The international newsletter on child health and disease prevention

CHILD HEALTH DIALOGUE

Issue 18 January-March 2000

Published by healthlink WORLDWIDE

Strengthening safe motherhood

For over ten years, healthservices all over the world have been working towards the Safe Motherhood target of halving the number of women who die each year from pregnancy-related causes. Yet there has been little change in the number of deaths or the amount of long-term damage to women's health.

Action to improve women's access to obstetric care and to improve the quality of that care is an essential step to making pregnancy and child-birth safer. This issue of *CHD* describes how health workers and researchers in different settings are trying to strengthen safe motherhood activities by learn-ing from their own experience and that of mothers.

Much effort has gone into promoting antenatal care. It is an excellent opportunity to influence their health during and beyond pregnancy, and may be the only time that some women seek care from the health services. But long waits and an unfriendly atmos-phere may deter women from attending antenatal clinics. ***Claudio Lanata*** suggests simple but effective ways of adapting clinic practice to make it more woman-friendly. A simple regime for treating malaria during pregnancy, reducing anaemia and the possibility of heavy bleeding, is described by ***Caroline Shulman.***

Some women are known to be more likely to develop complications during pregnancy or labour. For them, it is safer to plan to deliver in health faci-lities. But any pregnant woman may suddenly develop a life-threatening condition without having shown previous signs. Urgent action is needed. Some of the reasons that women do not reach hospital in time come from lack of knowledge in the community as a whole about preg-nancy and childbirth. ***Tim Cullinan*** and ***Adenike Grange*** describe different ways of working at community level.

When a woman is referred to hospital in time but almost dies, important lessons can be learned by carrying out an audit. ***Carine Ronsmans*** and ***Veronique Filippi*** show how this is being done in West Africa. ***Oona Campbell*** explains how even when there are no complications, the quality of care can be improved by adopting practices which research has shown to be effective.

Harry Campbell

Giacomo Pirozzi/Panos Pictures

Safe motherhood activities help make motherhood a joyful event.

Contents Issue 18

Page 2 Letters/Terms and definitions
Page 3 Making motherhood safer
Page 4 Safe motherhood is everybody's business
Page 5 Home care for newborns
Page 6 Improving quality of care
Page 7 Action at different levels
Page 8 Evidence-based care
Page 9 Learning through audit
Page 10 Malaria in pregnancy
Page 11 Communicating health messages
Page 12 Learning exercise/ Useful resources

CHD continues to receive many letters from readers on improving care of mothers. After reading CHD*8, many readers commented on the list of practices that are harmful in labour. Some had been shocked to realise that their actions could actually be dangerous to mothers and many readers said they had now changed their practice. But other readers are not yet convinced, feeling some practices such as the routine use of enemas, are beneficial and should remain.*

Jilly Rosser comments:
It is difficult, when you have been taught that a particular practice is important, and you have always done it in your work, to be told that that there may be a better way. But we all know that we do not stop learning when we finish our training – that is why we are reading *CHD* after all! And that is why people do research – to question some of the practices that we have always believed in, and carried out in good faith. There would be no point in anybody doing any research, if clinicians were to say: 'No, that goes against what I have been doing for 10 years, so I don't believe it'.

But if good, relevant research is done which shows that our beliefs are not in tune with the evidence – then it is time to change and be guided by the evidence. An easy place to find much of the research evidence is the WHO guide on Care in Normal Birth (see resources, page 12). For example, shaving pubic hair does not reduce infection, despite what we have all been taught. And giving enemas does not reduce the length of labour or the risk of infection during delivery.

Try changing your practice in line with the research – you will be pleasantly surprised!
Jilly Rosser, 21 Sydenham Road, Cotham, Bristol BS6 5SJ, UK

Thanks to Sufuna Wanyonyi (Kenya), Jato Hilda Berry (Cameroun), Charity Bhala (Zimbabwe) and all our other readers who have enriched this dialogue.

Involving men

Lack of support and co-operation by the menfolk is a major setback working against the social, health, economic and political development of girls, women and mothers. *CHD* should also cover topics such as what men should do when their wives are pregnant and the roles they should play.
Thanks to Alice Keelson, Ghana Education Service, PO Box M45, Accra, Ghana and Lewis Jam Khoviwa, Malawi Network of AIDS Service Organizations, PO Box 2916, Blantyre, Malawi

Editors note: please write and share your experiences of involving men, especially fathers, in efforts to improve the health of women and children.

TERMS & DEFINITIONS

This box explains some of the technical terms used in this issue.

Maternal mortality – death of a woman while pregnant or within 42 days of delivery or the end of pregnancy.

Maternal morbidity – disease or disablement caused by pregnancy or complications of pregnancy.

Trimester – a period of three months. Pregnancy is often referred to in three trimesters: months one to three, four to six and seven to nine.

Sepsis – a condition caused by the presence of bacteria or their toxins in the blood. It is also known as septicaemia.

The Integrated Management of Pregnancy and Childbirth (IMPAC)

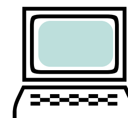
IMPAC is an intervention package to reduce maternal and perinatal mortality and morbidity and improve maternal and newborn health. It focuses on:

- improving the skills of health workers, the provision of guidelines and standards, training and follow-up, supervision and support for the management of pregnancy and childbirth at different levels of the health system
- health education and promotion activities to improve family and community practices and response in relation to pregnancy and childbirth
- interventions to develop health systems and to improve district-level management of health services, including the provision of adequate staffing, supplies and equipment.

The package is designed to be adapted to local situations and to be implemented in countries by the government in collaboration with United Nations and bilateral agencies, non-governmental organisations (NGOs) and institutions. IMPAC will provide technical guidelines and training materials for different levels of health facilities.

For further information please contact: Dr QM Islam, Department of Reproductive Health and Research, World Health Organization, CH-1211, Geneva 27, Switzerland. E-mail: islamm@who.ch

Do you have access to e-mail?



HEALTHNET NEWS
is a free weekly newsletter for health professionals in developing countries. Produced by SATELLIFE, it contains current research and medical/public health information from key journals.
To subscribe send an e-mail message to **owner-hnn@usa.healthnet.org** Leave the subject line blank.
Type as the text of your message: subscribe hnn
Note: Satellife also send out an adapted electronic version of *CHD*.
Contact: **hnet@usa.healthnet.org**

Making motherhood safer

Understanding the delays which occur in women seeking and receiving emergency care, helps health workers and communities plan action to prevent maternal deaths

Childbirth has been described as 'the women's struggle'. Although pregnancy is a natural process, it is one which is never without risk. Any woman pregnant for the first time must feel anxious. Will her baby be born strong and healthy? Will she herself escape injury or death?

In the antenatal period, health workers can help to advise and prepare women for labour. A relaxed mother is more likely to give birth successfully. However, all pregnancies are at potential risk of complications that cannot be predicted. Women need to know how to recognise signs that problems are developing. But so do other members of the community. When an emergency arises, a woman may no longer be able to take decisions or action. She needs other people to ensure that she gets the treatment she needs. Rapid action is vital.

The first delay comes in deciding that there is an emergency. This is where education of the whole community is essential. It can take time for people to agree to take action. After the decision, there is often further delay in referring the woman to a health facility. If the community is prepared, both money and transport can be more readily available.

A third delay may occur between arrival at the health facility and receiving effective treatment. Sometimes there are bureaucratic delays. Necessary equipment and supplies may be lacking. Staff are not always adequately trained or supervised and may have low morale. If the health facilities are unable to deal with emergencies, most of the women who have been referred – often too late – will die. This confirms the community's fears that women who are referred are not likely to return. In this situation, trust between health workers and the communities they serve becomes difficult. What is needed is:

- **Effective antenatal care** The antenatal period is an important opportunity for health workers to treat minor problems and to give women practical advice on recognising danger signs. In addition, contact with a sympathetic health worker is likely to increase the chance of women coming to a health facility should a complication arise.
- **Action to involve the whole community** Women often lack resources or do not take the decisions about seeking care. To improve women's access to health care, everyone in the community, whether male or female, young or old, needs to learn about pregnancy and childbirth.
- **Effective referral care** Facilities where obstetric complications can be treated must be as close to women as possible. Community midwives should be equipped with essential life-saving skills, although some procedures, such as caesarean section, could probably not be carried out below the district level. Problems, such as lack of equipment, poor motivation and inadequate training of health staff, need to be addressed.

SAFE MOTHERHOOD

Motherhood will be safer for women when they can:

- choose whether to become pregnant
- get care for prevention and treatment of pregnancy complications
- have a trained attendant (ideally a midwife) with them during labour
- obtain emergency obstetric care if they need it
- receive care after birth.

Then most women will be able to avoid death or disability from complications of pregnancy and childbirth.

Death in childbirth is a tragic waste of women's lives and it places an extra burden on the community. One way of preventing future deaths is to make every maternal death count. When a woman dies from causes linked to pregnancy or childbirth, health workers need to look at why this death has happened. The reasons may spread beyond the health facility to her family and community; they, too, can learn from her death (see pages 4 and 9). Understanding what went wrong is the first step to preventing more unnecessary deaths.

Simple transport methods can mean the difference between life and death.

Nepal Safer Motherhood Project/Options

Safe motherhood is everybody's business

***Tim Cullinan** describes the use of dance and drama to interest the whole community in women's health issues*

Giacomo Pirozzi/Panos Pictures

New ideas can be introduced to communities through song and dance.

Most Safe Motherhood programmes are based on the idea that fewer mothers and babies will die at or around childbirth if resources and training aimed at overcoming the major causes of these deaths are sufficiently improved at health facilities. But two facts are often overlooked. This approach will only work if people understand and agree with what the health services are trying to do. There must also be adequate transport and referral systems to give access to these services.

Involve the whole community

If community members are to co-operate in solving a problem, they need and have a right to understand it in their own terms (see box). Health messages delivered only to particular groups (for example, women receiving antenatal care, school children, men attending clinics for sexually transmitted infections) have almost no impact on personal or communal behaviour change. It is very difficult for individuals to put new knowledge into practice when this has not been received and shared by the whole community.

EXAMPLE

A woman died from heavy bleeding during pregnancy. From talking about this death, the villagers realised how dangerous bleeding is during pregnancy, and the need for rapid action. A villager who owned a truck agreed to make it available for emergency referrals in the future.

Improve referral facilities

Discussing situations at community level often reveals weaknesses in the health services, which may cost a lot to put right. The local health services seldom have any extra resources, so this is a serious problem. But it is wrong to enable people to recognise danger signs, or to ask them to find practical solutions to transport and money problems, if the health facility cannot deal with emergencies when they arrive. Health facilities also need to look at the causes of deaths and establish good practice.

EXAMPLE

A woman died from infection after surgery in hospital. Analysing her death led to:

- *re-equipping the hospital laundry with sheets and plastic bed covers*
- *supplying new sterilizing equipment*
- *finding resources for a refrigerator to store blood*
- *complete retraining in operative technique for several staff members*
- *providing antibiotics to health centres, to enable staff to treat women prior to referral.*

Dr Tim Cullinan, 53 Mapledene Road, London E8 3JW, UK.** **Thanks also to B Chisenga, District Hospital, Mangochi, Malawi, and J Hoffman, Department of Community Health, PO Box 431, Mangochi, Malawi

Safe motherhood from below

The 'Safe Motherhood From Below' projects in Malawi, which started in 1995, worked with everybody in the community to try to reduce maternal deaths and morbidity. Project workers trained Traditional Birth Attendants (TBAs) and health staff, and developed health education material. Slowly, they gained the support and understanding of the whole community – the men of the village, teenagers and teachers as well as mothers. Everyone learnt about new ideas such as family planning, HIV prevention and the importance of adequate nutrition in pregnancy.

All new ideas need to be shared and discussed. In Malawi, familiar ways of doing this are through song, music and drama. Local bands agreed to use the events surrounding a woman's or an infant's death to compose music and songs. After the initial period of mourning was over, the groups performed at a village meeting to draw out discussion about the event and to see what villagers could do to prevent it happening again. From this a wide range of music, dance and drama developed round all aspects of safe motherhood, and soon spread to villages not involved in the initial programme.

Key messages

- Involve the whole community in interpreting the problems as well as designing the solutions.
- Health workers should never assume that they already know the answers.
- Use methods of communication that everyone is familiar with.
- Ensure local health facilities can treat or refer emergencies.

Home care for newborns

***Abhay Bang** shows how mothers and Community Health Workers (CHWs) can successfully care for sick newborns*

One out of every twenty newborn babies in developing countries dies before he or she is one month old. Altogether, five million newborns die every year, accounting for over one-third of deaths among children under the age of five. Special attention needs to be given to the care of the newborn.

Nearly two-thirds of births in developing countries happen at home. In many societies, moving a newborn baby away from home is not acceptable. Moreover, hospital-based care is not accessible or affordable.

Many newborn babies suffer from health problems such as prematurity and low birth weight, birth asphyxia or trauma, hypothermia or problems with breastfeeding. Serious bacterial infections such as pneumonia, septicaemia and meningitis, are life-threatening. Other problems such as conjunctivitis, jaundice, and skin or umbilical infection can also lead to serious complications.

In deciding how best to provide care to sick newborns, a very useful Chinese saying is, 'How far can a mother on foot walk with a sick baby? Health care must be available within that distance'. For newborn babies, most often that place is home itself!

Key messages

- Sick newborns can be cared for at home by a joint team of mother, Traditional Birth Attendant (TBA) and CHW.
- Early detection and prompt treatment of sepsis prevents death.
- Home-based neonatal care can reduce deaths.

Newborn care in Gadchiroli

Gadchiroli is a very poor district in the Maharashtra state in India. A voluntary organisation, SEARCH, has designed a model for home-based neonatal care. Families with newborn babies were asked what kind of care they would prefer for sick newborns. Almost all said that they would prefer to seek care from trained CHWs. Over the next four years, home-based neo-natal care was introduced in nearly 40 villages. It has four key activities:

1. During pregnancy and in the period after birth, mothers learn how to look after themselves and their babies, especially the importance of breastfeeding, warmth, cleanliness, and seeking care from CHWs if the baby is sick.

2. TBAs are trained with similar messages to reinforce health promoting beliefs and practices.

3. In each village, a female CHW is trained to:
- resuscitate babies born with breathing problems
- weigh the newborns at birth and once every week
- visit the mother and baby eight times in the first month
- detect high-risk babies and visit them more frequently
- keep the baby warm with clothing and by covering in a blanket
- help mothers establish early and exclusive breastfeeding
- look for the signs and symptoms suggestive of neonatal sepsis; diagnose it by using simple clinical criteria, and, if present, treat with antibiotics
- manage other problems such as hypothermia, difficulties in breast-feeding, skin or umbilical infections, and conjunctivitis
- record the outcome of newborn care.

4. A doctor or nurse visits each village twice monthly, to supervise and support CHWs, giving further training or advice.

Following extensive health education and involvement of TBAs, nearly all families sought care from CHWs. After the introduction of home-based care, including treatment with antibiotics, the death rate in newborns with sepsis fell from one in five to one in 36. After three years the overall number of deaths in infants under one year was reduced by almost half.

Home-based neonatal care was highly acceptable to people, and much cheaper than hospital care. Another advantage has been a great increase in the self-confidence and status of TBAs and CHWs in their own villages.

Dr Abhay Bang, MD, MPH, SEARCH, Gadchiroli, 442-605, India

Editor's note: Dr Bang describes his successful research project in India. It is not yet known if it will prove possible to achieve these exciting results in government health programmes. Do readers have similar experiences that they can tell us about?

Gene Thiemann, Lutheran World Relief

Early identification and treatment of sick newborns in the home prevent deaths.

Improving quality of care

***Claudio Lanata** describes innovative ways of improving care for mothers at health facilities in Peru*

Doctors and nurses urgently need to be trained to provide adequate maternal and child health care. Many past programmes have failed to introduce significant changes in how care is given, to make it more user-friendly. This may have been because they focussed on individuals rather than on the services as a whole. Instead, training needs to be designed round a specific target which all health workers can try to achieve together.

The *Programa de Capacitación Materno Infantil* (PCMI) starts from the idea that the number of women dying during or around childbirth will only fall if more pregnant women use the health services. To make this happen, the quality of care has to be improved in ways that are attractive to the community.

Making mothers feel happier

One of the main aspects of PCMI has been the focus on satisfying mothers. In each health facility taking part in the programme, the people involved in care met as a 'quality team'. The teams set up systems to measure how satisfied mothers were with their care. Some mothers were interviewed when they were discharged. Others were given small forms during their consultation, where they could make comments. For mothers who had difficulty writing, there were forms with three different faces – one happy, one indifferent and one sad. Every month the quality team discussed the most frequent complaints and ways to solve the problem that caused it. Some of the agreed actions are listed in the box.

Making health facilities more accessible

Improving access to the health facilities was another important aspect of PCMI. The health facilities do out-reach work through training community health workers (CHWs). At workshops, they learn how to:

- recognise danger signs for pregnant women and newborns
- analyse their local circumstances
- make combined action plans to try to prevent any deaths.

After the workshops, the CHWs and the health facilities make a list of all pregnant women in the area, identifying high-risk pregnancies. CHWs are now referring emergencies to the health system. They have meetings with health facility staff where they discuss any problems encountered.

These measures implemented by the quality teams had an immediate result. As well as making mothers happier, they improved the motivation of health workers, since all those involved were pleased with their achievements. Major health facilities have reported that the demand for services has increased.

Claudio Lanata, PCMI Project Director, ESCAN Consortia, Lima, Peru

Making antenatal care more caring

✓ Get a doctor to start the outpatient clinic at 8am, so mothers do not have to wait for the doctors to complete ward rounds first.

✓ Make sure that mothers know what services the health facility can offer, and when. Train the doorman to give information. Assign health workers to receive mothers in the waiting area and help them with forms.

✓ Work with medical records departments the day before a clinic to prepare records for mothers with appointments.

✓ Train non-professional staff, such as cashiers and records clerks, how to provide services with respect and consideration.

✓ Make doctors and nurses aware of the importance of meeting mothers' expectations, providing information, clarifying doubts and explaining medical procedures.

✓ Recognise the crucial importance of privacy during consultations and avoid interruptions by other health workers.

✓ Install a box on the door of the consultation room and place records for the next consultation there rather than on the doctor's table inside. This reduces interruptions. At the end of a consultation, the doctor accompanies the woman to the door and invites the next woman inside, collecting her records.

✓ Reorganise the outpatient area, so mothers waste less time going from one office to another. Monitor how long each stage of a visit takes and shorten this where possible.

Armando Waak, PAHO/WHO

Mothers who are satisfied with antenatal care are more likely to use health facilities in an emergency.

Action at different levels

Effective Safe Motherhood programmes require action that links mothers, communities and health services

One way to achieve Safer Motherhood is to ensure that all women have skilled attendance during delivery. In most developing countries, there are not nearly enough trained health workers to attend all births. Many programmes have tried to improve the obstetric care offered to rural women by working with Traditional Birth Attendants (TBAs), who often have experience of helping during childbirth, but have no formal training.

However, in some countries it is only in urban areas, where TBAs have set up formal services so that they are present at most deliveries. One study carried out in Nigeria showed that rural TBAs attended an average of only six deliveries a year. Most deliveries in the district took place with the help of a friend or family member, or unattended. TBAs were usually called in only when there were problems after the delivery, such as convulsions, heavy bleeding or foul smelling vaginal discharge. If a woman failed to respond to treatment, the TBA referred her to the health facility.

Improving care of mothers

If many births are still unattended, a new approach needs to be developed. This could include:

- Giving simple, inexpensive delivery kits to all pregnant women. This encourages them to come to ante-natal clinics and means their households are prepared for a clean delivery.
- Asking respected community members to form health committees. The committees could manage revolving funds to help with emer-gency referrals of pregnant women.
- Training female Community Health Workers (CHWs), chosen by the committees, in mother and child health. The CHWs would work in a building given by the community.
- Support and advice to CHWs from visiting nurse-midwives.
- Training midwives and doctors in district hospitals in emergency obstetric care. There should be 24-hour coverage with safe blood transfusion, anaesthetic and surgical obstetric services. An ambulance is needed to link the district hospital with a bigger referral centre.
- The CHW, health committee and health facility should estimate the likely number of deliveries and emer-gency referrals and plan accordingly.

Thanks to Dr Adenike Grange, PO Box 2152, Lagos, Nigeria

Involving all the staff

Many good ideas come from junior workers, such as ward attendants and nursing assistants, or from those not involved in clinical care. Projects seeking to improve maternity services need to draw in staff at all levels.

In Nepal, the Safer Motherhood Project (funded by the UK Depart-ment for International Development) was set up to improve Emergency Obstetric Care. The project makes physical improvements, such as new operating theatres, and provides supplies and equipment. It also works extensively at community level to increase women's access to services. One of the greatest challenges, however, is in rebuilding staff morale, confidence and competence.

One way to do this is by carrying out specific short-term projects. For example, one of the first interventions was the improvement of infection prevention measures and waste management. Training for all levels of staff was provided, essential supplies were obtained and large concrete waste pits were built. All levels of staff elected representatives onto Infection Prevention Committees to monitor the situation and to seek solutions to problems. Staff immediately recognised the benefits of these new measures. They were better protected and they could appreciate the cleaner hospital grounds and buildings.

For further information contact: Cathy Green, Options, 129 Whitfield Street, London W1P 5RT, UK, e-mail c.green@options.co.uk, or Susan Clapham, NSMP Project Director, e-mail smp@smp.wlink.com.np

Funding village health posts

In the Bani area in Nigeria, only three out of 20 women were receiving any antenatal care. Clinic staff carried out a tour of outlying villages, where community leaders agreed to provide buildings for use as village health posts and to nominate CHWs for training. Community farms were established, whose produce is sold to pay for drugs and an allowance to the trained CHWs. All taxable adults in the area also make a small monthly contribution to ensure that the health posts will continue to function.

Thanks to Dr Osamoto for telling us about this project.

Neil Cooper/Panos Pictures

Regular support and supervision helps improve the effectiveness of Traditional Birth Attendants.

Evidence-based care

***Oona Campbell** reports on research into practices which benefit women and which are acceptable to them*

Much of the Safe Motherhood effort in developing countries concentrates on ensuring that women with complications have access to life-saving procedures. However, another target of the Safe Motherhood Initiative is that eventually, midwives or doctors will attend all deliveries, including normal deliveries. While this is likely to reduce maternal mortality, it is important that delivery care is woman-centred and not over medical-ised. Unnecessary medical intervention may have harmful results and uses up scarce resources.

Although approximately half the deliveries in developing countries are attended by skilled health workers, not much is known about the births. In Lebanon, professionals attend nine out of every ten births. This provided an excellent setting for research comparing hospital policies and practices for normal delivery with the latest research findings on good and harmful practices.

Looking at hospital practices

A national sample of 39 hospitals was selected. Heads of maternity wards in these hospitals were interviewed about their practices using a question-naire. The findings showed that:

- most hospitals do not have written policies or standard birth procedures and lack mechanisms for evaluation
- very little information is given to women about labour and delivery
- companions are allowed during labour but restricted in delivery
- most hospitals say they allow women to move in labour, but nearly all use procedures, such as intra-venous drips for all women, that restrict movement and in over half the hospitals, women are physically tied down
- most hospitals do not support breastfeeding and few allow mothers to keep their babies with them all the time
- the majority of hospitals do not provide women with family planning methods or information.

Asking women how they felt

Detailed interviews were also used to find out how women felt about their experience of childbirth and the services received. In the capital and rural areas alike, the results showed that women have total trust in their doctors. They rarely question the many routine procedures, some of which are unnecessary. Despite this, when the interviewers asked further questions, the women said that they felt intimidated by many aspects of care and that they experienced major discomfort with medical procedures.

Muyasar Hudali/Healthlink Worldwide

Training workshops are an ideal opportunity to discuss new research findings.

Helpful practices during childbirth

✓ provide continuous support during labour and delivery
✓ induce labour only for a specific indication or if pregnancy goes beyond 41 completed weeks
✓ use a partograph (graph tracing the progress of labour)
✓ use continuous foetal monitoring **only** if there are obstetric indications for this
✓ encourage the upright position and walking during labour
✓ allow mother and baby to remain together after birth
✓ ensure women feel they have played an active role in making decisions about their maternity care.

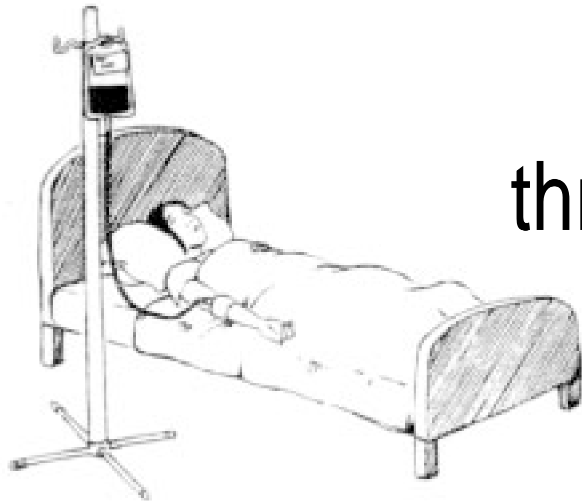
They talked more readily about how they communicate with health workers and why they appreciate good interactions.

Monitoring changes in practice

During another study by MotherCare in Ukraine and Moldova, maternity department staff began by identifying evidence-based practices which they would like to adopt. They then set up simple steps of monitoring and evalu-ation. One change to practice was that maternity staff would be very careful how and when they carried out episio-tomies. A target was then set that less than ten per cent of women would have an episiotomy. Records were kept to see if targets were being met. On discharge, women were asked to answer a set of ten questions about their experience.

These studies gave a good insight into major gaps in health services that could be addressed. In Lebanon, work-shops were held to identify ways of changing routine care to improve the shortfalls shows by the research. In other places, these methods could be used as tools for looking at maternity services. It may be helpful for health workers to adopt some of these approaches to look at practices they routinely use during normal childbirth.

Dr Oona Campbell, Maternal and Child Epidemiology Unit, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1B 3DP, UK



Learning through audit

***Carine Ronsmans** and **Veronique Filippi** explain how near-miss audits improve delivery care*

Most maternal deaths happen around or during delivery, usually from complications which could not be foreseen or prevented. Many could be avoided if women were better cared for in hospitals. One way of improving the quality of obstetric care is for doctors, midwives and administrators to conduct audits. This is a process of reviewing problems in health care delivery and then finding solutions to them. Monitoring the actions which have been proposed may be the most difficult aspect of the audit cycle, but without it delivery of care will not improve.

Health workers often meet in the morning to discuss cases that were admitted overnight or in the last 24 hours. An audit is different from this kind of review because it:

- looks at the entire process of care, including administration, and not just at clinical management
- compares the care which actually is given, with the care which could and should be given. To decide which care should be given, standard procedures are agreed
- concentrates on finding solutions for the problems identified.

Identify the problem

The first step in an audit is for doctors, midwives and administrators to see whether there is a recurring problem in their hospital. For example, there may be a high number of maternal deaths or life-threatening complications, too many caesarean sections or complaints about staff attitudes.

Agree a standard procedure

Next, the doctors and midwives have to agree on standard procedures, or 'protocols', for care of that particular situation or problem. These standard procedures can rely on existing national guidelines. They may also be developed on the basis of doctors' and midwives' expertise or on scientific evidence. The standard procedures state clearly and precisely how patients should be managed within the local allocation of resources. This makes it possible to compare the care which is given with the care which could and should be given.

Compare care with the standard

The next time the problem arises, the care which was given is compared with the standard procedures. The comparison helps to highlight weaknesses. When the standard procedures have not been carried out, the reasons are discussed. The audit team suggest practical solutions which they will be able to implement.

Why audit near-misses?

Near-miss complications occur in pregnant or recently delivered women and are so life-threatening that hospital care is necessary. Cases of near-miss are a good starting point for audit because:

- It is less threatening to health workers than discussion of maternal deaths. The woman's survival enables staff to be congratulated for saving the woman's life and for good aspects of care.
- It is possible to speak to the woman involved. This is an important opportunity to get her point of view about the care she received, and to add this to the information from records.
- They are an important public health problem and are more common than deaths.

Running an audit meeting

One person takes responsibility for running the audit meeting, which begins with a case summary. The case is reviewed using the 'gate-to-gate' approach (see box), which follows the woman's progress through the various stages from admission to discharge. This helps to pinpoint when and where problems arose. Once the case has been discussed, contributions are invited as to what went well and what went wrong, and why. Finally, the audit team proposes solutions and recommendations for action. Someone is chosen to write a summary of the meeting, and a list of those present. The actions taken are reviewed at the next audit meeting.

Carine Ronsmans and Veronique Filippi, Maternal and Child Epidemiology Unit, LSHTM, 50 Bedford Square, London WC1B 3DP, UK

THE STAGES OF THE 'GATE–TO–GATE' APPROACH

1. **Referral** *Did the patient come with a referral letter?*
2. **Admission** *Was there any delay before the patient was first seen by midwife?*
3. **Diagnosis** *Was her medical condition (her complications) correctly diagnosed? Were all the necessary investigations carried out?*
4. **Treatment** *Was the treatment given in accordance with the treatment protocol?*
5. **Monitoring of treatment** *Was adequate monitoring of the patient ordered (for example: pulse, blood pressure, blood loss, general condition?*
6. **Discharge** *Was the discharge diagnosis correct? Was the timing of the discharge appropriate?*

Thanks also to the collaborating institutes: Cellule de Recherche en Sante de la Reproduction and Institut National de Sante Publique (Ivory Coast), Institut National d'Administration Sanitaire (Morocco), Centre de Recherche en Reproduction Humaine et en Démographie (Benin), and Department of Community Health, Kumasi School of Medical Sciences (Ghana)

Malaria in pregnancy

***Caroline Shulman** outlines a new treatment for malaria which reduces the risks of severe anaemia.*

Wellcome Trust/CABI Publishing

All pregnant women should be screened for anaemia.

Around one in ten of all pregnant women in sub-Saharan Africa is severely anaemic (that is, has a haemoglobin of less than 7g/dl). When a pregnant woman is severely anaemic, she is much more likely to die from heavy bleeding or from heart failure around the time of delivery.

The main causes of anaemia are:

- iron and folate deficiency caused by poor diet
- malaria
- hookworm
- advanced HIV infection.

Although these causes are mostly preventable, there has been no change in overall prevalence of severe anaemia over many years. One cause which has been largely neglected by Safe Motherhood programmes has been malaria in pregnancy. Where malaria is endemic, it is likely to affect pregnant women, especially during their first pregnancy. The malaria parasites appear in large numbers in the placenta. They cause the woman to develop anaemia, and they also cause her baby to be born with a lower birth weight. Parasites are often not detected in the woman's blood, despite being present in the placenta. Pregnant women may be infected with malaria without having common symptoms of malaria such as a high fever. This means that the diagnosis of malaria in pregnancy is often missed.

Routine prevention and treatment of women at risk of malaria will reduce the likelihood of their suffering from anaemia. In the past, this has been carried out using weekly chloroquine. Often the results have been poor because the drug has not been taken. In some places, women believe that the bitter tablets might harm their babies. And these days, many strains of malaria are resistant to chloroquine.

An alternative is treatment with sulphadoxine-pyrimethamine (SP). In a trial in Kilifi in Kenya, women in their first pregnancy were given this drug twice during pregnancy, reducing the number of women with severe anaemia by nearly 40 per cent.

Current recommendations

- In areas where malaria is endemic, pregnant women should receive one dose of SP (three tablets) between the fourth and sixth months and one in the seventh or eighth month of pregnancy. This should be given along with iron and folate, as part of an overall strategy to reduce anaemia in pregnancy.
- Women pregnant for the first time will benefit the most, but all pregnant women from malarious areas are likely to gain some benefits.

SP should NOT be given:

- When a woman has had a previous reaction to fansidar or another sulphur drug (such as septrin).
- In the first three months and the last month of pregnancy unless a woman has symptoms of malaria.

This treatment regime could be delivered effectively through antenatal services, especially in the many areas of sub-Saharan Africa where most pregnant women attend at least once or twice. The treatment is one dose only, so the tablets can be given to women to take in the clinic. With each dose costing about US$0.17, the regime is not expensive.

Treatment with SP twice in pregnancy is current policy in Malawi and Kenya. Policy change has only occurred recently in Kenya, and it is now an ideal time to implement the regime as part of an integrated programme of anaemia control in pregnancy.

Dr Caroline Shulman, Maternal and Child Epidemiology Unit, LSHTM, 49-51 Bedford Square, London WC1B 3DP, UK

CASE STUDY **answers from page 12**

1 **a)** Belief that delay was due to presence of a spirit; worry about expense; Lakshmiben's reluctance to go; finding transport; distance from clinic.

b) Power cut; finding a blood donor; buying basic equipment and drugs.

2 Outreach programme to provide information to the community about danger signs in pregnancy and activities to encourage community members to plan for emergencies; raising funds to buy an electric generator for use in emergencies; situating a pharmacy close to the operating theatre.

Communicating health messages

Stories can help health and community workers learn how to give effective health education.

The following story can be used and adapted as a training exercise for health workers, to encourage them to think about appropriate ways of teaching to improve women's health. Tell the story (or your own version of it), then go through it again asking open questions that encourage discussion and draw out the learning points. For example you might ask 'What important points does this story bring out about health education'. The group's list might include some of the following ideas:

- **Know local customs** Before teaching about health, be familiar with local customs so that information given does not conflict with them.
- **Build on traditions** Mothers and communities are more open to new ideas if their traditions are respected.
- **Avoid imposing outside ideas** The use of teaching aids and a 'dialogue' approach helps encourage discussion. But health workers also need to be sensitive to the beliefs of mothers and other community members and not impose their own knowledge.
- **Admit mistakes** Janaki was honest to admit failure and ask help from someone with practical experience.
- **Older people are a valuable resource** Health workers can learn from the knowledge and wisdom of older people and indigenous healers.
- **Use comparisons** Saraswati helped Janaki to introduce new ideas by comparing them with things already familiar to them.
- **Encourage questions and discussion** The mothers remembered Janaki's message once they themselves asked for information. When people begin to question they are more likely to change their behaviour.

A story from India

Janaki, a young health worker, realised that one of the major problems in her village was that women did not eat well during pregnancy. They ate too little, and were very thin and anaemic. As a result, many babies were born thin and weak and many died. Some of their mothers died too, from bleeding or infection following childbirth.

Janaki started to teach pregnant women about the importance of eating well. She explained about the different food groups, about vitamins and minerals and foods which contained iron that would stop them from becoming anaemic. To make meetings interesting, Janaki used flash cards and a flannel board. But a few months later, one of the women she had been teaching died from heavy bleeding during childbirth. She had become anaemic during pregnancy. Janaki asked for help from Saraswati, a wise old woman in the village who also practised traditional medicine. Saraswati suggested Janaki should start by understanding why the village women behaved as they did. Janaki had been telling them to eat more so their babies would be bigger.

'Pregnant women do not want to have bigger babies, because they know sometimes women cannot give birth to a big baby', said Saraswati. 'Begin with what they know and believe. For example, talk to them about *dhatu*. *Dhatu* comes in certain foods, and in our tradition, it brings strength and harmony. Women are interested in strength and harmony for themselves and for their babies.' She also told Janaki about the custom of giving teas from iron-rich plants like fenugreek and sesame to girls when they start to menstruate.

The next time Janaki held a meeting, she started by asking the mothers about their customs and beliefs. She also taught them to look at each other's tongues and fingernails to see if their blood was strong. The women became very concerned about their strength and started to ask Janaki for more information about good foods for pregnant women. In future sessions, they were able to see for themselves when their tongues and fingernails began to get pinker. Gradually, habits changed and babies and mothers became healthier.

Adapted from: *Helping Health Workers Learn* by David Werner and Bill Bower.
Available from TALC, PO Box 49, St Albans, Herts AL1 5TX, UK
Fax: +44 1727 846 852 E-mail: talcuk@btinternet.com
Price: £9.70 (plus postage)

Note: This story has been shortened. Please write to *Healthlink Worldwide* if you would like a copy of the full story.

Learning exercise – CASE STUDY

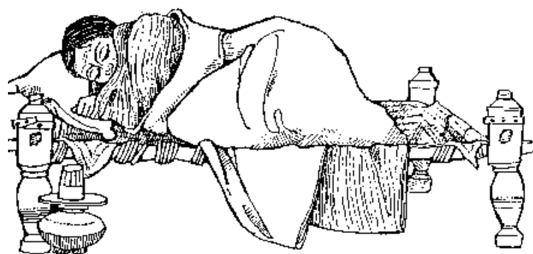
Lakshmiben was having her first baby. Following the custom, she had gone home to her mother in her seventh month of pregnancy. In due course, Lakshmiben's labour pains started early one morning and her mother put a blanket out for her on the floor. Six neighbours came round to help. Four hours later, Lakshmiben was showing signs of distress. The women believed this was due to the presence of a spirit, so they said a special prayer and carried out a protective ritual. Since there was a clinic 30 kilometres away, the women wanted to send Lakshmiben there to deliver. But her parents were worried by the expense and Lakshmiben herself didn't want to go. But by chance, the ambulance from the clinic was in the village that day and three hours later she left.

At the clinic, Lakshmiben was taken into the labour room but she still could not deliver. Nine hours after the pains began, it was clear her labour was obstructed and she would need a caesarean. The ambulance took Lakshmiben to the nearest large government hospital. But just after she arrived, there was a power cut. Despite her critical state, hospital rules required those accompanying her to obtain blood, drugs and necessary medical equipment before they would operate. Finding a blood donor and buying needles, syringe and intravenous solution from a pharmacy caused further delays. Two hours after she got there, she was in a critical condition. The surgeon finally operated by candlelight and Lakshmiben and her baby survived.

Questions

1 List all the things which prevented Lakshmiben from getting good care on time. Divide them into:

a) Factors in the community setting which made Lakshmiben and her family delay seeking care?



b) Factors which delayed Lakshmiben receiving care after arriving at the hospital?

2 What could hospital staff do to prevent similar delays occurring in the future? .

Answers on page 10.

Thanks to Emily Waldman, 1835-C Corcoran Street NW, Washington DC 20009, USA

Useful resources

The following documents are available from RHR Documentation Centre, WHO, CH-1211 Geneva 27, Switzerland. E-mail: lambert.s@who.ch. Http://www.who.int/rht

Midwifery education modules a five-volume set of training modules for midwives covering: the midwife in the community; eclampsia; haemorrhage; obstructed labour and sepsis. (WHO/FHE/MSM/96.1-5). Price: Single copies available free to training institutes in developing countries.

Postpartum Care of Mother and Newborn a practical guide reporting the outcomes of a technical consultation on the full range of issues relevant to the postpartum period for the mother and newborn. It includes a series of recommendations for this critical period (WHO/RHT/MSM/98.3).
Price: single copies free to readers in developing countries.

Note: practical guides are also available on: care in normal birth; detecting pre-eclampsia, thermal protection of the newborn; basic newborn resuscitation and preventing prolonged labour (the partograph).

New briefing paper from Healthlink Worldwide: HIV and Safe Motherhood

This 20-page briefing paper is aimed at all those working in health, family planning and women's organisations in sub-Saharan Africa. It provides practical information to strengthen communication with women who are vulnerable to and affected by HIV, to help them to keep themselves and their infants healthy. It calls for efforts to prevent HIV transmission amongst women and their infants to be approached within the context of wider Safe Motherhood initiatives.

Available from Healthlink Worldwide. Price: free to readers in developing countries and £5/US$10 elsewhere.

***Child Health Dialogue* provides a forum for the exchange of information about the prevention and treatment of five key childhood illnesses – acute respiratory infections, diarrhoea, malaria, malnutrition and measles.**

The international English edition is published four times a year by Healthlink Worldwide in the UK. Together with 7 regional editions and an electronic edition, it has a worldwide circulation of 90,000 copies with an estimated readership of over half a million. An electronic text edition is available via SatelLife's computer network, HealthNet.
Contact: **hnet@usa.healthnet.org**

Publishing partners for regional editions
Bengali Child in Need Institute, Calcutta
Chinese Institute of Medical Information, China
English for India Christian Medical Association of India
Gujarati and Hindi: Centre for Health Education, Training and Awareness, India
Portuguese: Consultants at University Eduardo Mondlane, Mozambique
Tamil Rural Unit for Health and Social Affairs, India

Scientific editor Dr Harry Campbell
Executive editors Coral Jepson, Jackie Hoskins
This issue was compiled and edited by Pathika Martin. Comments from Caroline Schulman were especially helpful.
Design and production Ingrid Emsden

Editorial advisers Dr Astier Almedom (UK), Dr David Alnwick (UNICEF), Dr Paul Arthur (UK/ Ghana), Ann Burgess (UK), Dr David Bratt (Trinidad and Tobago), Dr Adriano Cattaneo (Italy), Dr Anthony Costello (UK), Dr William Cutting (UK), Dr Elvira Dayrit (The Philippines), Dr Shanti Ghosh (India), Dr Adenike Grange (Nigeria), Professor Zai-fang Jiang (China), Dr Ivan Lejnev (WHO), Dr Gillian Lewando-Mundt, Professor Mushtaq Khan (Pakistan), Dr Nagwa Khallaf (Egypt), Dr Kevin Marsh (Kenya), Professor Francis Onyango (Ethiopia), Dr Vincent Orinda (UNICEF), Dr Connie Osborn (Zambia), Dr Antonio Pio (Argentina), Suzanne Prysor-Jones (USA), Catherine Reed (UK), Dr David Roberts (UK), Dr David Robinson (Switzerland), Dr Felicity Savage (WHO), Dr Mohammed Abdus Salam (Bangladesh), Dr Frank Shann (Australia), Dr Pham Ngoc Thanh (Vietnam), Dr Cesar Victora (Brazil)

***Child Health Dialogue* is supported by** the UK Department for International Development (DFID), European Union, UNICEF, WHO

Healthlink Worldwide extends grateful thanks to the London School of Hygiene and Tropical Medicine, Misereor, States of Jersey, Wilde Ganzen and The World Bank for helping fund this issue of *Child Health Dialogue*

Reproducing articles and images
Healthlink Worldwide encourages the reproduction of articles for non-profit uses. Please clearly credit *Child Health Dialogue/Healthlink Worldwide* as the source and send us a copy of the reprinted article. Permission to reproduce images must be obtained from the photographer/artist or organisation as shown in the credit. Contact details are available from Healthlink Worldwide.

ISSN 1363-2094
Printed by Russell Press, Nottingham

SUBSCRIPTION DETAILS
To receive *Child Health Dialogue* please write to:
Healthlink Worldwide, Cityside, 40 Adler Street, London E1 1EE, UK

Telephone +44 20 7539 1570
Fax +44 20 7539 1580
E-mail publications@healthlink.org.uk
http://www.healthlink.org.uk

Registered charity no. 274260

Annual subscription charges

Free	Readers in developing countries and students from developing countries
£6/$12	Other students
£12/$24	Individuals elsewhere
£24/$48	Institutions elsewhere

Healthlink Worldwide works to improve the health of poor and vulnerable communities by strengthening the provision, use and impact of information.