748	3 186	6 240	3 740	2 646	15 812
Pregnant women	388	630	575	463	2 056	387	644	380	280	1 691
Live births	474	866	663	493	2 496	430	895	553	441	2 319
Stillbirths	34	51	66	25	176	23	53	36	31	143
Total births	508	917	729	518	2 672	453	948	589	472	2 462
Early neonatal deaths	22	33	43	22	120	20	32	25	13	90
Late neonatal deaths	3	8	4	8	23	8	11	7	5	31
Total neonatal deaths	25	41	47	30	143	28	43	32	18	121
Perinatal deaths	56	84	109	47	296	43	85	61	44	233
Perinatal mortality rate (per 1000 live births)	110.24	91.60	149.52	90.73	110.8	94.92	89.66	103.57	93.22	94.64
Stillbirth rate (per 1000 births)	66.9	55.6	90.5	48.3	65.9	50.8	55.9	61.1	65.7	58.1
Early neonatal mortality rate (per 1000 live births)	46.4	38.1	64.9	44.6	48.1	46.5	35.8	45.2	29.5	38.8
Late neonatal mortality rate (per 1000 live births)	6.3	9.2	6.0	16.2	9.2	18.6	12.3	12.7	11.3	13.4
Total neonatal mortality rate (per 1000 live births)	52.74	47.34	70.89	60.85	57.29	65.12	48.04	57.87	40.82	52.18
Socioeconomic indicators										
Home ownership (%)	89.8	90.4	77.4	88.7	86.3	93.4	71.2	85.1	74.1	79.2
Households with electricity (%)	85.3	91.1	80.1	89.6	86.7	92.7	67.6	56.1	65.9	69.5
Firewood used for cooking (%)	98.8	77.4	97.7	99.2	90.8	99.3	93.0	99.7	98.7	96.7
Functional dry toilets (%)	57.6	43.9	58.0	80.0	56.9	73.5	56.4	74.8	76.8	67.5
Water pump in village (%)	53.1	58.5	71.7	86.9	66.6	64.7	68.2	27.5	55.1	55.9
Open drainage system for waste and sewage disposal (%)	51.0	47.3	32.3	12.7	37.3	16.6	30.8	12.9	18.1	21.8

which were based on all births and deaths in the preceding 12 months. Subsequently, the four clusters chosen to receive the intervention were matched with four control clusters for population size and birth and neonatal mortality rates.

In addition to the baseline survey, two further cross-sectional surveys of all households were conducted by a separate team in both the middle (June–July 2004) and at the end (August –September 2005) of the pilot study to collect data on births, deaths and care-seeking behaviour in the preceding 12 months. The LHWs also routinely recorded information on births and deaths. Information on referrals was collected from the LHWs, the *Dais* and community health committees, and a team of trained anthropologists carried out verbal and social autopsies of stillbirths and neonatal deaths.

Finally, in September 2005, a team of anthropologists undertook a more detailed survey of 400 randomly selected households from each study arm in which there had been a live birth in the preceding 12 months. This survey collected information on maternal knowledge and behaviour with regard to newborn care and on care provision by various care providers.

Results

Table 1 shows the baseline demographic and socioeconomic characteristics of the eight village clusters and

details of births and newborn deaths. On average, more households in the intervention clusters had electricity (87% versus 70% in the control clusters) and water pumps (67% versus 56%, respectively) but overall stillbirth, perinatal and neonatal mortality rates were comparable.

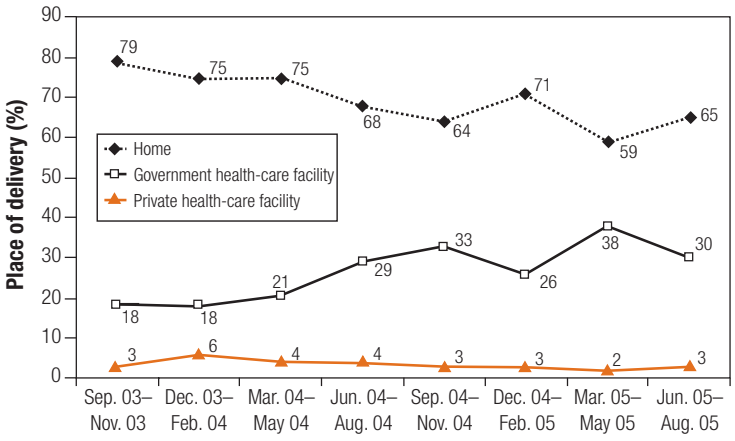
Implementation

Eight training sessions were organized for *Dais* between August and September 2003. Of the 150 *Dais* identified in the intervention clusters, 104 (69%) attended an average of two training sessions each. All 96 LHWs in the intervention clusters attended additional training in home-based newborn care. Of the 150 villages in the intervention clusters, 129 (86%) established community health committees and 46 (31%) set up an emergency transport and treatment fund. Four training sessions in primary- and intermediate-level newborn care were held for physicians at the health facilities in both intervention and control clusters. All LHWs continued to receive regular refresher training sessions.

According to LHW records, over the 2-year period from August 2003 to August 2005, 875 community group education sessions were held in the intervention clusters, averaging one session per LHW every 4 months. In total, around 18 500 individuals attended these sessions. Of these, 64% were aged 14–30 years, 68% were married, 17% were pregnant and 11% were mothers-in-law. In almost half the sessions (47%), the LHW used the video docudramas to facilitate discussion.

Retention of health-care staff was an issue. Of the 28 medical officers in the eight clusters initially trained in neonatal care and resuscitation, 19 (68%), including the paediatrician at the single district referral hospital, were transferred during the course of the pilot study. There were three different director-generals of health for Sindh province during the period 2002–2005, which made it more difficult for project staff to communicate and build a consensus with health system managers and staff. However, more encouragingly, all LHWs in the study area remained in place.

Fig. 1. **Change in place of delivery for women from intervention villages, during the study**



Effectiveness

This pilot study was not designed for statistical evaluation and, consequently, analysis of the intervention's impact was constrained by the small number of clusters. However, the data obtained are encouraging.

The records of LHWs and health facilities in the intervention clusters show that the proportion of births taking place at home declined in the intervention villages from 79% at baseline to 65% at the end of the study period (P = 0.01). This was largely explained by the increase in the proportion of births at which a skilled attendant in a public sector facility was present, which rose from 18% at baseline to 30% at the end of the study (P = 0.03; Fig. 1). The proportion of infants weighed and examined by a LHW within 48–72 hours of birth increased from 58% at baseline to 87% at the end of the study.

The average stillbirth rate at baseline in the intervention clusters was slightly higher than in control clusters, at 65.9 versus 58.1 per 1000, as was the average neonatal mortality rate, at 57.3 versus 52.2 per 1000 (Table 1). Moreover, the stillbirth rate varied significantly across the eight clusters (range 48.3–90.5 per 1000; P = 0.04), but the neonatal mortality rate did not (range 40.8–70.9 per 1000; P = 0.33).

Fig. 2. **Change in still birth rate and in early and late neonatal birth rates, in intervention and control village clusters**

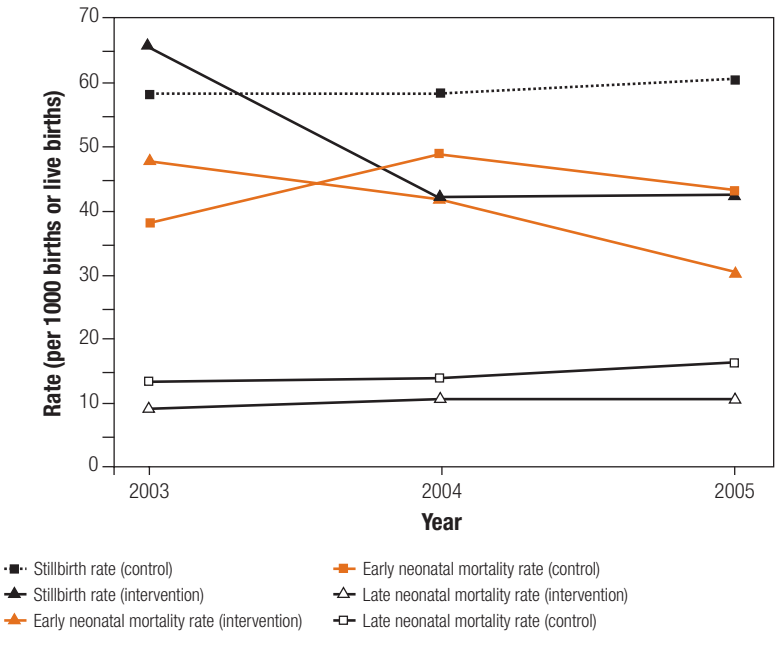


Table 2. **Birth and neonatal mortality data following the intervention, June–August 2005**

Characteristics	Intervention village clusters					Control village clusters				
	Bhanoth	Bhit Shah	KK Nizamani	Suhrab Pur	Total	Miran Pur	Khyber	Khandu	Pir Jhando	Total
Pregnant women	268	510	386	314	1478	294	537	298	272	1401
Live births	508	1028	730	666	2932	532	952	668	458	2610
Stillbirths	29	46	31	26	132	41	66	31	30	168
Total births	537	1074	761	692	3064	573	1018	699	488	2778
Early neonatal deaths	18	28	18	26	90	20	39	30	24	113
Late neonatal deaths	3	12	8	8	31	5	14	13	11	43
Total neonatal deaths	21	40	26	34	121	25	53	43	35	156
Perinatal deaths	47	74	49	52	222	61	105	61	54	281
Stillbirth rate (per 1000 births)[a]	54.0 (-19.3)	42.8 (-23.0)	40.7 -55.0	37.6 (-22.2)	43.1 (-34.6)	71.6 (+40.9)	64.8 (+16.0)	44.4 (-27.4)	61.5 (-6.4)	60.5 (+4.1)
Early neonatal mortality rate (per 1000 live births)[a]	35.4 (-23.7)	27.2 (-28.5)	24.7 (-62.0)	39.0 (-12.5)	30.7 (-36.2)	37.6 (-19.2)	41.0 (+14.6)	44.9 (-0.7)	52.4 (+77.8)	43.3 (+11.6)
Late neonatal mortality rate (per 1000 live births)[a]	5.9 (6.3)	11.7 (+27)	11.0 (+82.6)	12.0 (-25.9)	10.6 (+14.9)	9.4 (-49.5)	14.7 (+19.7)	19.5 (+53.7)	24.0 (+111.8)	16.5 (+23.2)
Total neonatal mortality rate (per 1000 live births)[a]	41.3 (-21.6)	38.9 (-17.8)	35.6 (-49.8)	51.1 (-16.1)	41.3 (-28.0)	47.0 (-27.8)	55.7 (+15.9)	64.4 (+11.2)	76.4 (+87.2)	59.8 (+14.6)
Perinatal mortality rate (per 1000 births)[a]	87.5 (-20.6)	68.9 (-24.8)	64.39 (-56.9)	75.1 (-17.2)	72.5 (-34.6)	106.5 (+12.2)	103.1 (+15.0)	87.3 (-15.7)	110.7 (+18.7)	101.2 (+6.9)

[a] Values in parentheses are the percentage change from baseline.

In each of the four intervention clusters, stillbirth and neonatal mortality rates were lower following the intervention than before (Table 1 and Table 2). The average stillbirth rate decreased from 65.9 to 43.1 per 1000 births (Mantel-Haenszel risk ratio: 0.66; 95% confidence interval, CI: 0.53–0.83; $P < 0.001$), while the neonatal mortality rate decreased from 57.3 to 41.3 per 1000 live births (Mantel-Haenszel risk ratio: 0.72, 95% CI: 0.56–0.91; $P = 0.006$). In control clusters, the pattern was less clear (Fig. 2). The stillbirth rate was largely unchanged (Mantel-Haenszel risk ratio: 1.04; 95% CI: 0.84–1.30; $P = 0.23$) as was the neonatal mortality rate (Mantel-Haenszel risk ratio: 1.14; 95% CI: 0.91–1.44; $P = 0.26$). During the study, 13 maternal deaths were recorded in 5542 pregnancies; 5 in the 2932 pregnancies in the intervention clusters and 8 in the 2610 in the control clusters.

The survey of maternal knowledge and behaviour and care provision carried out in randomly selected villages after the intervention demonstrated important differences between intervention and control villages in terms of household behaviour and the care provided by LHWs (Table 3). These data support the information obtained from LHWs on antenatal care, breastfeeding and postnatal visits. In particular, 21 households (5.3%) in the intervention villages reported that an LHW had been present at the delivery compared with only three (1.4%) in control villages. Moreover, 113 families (64.6%) in intervention villages reported that a LHW had visited them within a week of the birth, with 64 families (56.0%) being visited within the first 48 hours. Information was also available on 396 episodes of newborn illness that was recognized and treated by, or referred on by, an intervention LHW. Of these, 245 (62%) were managed successfully at home. Of the 151 sick newborns who were referred for treatment, we were able to track 109 (72%) who sought care in public sector facilities. It was not possible to track those referred to the private sector. Importantly, 150 women (38%) in the intervention villages who were interviewed reported that the village community health committee had played an important supportive and facilitative role during pregnancy and childbirth.

Discussion

Notwithstanding the difficulties associated with the transfer of medical personnel, our data suggest that the intervention package influenced newborn care in the home and care-seeking behaviour. However, the study had several limitations that should be recognized.

Study limitations

Although village clusters in this pilot study were matched for mortality, public sector health facilities and *Dais* available, the groups differed in some important respects. In particular, the number of LHWs per inhabitant was higher in intervention villages. In addition, as routine data collection by LHWs was strengthened in the intervention clusters only, so as not to alter LHW behaviour in control villages, only limited data on LHW performance in control clusters were available. Although encouraging, the findings must be regarded as preliminary and need to be corroborated by the planned larger effectiveness trial, whose results are expected in late 2008. Nevertheless, these data are the first on the effectiveness of using existing health-

care workers (i.e. LHWs and *Dais*) to deliver a package of interventions.

The unchanged perinatal and neonatal mortality rates observed in control clusters are consistent with recent findings from the 2007 Demographic and Health Survey, which indicates that neonatal mortality rates in Pakistan have not changed in over a decade.[15]

Factors contributing to the observed effects

While our results appear similar to those of Jhokio et al. in rural upper Sindh,[16] there are important differences. Jhokio et al. focused on training *Dais* and linking them with existing health system staff, which led to a reduction in perinatal mortality. Our training programme for *Dais* was much less intensive and our intervention focused principally on community behaviour and LHW training. Although the overall number of skilled attendants in the area did not change during the period 2003–2005, the proportion of births at which skilled attendants within public sector facilities were present, especially in the main Hala referral hospital and in rural health centres in the catchment area, increased substantially in the intervention clusters. These findings support previous studies, which found that community support strategies and the creation of demand affect care-seeking behaviour and neonatal mortality.[5,17]

Feasibility of strengthening the LHW programme

The LHW programme is the mainstay of primary care for reproductive health services in rural Pakistan.[11,12,18,19] Our preliminary findings indicate that LHWs, working with traditional birth attendants and skilled care providers, can play a major role in implementing interventions that affect maternal and newborn care. As in northern Pakistan, our findings suggest that community group counselling sessions may be a powerful, low-cost and effective means of reaching a large number of women in rural settings and may also influence other community members.[20] The innovative use of information, education and communication materials and docudramas was consistent with the government's media policy for health education.

The survey of maternal knowledge and behaviour and care provision carried out in randomly selected villages at the end of the pilot study indicated that promising changes took place in key household behaviours and practices. These positive findings were also observed in Nepal where community support groups assisted by experienced community mobilizers conducted monthly group meetings in wards with an average population of 700–800.[21] In contrast, our intervention was less intensive as an average of one group session took place every 3 months per 1000 population as part of a routine health programme.

Table 3. **Perinatal care and care provision reported after the intervention in randomly selected intervention and control villages**

Characteristics	Sample of intervention village clusters (*N* = 395)		Sample of control village clusters (*N* = 375)	
	n	%	*n*	%
Antenatal check-up during last pregnancy	313	79.2	247	65.9
Proportion who received maternal and newborn health information during pregnancy	334	84.6	93	24.8
Main source of maternal and newborn health information during last pregnancy (out of 334 and 93 in intervention and control villages, respectively)				
LHW	288	86.2	33	35.5
Dai	10	3.0	10	10.8
Doctor	18	5.4	43	46.3
Domiciliary visit by LHW during the last pregnancy	273	69.1	21	28.4
Receipt of tetanus toxoid during pregnancy	310	78.5	246	65.6
Procurement of clean delivery kit before delivery	249	63.0	5	1.3
Delivery in government health facility	121	30.6	48	12.8
Presence of LHW during delivery	21	5.3	3	1.4
Application of traditional materials to the cord	176	44.6	300	80.0
Bathing the baby within 6 hours of birth	198	50.1	113	30.1
Colostrum administration	299	75.7	149	39.7
Breastfeeding within an hour of birth	261	66.1	79	21.1
Exclusive breastfeeding for first 4 months	190	48.1	117	31.2
Postnatal visit by LHW in the week after birth	113	64.6	39	18.1
Newborn examination within the first 48 hours after birth	64	56.0	15	38.5
Support received during pregnancy from the community health committee	150	38.0	19	5.1

LHW, lady health worker.

Conclusions

Our data provide evidence that newborn outcomes can be influenced by a package of interventions implemented using a community care and outreach strategy within the existing health-care system.[2,3,22] In contrast to other studies of domiciliary care,[4,23] no injectable antibiotic or resuscitation equipment was provided to LHWs since a referral system, though weak, did exist in the area. We did, however, strengthen training for staff working in primary and secondary health-care facilities in both intervention and control villages. The increased involvement of skilled attendants at public health facilities that was observed underscores the importance of strengthening the health-care system to complement the community-based approach.[24]

These promising preliminary findings still have to be confirmed by a larger randomized trial, which is now

underway in 16 village clusters covering a population of approximately 318 000 and whose results should be available in late 2008. If these preliminary findings are confirmed, they will indicate one way to address the challenge of improving newborn health and survival in community settings in developing countries. ■

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Résumé

Mise en œuvre des soins périnatals en communauté : résultats d'une étude pilote dans le Pakistan rural

Objectif L'étude pilote a examiné la faisabilité de délivrer un ensemble d'interventions communautaires visant à améliorer les soins périnatals et faisant appel à des agents de santé féminins (LHW) et à des accoucheurs traditionnels (*Dais*) dans le Pakistan rural.

Méthodes L'intervention a été mise en œuvre dans quatre parmi huit groupes de villages (soit au total : 315 villages et une population totale de : 138 600 habitants), les quatre autres servant de groupe de comparaison. Les LHW de groupes de villages bénéficiant de l'intervention ont reçu une formation supplémentaire axée sur les soins essentiels à la mère et au nouveau-né, ont mené des séances d'éducation communautaire en groupe et ont été encouragées à se mettre en relation avec les *Dais* locaux. L'intervention a été délivrée dans le cadre du programme gouvernemental LHW régulier et a été appuyée par la mise en place de comités sanitaires communautaires constitués de volontaires.

Résultats Dans les villages bénéficiant de l'intervention, on a constaté une baisse notable, par rapport au niveau de référence, de la mortinatalité (de 65,9 à 43,1 pour 1000 naissances, $p < 0,001$) et des taux de mortalité néonatale (de 57,3 à 41,3 pour 1000 naissances vivantes, $p < 0,001$). La proportion d'accouchements assistés par du personnel qualifié a également augmenté dans les établissements publics, passant de 18 % au départ à 30 %, tandis que celle des naissances à domiciles diminuait de 79 à 65 %. Une enquête auprès des ménages a indiqué une plus grande fréquence de certains comportements clés (allaitement au sein précoce et exclusif, report du bain et des soins du cordon, par exemple) dans les villages concernés par l'intervention.

Conclusion La réduction observée de la mortinatalité et des taux de mortalité néonatale indique que les agents de santé communautaires (à savoir les LHW et les *Dais*) peuvent jouer un rôle efficace dans la mise en œuvre d'un ensemble de prestations communautaires et de proximité, entraînant une amélioration des soins pratiqués à domicile par les familles et un plus grand recours aux soins et à des prestateurs de soins qualifiés. Ces observations préliminaires doivent être confirmées par un essai suffisamment puissant.

Resumen

Implantación de la atención perinatal comunitaria: resultados de un estudio piloto realizado en el Pakistán rural

Objetivo Se decidió investigar mediante un estudio piloto la viabilidad de la implantación efectiva de un paquete de intervenciones comunitarias de mejora de la atención perinatal basadas en el uso de trabajadoras sanitarias (*lady health workers,* LHW) y parteras tradicionales (*Dais*) en el Pakistán rural.

Métodos La intervención se llevó a cabo en cuatro de ocho grupos de aldeas (en total: 315 aldeas y 138 600 habitantes), utilizando los otros cuatro para comparar los resultados. Las trabajadoras sanitarias de los grupos de intervención recibieron capacitación adicional centrada en servicios esenciales de atención de la madre y el recién nacido, dirigieron sesiones de grupo de educación comunitaria, y fueron alentadas a estar en contacto con las *Dais* locales. La intervención se llevó a cabo en el marco del programa habitual de LHW del gobierno, y para apoyarla se crearon comités voluntarios de salud comunitaria.

Resultados En las aldeas de intervención se registraron reducciones considerables de las tasas de mortinatalidad (de 65,9 a 43,1 por 1000 nacimientos, $P < 0,001$) y de mortalidad neonatal (de 57,3 a 41,3 por 1000 nacidos vivos, $P < 0,001$) respecto a los valores basales. Además aumentó la proporción de partos atendidos por parteras cualificadas en centros del sector público, desde el 18% de referencia hasta un 30%, mientras que la proporción de partos domiciliarios disminuyó del 79% al 65%. Una encuesta de hogares mostró una mayor frecuencia de comportamientos cruciales (como por ejemplo la lactancia materna temprana y exclusiva, la posposición del primer baño y el manejo del cordón umbilical) en las aldeas de intervención.

Conclusión La mejora observada en las tasas de mortinatalidad y mortalidad neonatal indica que los agentes de salud comunitarios (en este caso LHW y *Dais*) pueden aplicar eficazmente un paquete de medidas comunitarias de extensión que propicie prácticas mejoradas de atención domiciliaria por las familias, una mayor búsqueda de atención y un mayor recurso a proveedores de atención especializados. Estas observaciones preliminares deberán ser confirmadas mediante un ensayo más robusto.

ملخص

تطبيق الرعاية المجتمعية في الفترة المحيطة بالولادة: نتائج دراسة ارتيادية في ريف باكستان

الهدف: بحثت هذه الدراسة جدوى تقديم حزمة تدخلات مجتمعية لتحسين الرعاية في الفترة المحيطة بالولادة، وذلك باستخدام عاملات صحيات، ودايات ماهرات، في ريف باكستان.

الطريقة: طُبِّق هذا التدخل في أربع، من بين ثماني مجموعات قروية (315 قرية بإجمالي عدد سكان 600 138 نسمة)، بينما مثّلت المجموعات الأربع الأخرى مجموعات للمقارنة. وتلقّت العاملات الصحيات تدريباً إضافياً تركّز على جوانب الرعاية الأساسية للأمهات والولدان، كما أجرين جلسات جماعية للتوعية المجتمعية، وتم تشجيعهن على الانخراط مع الدايات المحليات. وقُدِّم هذا التدخل في إطار البرنامج الحكومي النظامي للعاملات الصحيات، كما تلقّى دعماً تمثل في إنشاء لجان صحية مجتمعية تطوعية.

الموجودات: شهدت القرى التي جرت فيها هذه التدخلات انخفاضاً كبيراً في معدلات الإملاص (ولادة وليد ميت)، من 65.9 إلى 43.1 لكل 1000 ولادة حية (نسبة الاحتمال أقل من 0.001)، ومعدلات وفيات الولدان،من57.3 إلى 41.3 لكل 1000 ولادة حية (نسبة الاحتمال أقل من 0.001). كما ارتفعت نسبة الولادات التي جرت على أيدي مولدات ماهرات في مرافق الرعاية العامة، من 18% كخط أساس، إلى 30%، بينما انخفضت نسبة الولادات المنزلية من 79% إلى 65%. وأظهر مسح أُجري على مستوى الأسر تواترا أعلى للسلوكيات الأساسية (مثل الإرضاع المبكر من الثدي دون غيره، والتأخر في تحميم الوليد والعناية بسرّته) في القرى التي جرت فيها هذه التدخلات.

الاستنتاج: يبيِّن التحسن الذي لوحظ في معدلات الإملاص، ووفيات الولدان، أن العاملات في مجال صحة المجتمع (العاملات الصحيات والدايات) يمكن أن يكون لهن دور فاعل في تطبيق حزمة الخدمات المجتمعية والإيصالية التي تؤدي إلى تحسين ممارسات الرعاية المنزلية من قبل العائلات، وكذلك في تعزيز السلوك المتعلق بالتماس الرعاية والاستفادة بشكل أكبر من خدمات مقدِّمي الرعاية المهرة. وتحتاج هذه الملاحظات المبدئية إلى تأكيدها من خلال تجربة تتوفر لها الإمكانيات والموارد المناسبة.

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