

**Perineal Care: An international issue**

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**Perineal Care: An international issue**

**edited by**

**Christine Henderson and Debra Bick**



Quay Books  
MA Healthcare Limited

Quay Books Division, MA Healthcare Limited, Jesses Farm, Snow Hill, Dinton, Salisbury,  
Wiltshire SP3 5HN

British Library Cataloguing-in-Publication Data  
A catalogue record is available for this book

© MA Healthcare Limited 2005  
ISBN 1 85642 276 3

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Printed in the UK by Cromwell Press, Trowbridge, Wiltshire

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## List of contributors

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Debra Bick RM, BA (Hons), MMedSc, PhD is Professor of Midwifery and Women's Health, Centre for Research in Midwifery and Childbirth, Faculty of Health and Human Sciences, Thames Valley University, London, United Kingdom.

Christine Davies is completing a Bachelor of Arts degree and is a Research Assistant at the Ottawa Health Research Institute, Ottawa, Canada.

Cathryn Glazener MD, PhD, FRCOG is Senior Clinical Research Fellow in Health Services Research, University of Aberdeen, Scotland and Editor, Cochrane Incontinence Review Group.

Ian D Graham PhD is Associate Professor of Nursing, University of Ottawa and Senior Social Scientist and Associate Director of the Clinical Epidemiology Program, Ottawa Health Research Institute, Ottawa, Canada.

Christine Henderson RM, RN, MA (Warwick), MTD, DPHE (Surrey), DipN (Lond) is Research Fellow at the School of Health Sciences, University of Birmingham, United Kingdom and editor of the *British Journal of Midwifery*.

Christine Kettle SRN, SCM, Dip Mid, PhD, is Clinical Midwife Specialist, Academic Unit of Obstetrics and Gynaecology, University Hospital of North Staffordshire, United Kingdom.

Alison Metcalfe PhD, BSc (Joint Hons), RN is Research Fellow, School of Health Sciences, University of Birmingham, United Kingdom.

Karen Rosen is Development Education Officer at Interact Worldwide, a human rights charity which works with local partner organizations in developing countries to provide sexual and reproductive health and rights services. Interact Worldwide, Studio 325, Highgate Studios, 53–79 Highgate Road, London NW5 1TL, online at: [www.interactworldwide.org](http://www.interactworldwide.org)

Abdul Sultan MD, FRCOG is Consultant Obstetrician and Gynaecologist, Department of Obstetrics and Gynaecology, Mayday University Hospital, London, United Kingdom.

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Ranee Thakar MD, MRCOG is Consultant Obstetrician and Urogynaecologist, Department of Obstetrics and Gynaecology, Mayday University Hospital, London, United Kingdom.

Susan Tohill PG Dip, BSc (Hons) Midwifery, RM, RN is Midwifery Researcher, Birmingham Heartlands and Solihull NHS Trust, Birmingham, United Kingdom.

## Foreword

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The birth of a baby is far from the end of the process of having a baby. It is an important new beginning that brings with it many exciting changes and challenges for women and their partners. For thousands of women each year the start of life as a new family is complicated by the aftermath of perineal trauma. Women tell us how the quality of their lives is affected at this special time, and how difficult it is to try and establish breastfeeding and to enjoy time with their babies when the pain and discomfort of stitches makes it hard to find any position that is comfortable.

Many women have expressed surprise at the levels of pain and say how ill prepared they felt for the range of physical symptoms they experienced postnatally, and for the length of time some of these symptoms lasted. Sound, up-to-date information about their pelvic floor muscles, how the perineum responds during labour, and the nature of perineal trauma and its potential consequences is vital antenatally if women are to avoid the shock that some of them clearly experience in relation to their perineum. During labour they value being able to work more closely in partnership with their midwife to avoid perineal trauma wherever possible.

*I would like to have been encouraged to breathe the baby out — I wasn't told to push but I did because I was excited. I think that if my midwife had encouraged me to let my body do the work I might not have torn.*

Postnatally, women tell us that they would like more awareness and sensitivity from health professionals regarding the pain and longer term psychological effects of perineal trauma.

I welcome this book as a most useful resource, bringing together and exploring as it does some of the most up-to-date research and information in this field. It will provide midwives, doctors, childbirth educators and expectant parents with that vital information that might lead to greater awareness, a reduction in perineal trauma and hopefully also highlight areas for further research.

Gillian Fletcher  
National Childbirth Trust President  
United Kingdom  
August 2004



## Preface

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The idea for this book evolved over several meetings with colleagues from the University of Birmingham to discuss the launch of the perineal tear assessment tool described in *Chapter 6*. The background to the development of the tool highlighted that practice to prevent, minimise and manage perineal trauma continued to persist uninformed by evidence of effectiveness, and with little opportunity for women to discuss how they could contribute to their care. It was also clear that limited attention was given to ensure that those caring for women in the immediate postpartum period were trained to identify accurately the extent of trauma sustained or, if suturing was required, to use methods and materials which could enhance postnatal recovery. As a consequence, hundreds of thousands of women who give birth each year in the UK and worldwide, continue to endure pain and associated morbidity which may have been prevented or minimised. Whilst this morbidity may not be life-threatening, the short and longer-term consequences of unidentified or inadequately repaired and managed perineal trauma can be significant for the woman, her infant and her family. With this as the background, we felt that a book which specifically focused on this neglected aspect of women's health was pertinent.

Each chapter has been written by authors expert in their field and recognised internationally as such. Chapters are included on the anatomy of the pelvic floor, the management of perineal trauma, episiotomy, prevention of perineal trauma, the development of a perineal tear assessment tool, health after childbirth, and postpartum care of the perineum. Some chapters present evidence for the first time. For example, the chapter on episiotomy includes latest data on episiotomy rates worldwide. A chapter specifically devoted to the issues faced by women who give birth in developing countries, such as obstetric fistula, is also included, highlighting the very real danger pregnancy and childbirth still present to millions of women in the twenty-first century. That maternal mortality and major morbidity continue to affect such huge numbers of women worldwide must be addressed if the lives of current and future generations of women and their families are to improve. We make no apologies for including this as our opening chapter.

Whilst the book covers all aspects of perineal care, it is possible to read each chapter in isolation. A quick reference guide is also included to enable readers more readily to find specific information of interest. We hope that you will find the book a valuable resource.

Christine Henderson, School of Health Sciences, University of Birmingham  
Debra Bick, Centre for Research in Midwifery and Childbirth,  
Thames Valley University, London  
August 2004

## **Introduction: guide to chapters**

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*Christine Henderson and Debra Bick*

### **Chapter 1: Reproductive issues in less developed countries**

*Karen Rosen*

- ❖ Pregnancy related complications are the leading causes of death and disability for women aged fifteen to forty-nine in developing countries.
- ❖ Maternal mortality represents the greatest disparity between rich and poor countries, with 99% of all maternal deaths occurring in the developing world.
- ❖ The major causes of maternal death worldwide are haemorrhage, sepsis, complications of unsafe abortions, eclampsia and prolonged or obstructed labour. Yet for each of these problems relatively simple and cheap preventative measures can be instigated.
- ❖ For each maternal death a further fifteen to thirty women suffer from debilitating injury, infection or illness in the form of anaemia, infertility, pelvic pain, incontinence or obstetric fistula.
- ❖ Two critical factors are essential if maternal mortality and morbidity are to be reduced in the developing world: the availability of a skilled attendant at all deliveries; and the availability of emergency obstetric care when complications arise.
- ❖ The above factors present a healthcare challenge especially when considering many women deliver in inaccessible rural areas. However, projects such as the Centre for Development Studies (CDS) project in Bangladesh offers a simple example of how local and effective measures can seriously reduce obstetric risk.
- ❖ Ensuring safe motherhood requires support from families, communities as well as governments and international organisations. However, when considered globally, the cost is relatively cheap, approximately three US dollars per person per year for a low income family.

## **Chapter 2: Women's health after delivery**

*Cathryn Glazener*

- ❖ Health problems of one kind or another occur in as many as seventeen in every twenty women following childbirth. These present as new health problems persisting for six weeks or more in about half the women.
- ❖ For the postnatal woman the most common morbidity in hospital after tiredness is a painful perineum.
- ❖ Perineal injury during childbirth results in perineal pain and dyspareunia.
- ❖ Both suturing and forceps delivery contribute to the severity of the pain.
- ❖ Assisted vaginal delivery and episiotomy double the risk of perineal pain, but there is evidence to suggest that more rest in hospital prior to transfer home halved it. This highlights the importance of reducing perineal injury and suggests that enhanced care postnatally is necessary.
- ❖ Interventions for prevention and treatment must be based on good quality evidence from randomised controlled trials.

## **Chapter 3: Anatomy of the pelvic floor**

*Christine Kettle*

- ❖ It is important for health professionals to understand and have a good working knowledge of the anatomy and function of the structures involved during the whole episode of childbirth.
- ❖ This knowledge is critical if trauma to the perineum is to be minimised.
- ❖ Knowledge of the distribution of the tissues and muscles damaged during birth is vital when repair of perineal trauma is performed to reduce morbidity.
- ❖ New technology has enabled visualisation of the exact nature and location of damage to the pelvic floor.
- ❖ Perineal trauma can be sub-divided into four classifications according to the extent of the tissue damage.

## **Chapter 4: The management of perineal trauma**

*Christine Kettle*

- ❖ Perineal injury has occurred during childbirth throughout the ages and various methods and materials have been used by accoucheurs in an attempt to restore the integrity of severely traumatised tissue. However, appropriate and effective management is a continuing problem.
- ❖ In the UK, midwives are responsible for suturing the majority of perineal trauma sustained following spontaneous vaginal delivery. There are wide variations in techniques and materials used for perineal repair. The rationale for the suturing method chosen often originates from the way the practitioner was first taught, or 'tradition', rather than clinical evidence.
- ❖ There is great diversity in practice in the way suturing of perineal trauma is taught, supervised, and assessed and there are no national or international guidelines relating to the training of operators.
- ❖ If practitioners are appropriately trained and assessed they are more likely to provide a high standard of repair which will directly effect the short- and long-term morbidity suffered by women following childbirth.
- ❖ Knowledge of the anatomy of the pelvic floor, wound and tissue healing is critical in managing perineal trauma and reducing morbidity.
- ❖ Current evidence suggests that perineal trauma should be repaired using the continuous non-locking technique to re-approximate all layers (vagina, perineal muscles and skin) with a more rapidly absorbing polyglactin 910 (Vicryl Rapide™ ) suture material.

## **Chapter 5: Episiotomy: the unkindest cut that persists**

*Ian D Graham and Christine Davies*

- ❖ Episiotomy is the surgical enlargement of the birth canal by an incision of the perineum at the time of birth. There are two types: midline and medio-lateral.
- ❖ The routine use of episiotomy was based on assumption of benefit rather than evidence of benefit.
- ❖ Current evidence arising from systematic reviews and randomised controlled trials demonstrates that the restrictive use of episiotomy does less harm than the routine use of episiotomy.

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- ❖ There is widespread variation in the use of episiotomy indicating that its use is not evidence based. Episiotomy rates vary internationally with a very high incidence in Latin America, Eastern and Central Europe.
- ❖ The performance of the surgery often also varies within the same professional groups implying that it is not clinical factors that determine its use, but rather the beliefs and practice of the care giver.
- ❖ Many non-clinical factors also determine its use, including; the nature of childbirth, beliefs about women, and even race, class and ethnicity issues.
- ❖ The emphasis on customer-led care and client choice has influenced the use of episiotomy. Encouraging women to question their care and express preferences is a strategy that should be used to change professional behaviour.
- ❖ An important pre-condition for reducing the use of episiotomy will be to ensure the transfer of evidence about its use into the knowledge base of indigenous and local providers in all countries.

**Chapter 6: Perineal tear assessment and the development of the Peri-Rule™**

*Susan Tohill and Alison Metcalfe*

- ❖ To date there is a lack of objective assessment and measurement of perineal trauma.
- ❖ Assessment of perineal trauma has rested mainly on midwives and doctors observing the trauma and classifying it in accordance with available guidance or using their own clinical judgement.
- ❖ The development of the Peri-Rule™ provides the first pragmatic tool for the measurement and assessment of perineal tears. The tool was developed for a study that examined outcomes of suturing or non-suturing of the perineum.
- ❖ The Peri-Rule™ was tested for its reliability by midwives across four maternity units in the United Kingdom.
- ❖ The Peri-Rule™ consists of a single use measuring device made of medical grade soft plastic with a millimetre scale rule and an assessment pro-forma.
- ❖ Midwives learnt to use the tool in training sessions that took from five to ten minutes in duration. A CD-ROM providing tuition on the use of the Peri-Rule™ has been developed. Midwives have welcomed its availability and have found it immensely helpful in determining the degree of trauma and subsequent need for suturing. Further details can be obtained online: [www.peri-rule.bham.ac.uk](http://www.peri-rule.bham.ac.uk)

- ❖ Women participating in the study reported that the tool caused no additional discomfort.

## **Chapter 7: Prevention of obstetric perineal trauma**

*Ranee Thakar and Abdul Sultan*

- ❖ Prevention and minimisation of perineal trauma is critical for the well-being of the woman, baby and family. However, how this is achieved can be problematic.
- ❖ The three levels of preventative strategies are primary, secondary and tertiary.
- ❖ Primary prevention includes elective caesarean section. However, the procedure is associated with increased mortality and morbidity and does not always prevent damage to the pelvic floor.
- ❖ Secondary prevention includes delivery techniques and positioning, however, there is limited evidence to support these. Episiotomy is the most used surgical procedure in obstetrics but can in itself give rise to associated morbidity.
- ❖ Whilst perineal massage is not harmful it has only been demonstrated to be beneficial when carried out during the antenatal period.
- ❖ Tertiary preventative strategies involve following-up those women who have had repairs or are having related symptoms by an experienced team. Ideally, all women should have endosonography and manometry when trauma has occurred.

## **Chapter 8: Postpartum management of the perineum**

*Debra Bick*

- ❖ Perineal pain may result from bruising or oedema of the perineal tissues, a spontaneous tear or episiotomy. The impact of pain can affect a woman's physical and psychological health and well-being, and her relationships with her baby and family.
- ❖ Despite symptoms being experienced by hundreds of thousands of women worldwide, identification and management of perineal morbidity has not been a high priority within routine postnatal care.
- ❖ Recent studies have assessed the effectiveness of a range of interventions to relieve perineal pain. Whilst some provide effective short-term pain relief, little is known about longer-term benefits.

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- ❖ There is limited information on the onset, incidence and prevalence of perineal wound infection.
- ❖ Further work is required to inform the short and longer-term management of women who sustain third or fourth degree perineal tears.
- ❖ Asking women about their experience of perineal symptoms and ensuring that individual health needs are met using best available evidence of effectiveness, should be an integral part of postpartum care.

## Reproductive issues in less developed countries

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*Karen Rosen*

In the twenty-first century, maternal mortality and morbidity continue to be serious problems in the developing world. Although reproductive healthcare has improved significantly in the past forty years, pregnancy and childbirth remain the leading causes of death and disability among women between the ages of fifteen and forty-nine around the world. Every minute a woman dies from complications of pregnancy or childbirth-around 529,000 per year (World Health Organization [WHO], United Nations Children's Fund [UNICEF] and United Nations Fund for Population Activities [UNFPA], 2003). Maternal mortality represents the greatest disparity between rich and poor countries with 99% of these deaths in the developing world, particularly Africa and Asia. In addition, for each woman who dies it is estimated that another fifteen to thirty suffer debilitating injury, such as obstetric fistula.

Although not necessarily predictable, childbirth-related problems are preventable and treatable with proper care and resources. In the developed world, widespread access to skilled attendance at birth and emergency obstetric services has reduced maternal mortality and severe morbidity rates virtually to zero. Women rarely die in childbirth and the very serious problem of obstetric fistula has been eradicated. In contrast, in less developed countries approximately one half of women giving birth do not have medically trained assistance, and should complications occur, few will have access to emergency obstetric care. However, as the case study from Bangladesh will show, education, family, community and government support will make pregnancy and childbirth safer and enable women to receive the care that they require and deserve in the case of an emergency.

Maternal mortality is the 'death of a woman while pregnant or within forty-two days of the termination of the pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes' (WHO, 1992). The five major direct causes of maternal deaths worldwide are haemorrhage (25%), sepsis (15%), complications of unsafe abortion (13%), eclampsia (12%), and prolonged or obstructed labour (8%) (WHO, 1999). Yet, relatively simple measures exist which can prevent or treat such problems. Bleeding can be controlled with drugs and the uterus massaged to stimulate contractions. Infection can be prevented by hygienic delivery conditions and awareness and management of sexually transmitted infections during pregnancy. Death and disability from unsafe abortion can be prevented through access to family planning information and services, care after complications, and where abortion is legal, safe abortion care. Deaths from hypertension can be prevented through monitoring during pregnancy and treatment with anticonvulsant drugs. Prolonged or obstructed labour (discussed in detail below) often occurs when the baby's head cannot pass through the mother's pelvis. This is more common in young girls whose pelvises have not fully matured and in less developed countries where malnutrition often leads to smaller



stature of women. Early marriage and sexual activity should be discouraged, good nutrition in childhood and adolescence promoted, and Caesarean sections available in emergency situations.

Indirect causes account for approximately 20% of maternal deaths. These are preexisting conditions that are exacerbated by pregnancy or its management such as anaemia, malaria and HIV/AIDS. Women must be made aware of these conditions and treated for them before becoming pregnant, and should receive antenatal care throughout pregnancy if possible.

The maternal mortality ratio (MMR), the risk of death a woman faces once becoming pregnant, is the number of maternal deaths during a given year per 100,000 live births during the same period. The world MMR is estimated to be 400 per 100,000 live births (WHO, UNICEF and UNFPA, 2003). A few shockingly high examples from around the world are: Sierra Leone — 1800 deaths per 100,000 live births; Afghanistan — 1,700 deaths per 100,000 live births; and Haiti — 1000 deaths per 100,000 live births (Population Action International [PAI], 2001). These can be compared with Japan — 18 deaths per 100,000 live births; USA — 12 deaths per 100,000 live births; and the UK — 9 deaths per 100,000 live births (PAI, 2001). Both global and country estimates are likely to be underestimates due to the difficulty of data collection.

The maternal mortality rate is the number of maternal deaths in a given period per 100,000 women of reproductive age during the same time period. Maternal mortality reflects the general health, social and economic status of women in society and their access to health care. Maternal deaths are a direct result of poor health, poor nutrition before and during pregnancy, inadequate care during pregnancy and delivery and unsafe abortion. Maternal deaths significantly impact on society as a whole because if a mother dies her baby is less likely to survive, the family suffers an economic loss and the extended family and community face an additional burden.

A woman's lifetime risk of maternal death is the probability that she will die from complications of pregnancy or childbirth during her reproductive life-span (defined as between ages fifteen and forty-nine). This takes into account both the probability of becoming pregnant and dying as a result of pregnancy. In this regard, vast differences in sexual and reproductive health and risks exist between rich and poor countries. In the developed world we have access to high quality health care, life saving drugs and surgical procedures when necessary, as well as high contraceptive use and low fertility. This all contributes to good reproductive health and a lifetime risk of 1 in 2125 (PAI, 2001). In less developed countries the picture is very different and women face a 1 in 65 risk of dying in pregnancy or childbirth (PAI, 2001). A lifetime risk of 1 in 100 or lower is considered high risk. An even starker contrast exists between Europe, where a woman's lifetime risk of dying from maternal causes is 1 in 1895, and Africa where it is 1 in 15 (PAI, 2001).

The Three Delays Model, developed by Deborah Maine *et al* (1997) at Columbia University School of Public Health, is a framework explaining the social factors for maternal death. The first delay is in deciding to seek care for an obstetric complication. In many cultures, women and/or their families may not recognise the signs of pregnancy-related complications, nor realise how serious they are or that they can be addressed through the formal healthcare system. This may occur due to late recognition of the problem, fear of hospitals, the costs associated with professional care or lack of an available decision maker. The second delay is in reaching the healthcare facility.

Surveys in a range of countries show that many women would like to deliver in a health facility but are unable to do so because of distance and lack of transport. The third delay is in receiving emergency obstetric care at the health facility. This may be due to lack of staff, facilities, supplies or medication.

It is important that women, community and family members are aware of the signs and symptoms of complications in pregnancy and childbirth and know how to act on them. They should develop plans for emergencies, such as transport to health facilities that can provide care and insurance schemes where necessary. Healthcare staff should be trained, facilities upgraded, and referral systems made stronger. In the absence of such changes women will continue to die needlessly.

### **The importance of skilled attendance at birth**

The international community has started to take the problem of maternal mortality seriously. In September 2000, the Millennium Development Goals (eight mutually reinforcing goals designed to eliminate poverty and encourage sustainable development) were adopted, which include a 75% reduction of the 1990 maternal mortality ratios by 2015, and identify the proportion of births attended by skilled personnel as an indicator for this goal.

The term skilled birth attendant refers exclusively to people with midwifery skills (usually a doctor, midwife or nurse) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer obstetric complications (WHO, 1999). For example, a skilled birth attendant can provide active management of the third stage of labour, which will help avert many cases of postpartum haemorrhage. However, current numbers indicate that only 53% of women in developing countries deliver with the help of a skilled birth attendant and only 40% of women give birth in hospital or a health centre (WHO, 1999). Figures are much lower in some countries.

For social, cultural, financial or practical reasons, many women in developing countries, particularly in rural areas, have their babies at home, either alone, with a family member or with the assistance of a traditional birth attendant (TBA). TBAs often learn basic delivery skills from their mothers but are not medically trained. Therefore, they are not considered skilled birth attendants. Controversy exists regarding the value of training TBAs as delivering with their assistance has not been shown to reduce maternal mortality. This is because they are often unable to recognise and manage complications and refer women to appropriate emergency obstetric care. However, they can provide culturally appropriate health education, emotional support and a link with the formal healthcare system. In addition, equipping TBAs with simple delivery kits may prevent some infection-related deaths. It is vital that TBAs are trained to recognise delivery problems and, if needed, guide women to medical care.

One reason so few deliveries have a skilled birth attendant present is that training in midwifery is neglected in many countries. In these places, there simply are not enough skilled attendants to provide adequate care or their skills are outdated. In addition, professionals may prefer to be in urban areas and it is logistically difficult to reach women who live in rural areas and give birth at home. Incentives should be given to encourage those with medical training to work in outlying areas where the need is often greatest.

## **The importance of emergency obstetric care**

Access to emergency obstetric care (EmOC) is critical because 15% of all pregnancies will result in life-threatening complications requiring emergency medical intervention; and up to 40% of pregnancies (WHO, 1999) may require some form of special care. Such complications cannot be accurately predicted and most often cannot be prevented, but can be treated. Skilled birth attendants should be present during all deliveries because they have the knowledge to manage and refer complications when necessary. To function effectively, however, they need to be supported by systems which ensure adequate supplies and equipment as well as efficient and effective methods of communication, transport and referral.

The safe motherhood community agrees that there should be at least four basic emergency obstetric care facilities and one comprehensive facility for every 500,000 people. A basic facility should be able to; administer antibiotics, oxytocic drugs and anticonvulsants by injection or intravenously, perform manual removal of the placenta and manual vacuum aspiration of retained placental material, and perform an assisted vaginal delivery. A comprehensive facility should be able to perform these functions as well as caesarean sections and blood transfusions. Providing such care requires trained professional staff, a good logistics system for medical supplies, a functioning referral system and good supervision.

The countries which have been most successful in reducing the maternal mortality ratio, such as Sri Lanka and Egypt, have gradually shifted to professional attendance at birth, facility-based deliveries, expanded health facilities, trained midwives and the encouragement of family planning. However, poor countries may only achieve this with political will, high standards of education and community support.

Maternal morbidity, the serious illnesses and injuries that women suffer as a result of pregnancy, has long been neglected. Estimates indicate that for every woman who dies from pregnancy-related causes, up to thirty suffer debilitating injury, infection or disease such as anaemia, infertility, pelvic pain and incontinence. These problems affect up to twenty million women worldwide (UNFPA, 2003), the majority in developing countries. One of the most severe and devastating of these injuries is obstetric fistula.

Fistula occurs when a woman, normally young, has a long or obstructed labour and cannot get a caesarean section when needed. The obstruction occurs because the woman's pelvis is too small, the baby's head is too big, or the baby is badly positioned. During obstructed labour, the prolonged pressure of the baby's head against the mother's pelvis cuts off the blood supply to the soft tissues surrounding her bladder, rectum and vagina. The injured tissue necrotizes, leaving a hole, or fistula. If the hole is between the woman's vagina and bladder (vesicovaginal), she loses control of micturition, and if it is between her vagina and rectum (rectovaginal), she loses control of her bowels. The baby is almost always stillborn.

The World Health Organization estimates that more than 2 million girls and women suffer from obstetric fistula with an additional 50,000 to 100,000 new cases occurring every year (Murray and Lopez, 1998). These estimates are based on women seeking treatment so are likely to be low. Fistula is particularly prevalent in sub-Saharan Africa and South Asia where early marriage and childbearing before physiological development are widespread, poverty, malnutrition and general poor health are endemic, and traditional care and home birth common.

In Niger (in French speaking West Africa) a recent study on fistula conducted by the United Nations Population Fund (UNFPA, 2003) found the average age of marriage was fifteen, but it reported that in some areas girls married as young as nine. Early marriage leads to early sexual activity and pregnancy, particularly since only a very small percentage of women in Niger use contraception, and of that number, only a few use modern methods. With eight children per woman (Population Reference Bureau, 2003), Niger has the highest total fertility rate in the world and its population is expected to increase dramatically over the next fifty years. UNFPA's study revealed 36% of girls aged fifteen to nineteen have either been pregnant or have at least one child (UNFPA, 2003). These factors, together with a preference for home births, a lack of skilled attendance at birth and limited access to emergency obstetric services, make fistula highly prevalent in Niger.

In many parts of the world social and cultural factors prevent women from receiving appropriate and timely care before, during or after birth. This leads to high rates of maternal morbidity. In some societies men are expected to make all the decisions regarding health care. Many women receive no antenatal care and may be expected to give birth at home without medical assistance. Shame, fear of medical professionals, inability to access care due to cost or distance, or unwillingness on the part of the family decision maker all contribute to pregnancy-related deaths and disabilities. For example, in some Islamic and Hindu communities the practice of purdah keeps women hidden from men outside their own family. Women may not be allowed to leave the house or can only do so if accompanied by a husband or male relative. This often makes accessing health care extremely difficult and, consequently, women may endure prolonged labour. In some cultures prolonged labour is blamed on infidelity by the woman and she is expected to endure it as punishment.

Harmful traditional practices such as female genital mutilation (FGM) may place girls and women at increased risk for fistula and other childbirth-related problems. FGM constitutes all procedures which involve partial or total removal of the external female genitalia or injury to the female genital organs, whether for cultural or any other non-therapeutic reasons. It is estimated that over 100 million girls and women have undergone FGM and each year a further two million girls are at risk (WHO, 2000). In Niger, 22% of the women with fistula who received repairs in 2002 had also experienced some form of FGM (UNFPA, 2003).

There are several different types of FGM, the most extreme of which may be the gishiri cut practiced in Nigeria among the Hausa people. It is used to widen the vagina for consummation of an early marriage or to treat various gynaecological problems, often during pregnancy and childbirth. A cut is made with an unsterilised instrument in the anterior wall of the vagina. This can put women at risk for fistula if the blade ends up in the bladder or rectum. A study done in three hospitals in south west Nigeria examined the relationship between FGM and complications at delivery. When all pregnancies were analysed, circumcised women were at significantly higher risk of tearing and stillbirths (Larsen and Okonofua, 2002). The study found that the increased risk of obstetric complications may be due to the scarring of perineal tissues which increased the likelihood of tearing and risk of haemorrhage.

Fistulas commonly occur during a first vaginal delivery. In societies where childbearing is highly valued this can seriously impact a woman's future. Having lost a baby and smelling constantly of urine or faeces, women with fistulas are often