

(131909)

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**INTERNATIONAL CONFERENCE ON PRIMARY CARE  
OBSTETRICS AND PERINATAL HEALTH  
quality assessment in different settings**

NIV 8(a)

**ABSTRACTS**

**March, 1991**

obstetrie / verloskunde /  
kwaliteit van de zorg /  
zwangerschap /  
wvanning / verloskundigen /  
uk / nederland / canada /  
vrouwen / huisartsen /  
plaats van bevalling /  
gynaecologie / opleiding /  
voorziening / organisatie

Symposia  
indien van toepassing

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**NIVEL**  
**bibliotheek**

drieharingstraat 6  
postbus 1568  
3500 bn utrecht  
telefoon: 030 319946

CIP-GEGEVENS KONINKLIJKE BIBLIOTHEEK, DEN HAAG

International

International Conference on Primary Care Obstetrics and Perinatal Health :  
abstracts. - Utrecht : NIVEL, Netherlands Institute of Primary Health Care  
ISBN 90-6905-141-9

Trefw.: gynaecologie / verloskunde.

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## PREFACE

In most countries 'primary care obstetrics' is a contradiction in terms. Deliveries take place in maternity clinics, in general and specialized hospitals while 'home deliveries' are associated with small-is-beautiful movements or even with the esoteric fringe of feminist radicalism.

The Dutch example (more than one third of home deliveries and a substantial proportion short stay deliveries; with independent midwives taking a share of 40% of the obstetric market and well organized maternity home care) proves that the trend towards the hospitalization of expectant mothers is not necessarily equal to the progress of civilization.

Primary care obstetrics is not an abstract concept but a reality under specific cultural and organizational conditions.

Consumer preferences, financial and organizational conditions, selection of obstetric risks, behaviour of health care professionals, standards and quality of care form the topics of this conference.

A broad range of papers provides a varied picture of sometimes limited, sometimes ample opportunities for primary care obstetrics. They all share a preference for a rigorous empirical approach to the subject rather than a merely rethorical one.

Outcome-studies, especially focused on health and wellbeing of **both** child **and** mother will be the strongest weapon in the discussion about an optimal balance between ambulatory and institutional obstetric and perinatal care. This is perhaps somewhat naïvely stated and overstresses the importance of research for policy, but it is the only thing the scientific community is really good at. This conference will hopefully prove this.

Netherlands Institute of Primary Health Care  
J. van der Zee, scientific director





## PRIMARY CARE OBSTETRICS IN A WHO PERSPECTIVE

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As pregnancy is not a disease and birth is not a surgical procedure, therefore perinatal care should be supportive, empowering and family-centred. These are not general characteristics of primary health care in secondary or tertiary health care and yet WHO/EURO studies in the 1980s, published in the report 'Having a baby in Europe', show a definite trend away from primary care obstetrics. Birth in Europe is more and more in bigger and bigger hospitals and there are increasing rates of obstetrical interventions requiring specialist care. Why this trend away from primary care obstetrics? There has been a redefinition of pregnancy and birth as risky and a focus on pathology. Erroneous science has equated falling perinatal mortality with decreasing primary care obstetrics.

What can be done to return to primary care obstetrics? It must begin with good science with publications such as the landmark volumes by Chalmers, Enkin and Keirse. Secondly, the scientific results must be used to set standards of care, and here WHO/EURO has been involved in standards such as those on appropriate technology for birth in Fortaleza Brazil and published in the Lancet. Next these recommendations must be applied to individual countries, and here WHO/EURO has held over 40 birth conferences in over 20 countries for this purpose. Finally, when these standards have been accepted at national level, they must in turn be accepted and changed into practice at local level. Here is where the role of the midwife and the women's groups is crucial. The publishing of good birth guidance in several countries is one highly effective local effort.

# PRIMARY CARE OBSTETRICS AND PERINATAL HEALTH IN DIFFERENT SETTINGS

**M.J.N.C. Keirse**

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In any discussion on primary care obstetrics it should be fully realized (a) that for the majority of the world's population primary care is the only type of obstetric care available, (b) that the only provider of 'true' primary care is the pregnant woman herself, and (c) that all other types of care, whether they are named primary, secondary or tertiary, should be geared predominantly to assist the woman in the fulfilment of that task.

Primary care is usually defined either as care provided by first-line health workers or as care provided for women without known medical and obstetric disorders. These two definitions are often considered to be different expressions for the same thing, but they are not. In some countries, primary care means care given by general practitioners; in others it refers to general practitioners working with community midwives; in still others it refers to general practitioners as well as professional midwives; and in still others the bulk of primary care is given by specialists certified in obstetrics and gynaecology. In many countries the choice of care provider implies more than the choice for a particular type of professional with his or her special type of training and expertise. More often than not, this choice also implies a different locality (e.g. hospital, birth centre, office) and different types of infrastructure and equipment available.

Although there is reasonable evidence that absence of care is detrimental to perinatal health, for the majority of the populations there is little evidence that any or all of these specific variables greatly influence perinatal health. There is far more evidence, though, that they do influence the satisfaction with obstetric care and thereby affect the provision of 'true' primary care i.e. care provided by the pregnant women herself.

In the industrialized world obstetric care has changed markedly not in the least because a number of technical advances and procedures have evolved beyond the field of expertise and competence of those who formerly provided the bulk of care. In many countries the changes have led to rivalry, resentment, and territorial protection among different professional groups. Vaguely defined notions, such as 'continuity of care' or 'superior knowledge', often express, implicitly or explicitly, the belief that (a) one profession has a quality that is lacking in the others, and (b) that this quality is more important than that which the others have to offer. The fact that the range of qualities is usually far greater among the individuals within each of the professions than among the professions as a whole is often conveniently forgotten.

The evidence that is available all points to the single fact that perinatal health does not depend on primary obstetric care; nor does it depend on secondary care. It depends on a balanced mixture of both primary and secondary care. Neither can function properly without the other and their coexistence requires professional cooperation rather than competition.

# EVALUATING THE EFFECTS OF CARE DURING PREGNANCY AND CHILDBIRTH

## I. Chalmers

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The majority of pregnant and childbearing women and their babies are healthy, particularly those seen by professionals offering primary care. This imposes a special responsibility on those who provide primary care during pregnancy and childbirth to acknowledge that their care may, on balance, do more harm than good; and that, even if the care on offer is not positively harmful, it may be useless. These possibilities imply that care-givers have a further duty to conduct well-designed research to assess the effects of their care. Some forms of care are easily recognised as having dramatically good or bad effects; far more usually, however, the differential effects of alternative forms of care are more moderate, albeit still of great importance. If these differential effects are to be detected efficiently, research must be designed such that systematic errors (biases) and random errors (the play of chance) are controlled adequately. In my presentation I will outline how moderate but important differential effects of alternative forms of care can be distinguished from differences which simply reflect bias or the play of chance.

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# DEVELOPMENTS IN RESEARCH IN MIDWIFERY IN THE UNITED KINGDOM

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Midwives in the UK work closely with all women, their babies and their families, in both hospital and community settings during pregnancy, labour and postnatally. They liaise with general practitioners, social services and obstetricians in planning and providing care for women and their families.

Midwives and maternity organisations in the UK are addressing a number of vital issues at present. These include: how best to provide continuity of care; how to use midwives skills to the full, especially in the provision of antenatal care; changing education for midwives; changes in midwifery legislation; and developing research in midwifery to provide soundly based information.

This paper addresses one of these important issues; developing research in midwifery. Access to information derived from good research is essential in planning effective change and development, especially in clinical practice and in education. In relation to the issues facing midwifery in the UK at present, research is especially important. For example, what is the best way of providing continuity of care within a large system such as the National Health Service? What skills do midwives have that they are not able to use, and how would they prefer to practice? What are the problems that women encounter when using the maternity services, and how can midwives help to prevent or treat these? Midwives can only make decisions about the best forms of care to use, or the content of a new curriculum for students, or the most appropriate use of resources, with access to good information derived from research. Change is an improvement on the status quo only if it is grounded in knowledge, rather than opinion.

In 1988 the Midwifery Research Initiative was set up in the National Perinatal Epidemiology Unit in Oxford. The remit of this new initiative was twofold: to carry out an active programme of research in midwifery care, and to act as a focus for research in midwifery. In planning to fulfil both of these aims, it became clear that there was a lack of information easily available about research in midwifery. It was hard to begin a research programme without knowing about all the studies which had been carried out already. And it was hard to 'act as a focus' without a network of researchers to draw on and refer enquiries to.

It was also clear that midwives across the country needed more information about research. They could turn to indexes and registers of published work, but much midwifery research is difficult to track down. In the experience of

the staff of the Midwifery Research Initiative, many studies in midwifery have been completed or are ongoing, yet relatively few of these are well known. Some studies have been published in journals not widely read by midwives, others in journals which are not listed in indexes of published work. Some studies have never been published.

To address these problems, a computerised register of studies in the field of midwifery in the UK was set up as part of the Midwifery Research Initiative. This register, called MIRIAD, has two clear objectives. The first is to create a computerised record of studies, completed and ongoing, published and unpublished, in the field of midwifery in the UK. The second aim is to establish a network of researchers in midwifery. MIRIAD was established in 1989, and the first report was published and distributed in 1990.

This paper will use examples of research studies entered on MIRIAD to illustrate the benefits that can derive from knowing about midwifery research studies. The importance of these studies in planning clinical care, midwifery education and the management of midwifery services, will be discussed.

# PRIMARY CARE OBSTETRICS AND PERINATAL HEALTH IN THE NETHERLANDS

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In most industrialized countries obstetric care is largely a form of care that is provided in hospitals. The Netherlands is one of the few countries in which obstetric care largely takes place at home. On the one hand a great deal of prenatal care is given by midwives and general practitioners who work in primary health care (not in hospitals). On the other hand, 33% of all deliveries take place at home and, finally, 84% of all postnatal care is again given home.

The main reasons for this specific situation are firstly the fact that the authority to carry out deliveries independently is not confined to GPs and gynaecologist-obstetricians, but is also given to a third professional group (with specialist-obstetric education): the midwives.

Secondly, there is a very well organized system of home help in the puerperium - or maternity care - which is given by qualified maternity assistants to families during childbirth and up to ten days afterwards at home.

The third reason why obstetric care is organised in such a way in the Netherlands is a cultural one. In most West European countries home confinement is more or less regarded as anti-social behaviour, in contrast to the Netherlands, where this is a well-accepted phenomenon.

Though the percentage of home deliveries is still quite high in the Netherlands, it decreased substantially till 1980. As from then the proportion of births at home has been rather stable (33%).

Congruent with this development in the last decades have been important shifts in relation to the way in which deliveries have been supervised among the three professional groups. Attendance by general practitioners has been substantially reduced from 53% in 1950 to 11% in 1989. Attendance by gynaecologist-obstetrician on the other hand increased from 17% in 1950 to 43% in 1989. Attendance by midwives remained rather stable in this period (46% in 1989).

With regard to these shifts we have been able to establish the fact that the general practitioner has lost a significant amount of work to the midwife, and she, in turn, to the gynaecologist. It is exactly these shifts as well as the fact that the total number of births has largely decreased, that has resulted in a competition for the obstetric market among the three professional groups. Competition is still going on. It dominates an important part of the research that is being done into the quality of obstetric care in the Netherlands.

On the one hand this competition concentrates on the issue whether deliveries should take place at home or in hospital, and on the other hand it is about checking whether the professional groups do their work properly. The results thusfar indicate that qualitatively speaking home confinement produces outcomes equal to those of confinements in hospital.

In order to improve, the cooperation between the professional groups involved, many more large-scale studies will have to be made in the time to come. The results of such studies will also affect research in other countries. After all, the Netherlands, with its high percentage of home deliveries, is one of the few countries where such types of research can be done.

Another possibility that will be seized upon in the coming years to improve obstetric cooperation is the planning of obstetric cooperation structures. Experiments will be starting in a number of places in the Netherlands to establish cooperation structures for midwives, general practitioners and gynaecologists. It is expected that mutual mistrust may be taken away by means of well-organized cooperation.

## PRIMARY CARE OBSTETRICS AND PERINATAL HEALTH - CANADA

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Health care in Canada is funded by a provincially administered government insurance system, with universal coverage for all aspects of medical care, including obstetric and perinatal services. Childbirth takes place almost completely in hospital, with less than one per cent of births occurring at home, and in a small number in birth centres. Perinatal care is regionalized with three levels of specialization: Level I, or community hospitals providing care for healthy mothers, babies, and families, or those with few immediate complications (estimated to be 85% of mothers); Level II, or district hospitals, capable of providing continuing care at the moderate risk level, for most complications (estimated to be 12% of mothers); and Level III, or regional hospitals providing intensive care at the high risk level for those with serious illness and extreme prematurity (estimated to be 3% of mothers).

Provision of obstetric care is complicated by the large size of the country, with the population concentrated in urban centres in the south near the United States border, and large sparsely populated areas in the north. While attempts have been made to provide some local obstetric services in these under-populated areas, it is often necessary for women to travel long distances to give birth.

Canada has the dubious distinction of being the only country in the industrialized world without a legalized system of midwifery care. Obstetrical care is given by physicians. Until recently most of this care was carried out by family physicians, but in recent years there has been an increasing trend towards primary care to be carried out by specialist obstetrician/gynaecologists. At present less than a third of deliveries are conducted by family physicians (although many still perform a significant proportion of the antenatal care). Twenty-two per cent of family physicians have stopped intrapartum obstetric care in the past 5 years; only 20% of newly graduated family physicians plan to start obstetric practice (1).

Family doctors cite a number of reasons for giving up obstetrical care. Chief among these are the interference with personal and family life and the interruption of office schedules involved with delivery care. Further factors include the higher malpractice insurance fees charged to family doctors who practice obstetrics and the relatively low fee schedule for obstetrical care compared to other medical procedures, resulting in a low financial incentive. Many express a fear of litigation, associated with unrealistic patient expectations; other complain of inadequate training, insufficient deliveries to maintain their skills, and the inferior position that they maintain



vis a vis obstetricians. Whatever the reasons, the result has been a serious shortage of medical providers of obstetric care.

Although there has been a notable improvement in family centred hospital practices in recent years, the shift has been far from complete. Nationally collected data are not available, but a comprehensive survey was recently completed in Ontario, Canada's most populated province. Over 10% of hospitals still routinely practice pre-delivery perinatal shaves and 13% of community hospitals still routinely administer enemas to labouring women. Eleven per cent of community hospitals and 18% of regional hospitals have a policy of routine intravenous infusions. A third of women in community hospitals and almost two thirds in regional hospitals give birth in the lithotomy position. Only 20% of hospitals encourage women to make a birth plan, one third provide one to one nursing care, and 70% routinely separate mothers and babies postpartum for 'observation'.

Only 11% of community hospitals and 46% of regional hospitals allow women to labour after a previous caesarean section. Forceps rates hover around 20% (vacuum extraction is rarely used). The caesarean rate of over 20% is considerably higher than in most countries with comparable perinatal mortality rates.

The medical care gap, and the changing cultural expectations towards family-childbirth and choice of birth alternatives have combined to provide a strong demand for midwifery care. Midwifery practice has increased sharply and has become well organized during the past 15 years. The Association of Ontario Midwives is a self-constituted group of practising midwives, some of them trained in other jurisdictions, others apprentice-trained. They carry out prenatal care, attend births in the home, and give postpartum care. In hospital, their role is restricted to that of labour coach.. The association has a clear cut philosophy of practice, emphasizing informed choice and continuity of care, and carefully delineated guidelines for consultation. The lack of legal status, has severely limited their activities.

The pace of change quickened rapidly in 1986, when the Ontario government announced their intention of legalizing midwifery as an autonomous, self-governing profession. A Task Force was appointed to review midwifery practice, education, and regulation in a number of countries, to receive submissions from medical and public groups and interested individuals, and to formulate recommendations for the development of a well-educated, responsible profession. The Task Force report, released in 1987 (2), recommended that midwifery should be a profession independent of medicine and nursing, with a scope of practice based on the International Definition of a Midwife.

Pending the passage of legislation, the government set up an Interim Regulatory College of Midwifery, to develop standards of practice and the eligibility criteria for Ontario registration. The Interim College consisted of 13 appointed members, including two family physicians, one obstetrician, two maternal/infant nurses, and an administrator, a childbirth educator, a lawyer and 5 consumers. With one exception, all members are women. Currently practising midwives who intend to apply for Ontario registration attend all College meetings to provide advice and information and to participate in

discussion. Simultaneously, a Curriculum Design Committee was established, to recommend the components and duration of a midwifery curriculum.

The committee recommended a direct entry, four year baccalaureate educational programme, with at least 50% of the content clinical practice experience. The length and structure of the programme is to reflect the importance of providing continuity of care throughout pregnancy, birth, and the post-partum period. The entry-to-practice midwife must be a competent and confident practitioner in the full range of settings, including home, birth centres, and hospitals. Attention was paid to the different educational needs of those with midwifery experience, those with related health care backgrounds, and those with no previous health professions education. A shortened integration programme is to be established for those with current Ontario midwifery experience, and an individualized program will be available for other applicants to reflect their already acquired knowledge and experience (3).

Public, professional, and government response to the proposals has been largely favourable. Debates have centred not on whether midwives will exist, but on details about how the profession will be structured. The government has stated its intention to introduce the enabling legislation in the spring of 1991.

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## **PRIMARY CARE OBSTETRICS IN FRANCE**

### **B. Blondel**

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### **General organization**

In France health care is provided through the private and the public sectors. There is no regulation to discourage or to avoid access to specialist directly. A social security system covers 99% of the population and reimburses about 70% of the cost of health care.

Prenatal care is free for all pregnant women from the 6th month onwards and in almost cases expenses associated with birth are free, even if the mother stays a long time in hospital or if her baby is in a neonatal ward.

### **Prenatal care**

A special allowance (US\$ 170 per month) is received by every pregnant women who has at least one visit during the first trimester and two visits afterwards. These financial incentives may have an effect on the earliness of prenatal care in France.

52% of the pregnant women receive care from an obstetrician exclusively and 36% see an obstetrician at least once during pregnancy. The public health centers specialized in maternal and child health have a minor role in the prenatal care.

Between 1981 and 1988 we observed an increase of the number of prenatal visits, ultrasound examinations and hospital admissions.

### **Delivery**

Less than 1% of the deliveries occur outside maternity units; 55% of the non instrumental deliveries are attended by a midwife exclusively and 42% by an obstetrician.

Between 1980 and 1989 we observed an increase of the proportion of induced labour and caesarean section.

### **Conclusion**

Obstetricians have an increasingly major role in primary care in France; they are now the main care providers during pregnancy and delivery, there is a more active policy to prevent complications and adverse pregnancy outcome. This trend may contribute to an overuse of medical care.



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**QUALITY OF OBSTETRIC CARE**

**SECTION I**



# THE WORMERVEER STUDY, PERINATAL MORTALITY AND PREVENTABLE FACTORS

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## Introduction

In a prospective study of a group of 7,980 pregnant women who booked in an independent midwife practice, perinatal mortality was studied with the aim to assess non-optimal management. An internally generated audit was not successful because of emotional involvement. A panel of independent experts seemed to be a better instrument to assess the quality of care.

## Methods and results

The 89 cases of perinatal mortality (>500 gr.) were studied by two obstetricians, one neonatologist, one pathologist, one midwife and one general practitioner. The experts subdivided the cases into six groups:

1. unavoidable
2. probably unavoidable
- 3a. insufficient information
- 3b. possibly avoidable
4. probably avoidable
5. avoidable

The judgements concerning (in)avoidability were rubricated in four groups. Consensus: all the members have the same judgement. Consensus - 1: five of the six members have the same judgement. Near consensus: the judgements of the members were very close. No consensus: the remaining cases.

In cases of avoidability, the involved professional group was only mentioned when at least five members agreed.

In 66 (75%) of all 89 cases, complete consensus, consensus -1 or near consensus was reached. In this group preventable factors were noticed in 29 cases (44%). In 30 cases (45%) the mortality was judged as inevitable. In seven cases, the information was insufficient. In the 29 cases with preventable factors, 12 cases concerned the skill of the obstetrician, seven cases the skill of the pediatrician, seven cases the skill of the midwife, two cases the behaviour of the patient, and one case the skill of the general practitioner.

## Conclusion

Preventable factors are mainly present in decisions made during the prenatal period by the midwife (or general practitioner) and the obstetrician, in care during labour and delivery and in the postnatal period by the obstetrician and pediatrician. The care of the midwife during labour and delivery had little influence on preventable perinatal mortality. A further decrease of perinatal mortality may be achieved by analysis of the cases and the continued education of all workers in perinatal care.

# **AN AUDIT OF THE COMMUNITY ANTENATAL CARE SCHEME IN TOWER HAMLETS IN 1989**

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## **Introduction**

A community antenatal care scheme has existed in Tower Hamlets in East London since 1982. It currently involves six local general practices and provides women with the convenience of community based care with regular visits from the hospital specialist. It had been noted anecdotally by several of the scheme's general practitioners that the incidence of pre-eclampsia in their practices was lower than might be expected. It was hypothesised that this could be related to the less stressful surroundings. An audit was therefore undertaken of those women booking under the scheme in 1989 to compare their outcome with that of local women having traditional hospital based or shared care.

## **Method and results**

A record was kept of all women booking in the six clinics and their demographic and medical details collected and entered onto our computer. 405 women booked under the scheme in 1989, representing 11% of the total number of women booking in the area. Details concerning their subsequent obstetric outcome were obtained from the hospital computerised records. Our particular interests were the rate of spontaneous versus induced labour, mode of delivery, birthweight, gestational age at delivery, the incidence of complications such as ante- and postpartum haemorrhage and pre-eclampsia, length of hospital stay and mode of infant feeding. Results from the community based women were compared with those of the rest of Tower Hamlets using the annual returns from the hospital computer department. The two groups of women were similar in almost all respects but we were surprised to find that the community based women not only had significantly lower rates of pre-eclampsia as we had expected but also significantly lower antepartum and postpartum haemorrhage rates.

## **Discussion and conclusion**

It is widely accepted that women express a preference for community antenatal care because of the convenience of visiting a local surgery where the staff are familiar. The Tower Hamlets scheme encourages a mutual respect between hospital obstetricians and general practitioners for one another's skills and strengths, an attitude which we endeavour to nurture amongst medical students and trainees. We have shown that in Tower Hamlets the obstetric outcome for community based women is not only comparable to that of women receiving traditional antenatal care but in some aspects is superior. Since this is the case and since women prefer the scheme to traditional forms of care, community antenatal care should be encouraged.



# QUALITY OF OBSTETRIC CARE BY GENERAL PRACTITIONERS (GPs) IN THE NETHERLANDS

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The aim of this investigation is to objectify general practitioner obstetrics and to assess the quality of these obstetric practices.

Since the year investigation (1958) of the Dutch College of General Practitioners (Nederlands Huisartsen Genootschap) studies have been confined to the practice of one GP.

## **Methods**

For the investigation 13 GP practices were selected of which nine were rural.

Criteria for the selection were as follows:

- holding uniform and as far as possible, complete obstetric records;
- willing to be tested;
- performing at least 15 deliveries a year;
- ready to invest much time.

Of all pregnant women, who gave birth in 1980-1985 and obstetric care GPs were primary responsible, obstetric data were collected retrospectively. Initially data were provided by the GPs, which data were later on checked and completed by research assistants.

## **Results**

The study-group consisted of 1841 pregnant women and 1868 neonates. The characteristics of the group are comparable with the Dutch average: 39% nulliparae, 1.5% twins, 5% preterm births, 2.3% very small for gestational age (<2.3 perc.), 3% born in breech presentation and 7% post-mature pregnancies.

For 60.2% of the pregnant women pregnancy confinements and puerperium were physiological i.e. no referral in accordance with the 'Kloosterman-list' (an officially approved list of medical and obstetric complications devised by Kloosterman) and no obstetric health damage.

The place of birth was for 72% at home, for 5% in hospital (short stay: delivered by GP) and for 23% in hospital (delivered by specialist-obstetrician).

The sensitivity of the prenatal surveillance was determined with respect to several variables for pregnancy outcome as well as the quality score of the selection (i.e. referred in accordance with the Kloosterman-list). In the case of the twins the sensitivity comes to 76% (resp. quality score 95%); preterm births 70-93% (resp. 38-75%); small for gestational age 29-39% (resp. 95%); born in breech presentation >80% (resp. 77-97%); postmature pregnancies

71% (resp. 68%). For the rest of the pregnancies the quality score was 81%.

Of all the pregnant women who were primarily or secondarily referred 38% were referred back to the GP for the continuation of the prenatal surveillance.

The referral policy of the GPs and the re-referral policy of the specialist-obstetricians closely correspond to the intentions of the re-adjusted Kloosterman-list (1987).

The greatest obstetric damage (maternal and child morbidity and mortality) was found among the pregnant women who had been referred.

The perinatal mortality rate (1.29%) was a little higher than the national rate (1.04%), but the difference is not statistically significant ( $p=0.28$ ).

### **Conclusion**

In general the quality of the obstetric care of the participating GPs is assessed as good. There cooperation with the specialist-obstetricians was functional. The number of home deliveries was twice the national number and the number of hospital deliveries by specialist-obstetricians was half of the national one.

Related to the strict standards of quality-assessment, some deficiencies have been found. Because highly selected and committed GPs were involved the importance of this study are the systematic deficiencies. Those are, first, the insufficient method of surveillance (small for gestational age) and, second, inadequate adherence to some directives for referral (preterm births and postmature pregnancies). Research on more sufficient screening methods useful to GP and midwife is recommended.

Adherence to directives can be encouraged if all GP-obstetricians participate in an obstetric audit group. Such a group should consist of 5-12 GPs and should preferably meet once a month.

# HOME DELIVERY AND PERINATAL HEALTH

## **T.M. Voorwald-Tas**

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Survey of perinatal mortality and morbidity in a Dutch countryside midwifery practice.

### **Introduction**

This paper is based on the annual reports of the practice over the years 1976 until 1988.

### **Methods**

In total 1,821 clients were booked at the midwifery practice for antenatal care. The total group is divided into three subgroups:

- 1: The group for whom the midwife had total responsibility; 1,110 clients; about 90% of them delivered at home.
- 2: The group referred to the obstetrician during pregnancy; 473 clients.
- 3: The group referred to the obstetrician during labour; 238 clients.

### **Results**

From the 1821 clients 1849 babies were born. Eleven babies died, perinatal mortality-rate: 5.94.

Morbidity rates will be given to, although they are not all available for the second and the third group. Short case histories will be given in each group.

- In the first group, the clients for whom the midwife had total responsibility, (1,110) clients), one baby died, perinatal mortality rate: 0.90.
- In the second group, the clients referred to the obstetrician during pregnancy, all twins were born (473 clients, 501 babies) in this group 9 babies died, perinatal mortality rate: 17,96.
- In the third group, the clients referred to the obstetrician during labour (238) clients one baby died, perinatal mortality rate: 4.20.

### **Conclusion**

Primary care obstetrics in the Netherlands may be considered high-standard, and the home delivery is a logical and justified consequence of this system.

# DELIVERIES GUIDED BY MIDWIVES, GENERAL PRACTITIONERS AND OBSTETRICIANS: RESULTS AND NEONATAL NEUROLOGICAL OUTCOME

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In a consecutive series, 766 midwife/general practitioner deliveries and 368 deliveries guided by obstetricians in the University hospital were observed (Berghs and Spanjaards, 1988).

All pregnancies were low risk. The neonates were neurologically examined in the second week of life (Prechtl 1977). The main question posed was: were there differences in results in terms of delivery complications, interventions and fetal outcome.

Deliveries guided by obstetricians had a higher intervention rate and the children born in this subpopulation were more frequently referred to the pediatrician and had lower Apgar scores, both for primiparous and multiparous deliveries. The social characteristics of this group (bodylength, smoking, medication, education) differed ( $p < 0.01$ ) from the other subpopulations. There were no differences in neonatal neurological findings between the children born in midwife, general practitioner or obstetrician guided deliveries.

It was concluded that the results of midwife and general practitioner deliveries were comparable to the deliveries guided by the obstetricians, despite the lower social profile and the higher intervention rate of the latter. Further investigations on the higher intervention rate in obstetricians deliveries were recommended.

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**QUALITY OF OBSTETRIC CARE**

**SECTION II**

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## **AN EPIDEMIOLOGICAL COMPARISON OF PLANNED HOME AND HOSPITAL BIRTHS IN WESTERN AUSTRALIA 1981-1987**

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In Australia homebirths have never been a part of the formal health care system, and thus there has never been a comprehensive support structure for such births. Nevertheless, it appears that a small but increasing proportion of Western Australian women are planning to have their babies at home.

It is difficult to formulate national policies without reliable information concerning homebirths but the only national statistics on planned homebirths in Australia are collected on a voluntary basis and may therefore be incomplete. Thus, this study was designed to include all planned homebirths in Western Australia (WA) during the study years and was undertaken to help remedy the lack of published research on homebirths in WA and Australia generally.

Data on 995 singleton planned homebirths in WA were collected from homebirth midwives' records and other sources. Transfers to hospital at all stages of care (antenatal, intrapartum and postpartum) were included.

Planned homebirths have increased from 3.5 per 1000 singleton births in WA (N=76) in 1981 to 8.0 per 1000 in 1987 (N=188). Mothers who planned homebirths were similar in parity and marital status to women having singleton births in WA during the same years but were taller, slightly older and almost exclusively Caucasian. The proportion of women who transferred to hospital was 24.6% with most of these being in the first stage of labour. Complications of pregnancy were identified for 42.8% of the women and complications of labour for 38.8%. Postpartum haemorrhage occurred in 8.4% of women. The caesarean section proportion was 4.2% and 6.2% of women had an operative vaginal delivery. The incidence of low birth weight (<2500 g) was 1.9% and that of preterm birth (<37 wks) was 3.2%. The perinatal Caucasian births during the same years.

Results will also be presented from a retrospective matched cohort study of planned home and hospital births, using the group of planned homebirths already identified. This study is currently in progress. The two groups have been matched for various factors to ensure they are as similar as possible. The following outcomes will be compared: onset, length and complications of labour, type of delivery, length of hospital stay, perinatal and postneonatal mortality, five minute Apgar score, time to spontaneous respirations,

resuscitation, birth weight, gestational age, birth trauma and the number of days in special care.

As randomised controlled trials of home and hospital births are not possible, retrospective data such as these are important in evaluating homebirth practice and assisting in the formulation of policy.



## THE WORMERVEER STUDY, PERINATAL MORBIDITY

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### Introduction

In a prospective study of a group of 7980 pregnant women who booked into an independent midwife practice, perinatal morbidity was studied with the aim to assess the quality of care.

### Methods and results

Infant morbidity was assessed by the frequency and reasons for hospitalization of newborn infants, umbilical artery pH and neonatal neurological examination in a sample of the study group, occurrence of neonatal seizures in full-term babies within 48 hours of birth and a limited follow-up study.

The children born under supervision of the obstetrician after referral during pregnancy or labour and delivery stayed in hospital after the eighth day in 20% of the cases. Hospital admission for children born under care of the midwife was 3.8%, because of asphyxia, 0.4%.

The umbilical artery pH as the neonatal neurological examination according to Prechtl were investigated in 91 primiparous and 69 multiparous women, who booked in the period April 1982-March 1983. The pH values of the neonates of primiparous women attended by midwives were significantly higher than those of the primiparous women referred to the obstetrician during pregnancy. No difference was found between the first group and the primiparous women referred to the obstetrician during labour and delivery. The neonatal neurological optimality scores obtained by the children born under sole care of the midwife were significantly higher than the scores obtained by the children born under care of the obstetrician after referral during pregnancy. No difference was found between the first group and the children born under care of the obstetrician after referral during labour and delivery.

The seizure rate in the total group was 1.5 per 1000 (12 cases), and in full-term babies within 48 hours of birth 0.9 per 1000.

A limited follow-up study was performed in children born in obstetrical risk groups in the period 1969-1976. Follow-up at the age of five years or older was achieved in 97.5% of the children who were still alive from these groups. Major handicap rate: 18.6 per 1000. In the group born in vertex position after gestational age >258 days, >5th perc. and born in the period 1969-1971 also a follow-up study was performed. Of these children in this group 94.5% follow-up. Incidence of major handicap was 3 per 1000. Only in one case perinatal problems were present.

### Conclusion

This study shows with respect to perinatal morbidity good results of the selection and perinatal care performed by the midwife.

# HOME BIRTH; THE QUALITY OF CARE

**B. Smulders**

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## **Introduction**

Midwives are able to select low risk groups during pregnancy, labour and delivery and to provide independent care during normal pregnancy and childbirth with the relatively modest means available to her (Eskes, 1989). In the Netherlands, a woman with an uncomplicated pregnancy and an uncomplicated obstetric and medical history can choose between a home delivery or a hospital delivery. Prenatal, intrapartum and postnatal care are provided by her midwife and guarantees exposure to electronic fetal monitoring as less as possible. Instead the midwife can give reassuring and encouraging care, mostly fitting to the personal need of the pregnant women. This care goes together with a low incidence of instrumental deliveries (Berghe and Spanjaards, 1988). The aim of this study is to assess the quality of care in home deliveries.

## **Methods**

Using the results of the National Perinatal Data Base (primary care) the incidence of high risk obstetrics in home deliveries is studied. Yardsticks as twins, preterm deliveries, low birthweight and breech deliveries are used. Moreover Apgar scores, the incidence of hospitalization of the children and perinatal mortality are studied. The importance of autopsy is stressed.

# **THE SOCIAL CONSTRUCTION OF PERINATAL MORTALITY: A CASE STUDY OF POWER RELATIONSHIPS BETWEEN PRIMARY AND SECONDARY CARE OBSTETRICS**

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This paper draws on independent but complementary research carried out by the two authors into historical aspects of perinatal mortality

In part one, the justification for 100% hospital deliveries made in 1970 by the Sub-Committee on Domiciliary Midwifery and Maternity Bed Needs in England and Wales is traced to particular interpretations of need derived from the Registrar General's Annual Statistical Reviews and from selected reports on maternal and child health. It is argued that initial concern over perinatal mortality shifted during the post-war period from attention to macroscopic social and geographical factors to an increasing focus on the individual characteristics of child-bearing women themselves. The resultant stereotypes served to justify policies of medical protectionism for parturient women - policies which resulted subsequently in the virtual eradication of domiciliary confinements.

In part two, comprehensive data collected for all births occurring in the City of Nottingham between 1954-1971 are used as a case study to demonstrate the trend in maternal and perinatal morbidity and mortality during a period when more than 40% of babies were born at home.

The evidence of these data do not support the proposition that babies were safer if born in hospital. Rather, they suggest that far greater numbers of babies were stillborn in hospital because women with known complications were frequently, though not always, booked for hospital birth. Nevertheless, evidence derived from the birth registers of district midwives and interviews undertaken with the now retired supervisors of midwives demonstrates that of the 43,512 women who delivered at home during this period at least 50% fell outside today's criteria for home birth. In addition, factors which are already known to have reduced the stillbirth rate are clearly illustrated ie: reduced complication from maternal RH incompatibility due to the routine administration of anti D; reduced incidence of congenital abnormality as a cause of stillbirth due to better screening facilities; and the declining numbers of birth injury and asphyxia, at home and in hospital.

Together these data suggest that the policies which introduced 100% hospital deliveries represented an over-reaction to a situation which was already well under medical and midwifery control. Babies born at home in Nottingham during this period were as safe as those born in hospital; furthermore satisfactory screening of at risk pregnancies was already well-established.





**QUALITY OF OBSTETRIC CARE**

**SECTION III**





## **PERINATAL CARE IN A POPULATION BASED BIRTH COHORT IN THE NETHERLANDS - SOCIAL MEDICAL SURVEY OF CHILDREN ATTENDING CHILD HEALTH CLINICS (SMOCC - 1988-1991)**

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SMOCC is a prospective, population based study of morbidity in a cohort of 2,151 liveborn infants (twins included) from birth up to the age of two years. The study started on April 1, 1988; the intake (phase 1) was finished on October 31, 1989, and the follow-up (phase 2) will be finished on October 31, 1991. One of the aims of the study is to collect data to be used as reference for the 'Project On Preterm and Small for gestational age infants in the Netherlands' (POPS, 1983). Further, the data will be used for the study of morbidity, health care and related factors. We were interested in the relationship between the type of care during pregnancy and delivery (provided by a midwife or an obstetrician) and the condition of the child immediately after birth. The Netherlands takes a special position in the international community since midwives provide a large percentage of the prenatal care and many deliveries are midwife attended. Further, many low-risk women choose to deliver at home, under the care of a midwife or general practitioner. Consensus exists among midwives and obstetricians as to which women should be cared for by an obstetrician during pregnancy and/or delivery, and which can be cared for by a midwife. The question is to what extent proper selection for type of obstetrical care is actually realized.

Because SMOCC includes all liveborn infants from the geographically defined catchment areas of the collaborating Child Health Clinics (CHC's), a full picture can be rendered of the type of care for the pregnant, attendance of delivery, place of delivery, and condition of the infant after birth.

In SMOCC, the staff of 21 CHC's participate in performing the observations and standardized recordings. Data from the first phase of SMOCC are available for 97% (N=2115) of all liveborn infants, providing information on the pre-, peri- and postnatal period, on family characteristics and on the condition of the infant after birth. The information was obtained from the mothers during the first postnatal visit by district nurses of the collaborating CHC's. Of all births in the study population, 25% occurred in urban, 45% in suburban and 30% in rural regions. The distribution of births by age of the mother is similar to the distribution in the Netherlands in 1988 (Netherlands Central Bureau of Statistics, 1990).

Of all deliveries, 922 (45%) were attended by a midwife only, while in 230 deliveries (11%) an obstetrician was involved along with a midwife. Obstetrical assistance alone was provided in 878 (43%) of all deliveries. Of all deliveries, 815 (40%) took place at home.

A low birth weight (<2500 grams) was recorded in 5.9% of the children; the prevalence of preterm birth (<37 weeks) in this cohort is 5.2%. Of 1,782 newborn children (twins included) the Apgar score at 5 min. was known: in 37 (2.1%) the score was less than 8. Of another 46 children the condition immediately after birth was recorded as 'not optimal'. It appears that in the group of single born children the greater part (N=29/34) with a low Apgar score was born in an outpatient clinic or a hospital. In the group of children with a 'not optimal' condition immediately after birth, also, the greater part (N=33/44) was born in an outpatient clinic or a hospital. These results indicate that, in general, the selection for type of obstetrical care is proceeding well.



## **OBSTETRIC OUTCOME AND PERINATAL SURVIVAL IN THE BIRTH TO TEN BIRTH COHORT STUDY**

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The 'Birth to Ten' Study is a major collaborative birth cohort study which aims to follow all babies born in the Johannesburg and Soweto areas of South Africa, during a six week period in 1990, from the prenatal period to the age of ten. It is the first such study of this scale to take place in an African country. This will provide a unique opportunity to investigate the effects of urban living on obstetrical outcome and child development in the context of widely differing social groups in an African city.

All children born within the study area between 23 April and 8 June 1990 were eligible for inclusion. Mothers attending prenatal clinics were interviewed for personal baseline data, and information was collected about delivery and early neonatal outcome. The babies will be reviewed at the age of six months (from mid October 1990, and at 6 month to 1 year periods after this).

Information has been collected on almost 3000 births. Baseline demographic figures, details of the place of birth, the outcome of the pregnancies and birth weight distributions will be presented.

Stillbirths and perinatal deaths will be considered and related to obstetric and socioeconomic variables, and the degree of prenatal care.

## POST PARTUM MENTAL COMPLAINTS AND MEDICAL INTERVENTION DURING LABOUR

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The outcome of labour in the Netherlands is still one of the best in comparison with many industrial countries. Perinatal mortality rate is, also in the Netherlands, still widely accepted as an important measure of pregnancy outcome (Treffers, 1978; Hoogendoorn, 1986; Mackenbach, 1989). The perinatal mortality in the Netherlands has been decreasing from 44.7 per 1000 births in 1920, 26.6 in 1960, to 9.1 in 1988. This progressive decline in infant mortality has been accompanied by an increase in medical intervention (artificial deliveries) during labour.

The number of children born by vacuum extraction has increased from 19.6 per 1000 births in 1970 to 44.9 in 1985; by forceps delivery: from 7.3 to 24.3; by caesarian section: from 19.8 to 65.3 (CBS, MG, 1987). Dividing the women into two groups: primiparae and multiparae, the number of artificial deliveries (by forceps, vacuum extraction and caesarian) among the first group of women is much higher than among the second group. From the medical point of view (and also of the women in question), caesarian section is more radical or aggressive than other artificial deliveries. There is, however, still little known about the consequences of medical intervention during labour for the women concerned (Oakley, 1985).

In recent years, increasing attention has been paid to post partum problems such as post partum well-being (Kleiverda, 1990), post partum complaints (Schudel, 1990), post partum depression (Goudsmit, 1981; Kortman, 1983; Cox, 1986) and even puerperal psychoses (Kendell, 1987). In these studies post partum problems have not been related to the medical intervention during labour.

The question of this study is: To what extent do women have more post partum complaints when their deliveries have been of a more aggressive kind of medical intervention?

The data for this study have been collected by 50 practices of 80 free-standing midwives in the province of Gelderland with the help of a questionnaire. The data refer to  $\pm$  600 low-risk pregnant women. These women had decided to deliver at home or in a hospital, and were initially guided by a midwife. Complications during labour, however, may have caused a referral to a specialist-obstetrician. Labour was, then, often artificially ended.

# MORBIDITY FOLLOWING CAESAREAN DELIVERY

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## **Introduction**

The incidence of caesarean section has risen markedly in most developed countries over the last 20 years. A large number of studies have been published on the determinants of the rise in rates, but comparatively few have addressed the physical, psychological and social consequences of the operation. The current study was designed to further knowledge of the immediate and short-term effects of caesarean delivery for both the woman and her baby.

## **Methodology**

The general aims of the study were:

1. To determine the operative, post-operative and short-term morbidity experienced by women delivered by caesarean section
2. To compare the morbidity experienced by women by the timing of caesarean section i.e. elective *versus* emergency section; subgroups of women delivered by emergency section; women delivered during the first stage of labour versus those delivered during the course of the second stage.

In order to achieve these aims, a retrospective review was conducted of the obstetric case records and midwifery notes of all women delivered by caesarean section in a large university teaching hospital over a one year period (N=619). This data provided information on morbidity sustained in the operative and post-operative period. To determine the short-term morbidity associated with caesarean section, a postal questionnaire was sent three months after delivery to all women in the study population (except those who had experienced a perinatal loss or where the neonatal outcome was uncertain). They examined the health of women and their babies following discharge from hospital and determined the women's knowledge of the reasons for the performance of the operation.

## **Results**

A wide variety of intra-operative morbidity was recorded in the study population. Serious intra-operative morbidity (major extensions of the uterine incision; operative injury to the urinary tract or an operative blood loss >1500 mls) occurred in 32 (5.2%) women, and in many of these cases multiple problems were apparent. Emergency caesarean delivery was found to be associated with a significant increase in extensions of the original uterine incision, bladder trauma, mean blood loss and requirement for intra-

operative transfusion when compared with elective sections. When a period of labour had occurred before operative delivery the incidence of bladder trauma was increased and this was particularly marked in the group of women who were in the second stage of labour at the time of surgery. Only 9.5% of the women had no recorded morbidity in the postnatal period and the most frequently occurring complication was the development of pyrexia in the postnatal period. Serious morbidity such as paralytic ileus, septicemia, wound dehiscence and deep venous thrombosis occurred in small numbers of women. Twelve (2%) of the women required to return to theatre for further surgery in the postnatal period. Infectious morbidity which might be directly attributable to the mode of delivery occurred in 21.7% of cases during the hospital stay and 26.7% of the women received antibiotic therapy. The most commonly encountered categories of infectious morbidity were urinary tract infection, wound infection, intra-uterine infection and chest infection and these were more frequently associated with emergency sections. Seventy-six percent of the study population returned completed postal questionnaires following delivery. Three months after the birth, 35% of the women still did not feel back to normal and 28% felt less healthy than before the pregnancy. The most common complaints following delivery were wound pain, wound leakage, tiredness, backache, constipation, wind, depression and sleeping difficulties. In women these had persisted since the delivery. Thirteen percent of those who replied either did not know or gave completely wrong explanations for the performance of the caesarean section and a further 14% were only partially right in their comprehension.

### **Conclusions**

The present study showed that there is considerable morbidity associated with caesarean delivery and that this can persist long after the woman is discharged from hospital. Much more information is required about the health of women after delivery. The results of the study highlight the need to adopt standard definitions of morbidity following delivery and that large-scale systematic studies to determine the morbidity associated with different delivery methods urgently need to be carried out. Such studies should consider not only the immediate morbidity experienced by women during the postnatal stay in hospital, but also the short and long-term effects.

## **CAESAREAN SECTION AND OPERATIVE VAGINAL DELIVERY IN WESTERN AUSTRALIA 1981-1987**

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Whilst caesarean section proportions in Australia are lower than the high levels in the United States they have similar rising trends. Unfortunately, there is no uniform source of data providing national figures for caesarean sections for Australia. In this paper, we report trends and patterns in the incidence of caesarean section in the State of Western Australia (WA) for the years 1980-1987. Some data on operative deliveries in low-risk primiparous women are also included, as this group has a high and increasing incidence of emergency caesarean section.

The study is based on computer files of the Midwives' 'Notification of Case Attended' forms which are completed by the attending midwife for every infant born in WA of at least 20 weeks gestation or 400 grams birth weight.

During the 1980s the incidence of both emergency and elective caesarean section increased accompanied by a decrease in all other delivery methods. Emergency sections have increased from 5.9% of all deliveries in 1980 to 8.2% in 1987 and elective sections from 5.3% to 8.7%. For each year studied, less than 50% of primiparous women delivering singletons had a normal vaginal delivery.

The proportion of primiparae having either emergency or elective sections rose with maternal age, but for multiparae, whilst the proportion having elective sections rose with maternal age, there were few differences in emergency sections. Repeat caesarean sections have contributed increasingly to the rising caesarean section proportion, comprising 28.8% of all caesarean sections in 1987.

All low-risk primiparous women who gave birth in WA in 1987 were studied to ascertain risk factors and neonatal outcome for emergency caesarean section (ECS) and operative vaginal (OV) delivery. Logistic regression analysis indicated that significant independent risk factors for both ECS and OV delivery included maternal age >19 yrs, maternal height <165 cms, infant birth weight >2999 g and longer labours. Additional risk factors for OV delivery included epidural anaesthesia and being a private patient.

There were few infant deaths but infants born by ECS and OV delivery had significantly more neonatal morbidity than infants born by spontaneous vaginal delivery.

These results indicate that it may be possible to identify which of the group of primiparous women who appear to be at low risk for adverse outcome are likely to have an operative delivery and thus to manage their labour accordingly.



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## MANAGEMENT OF LABOUR





## **COMPARISON OF TWO POLICIES OF MANAGEMENT OF LABOUR FOR PRIMIPAROUS WOMEN: EFFECTS OF EARLY RUPTURE OF MEMBRANES AND USE OF OXYTOCIN. RESULTS OF RANDOMIZED CONTROLLED TRIAL (R.C.T.)**

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To evaluate the influence of different policies of management of labour on the rates of operative deliveries, the satisfaction of the mothers, and the health of the neonate, two R.C.T.s have been set up. Trial A evaluates the influence of early rupture of membranes, together with oxytocin. Trial B evaluates the permanent presence of a member of the staff. The choice of the policies to be evaluated is based on the policy applied and the results observed in Dublin, as well as other results published by Kennel and Klauss. These two trials are included in an E.C. concerted action and are conducted in several E.C. countries.

This paper presents the results of trial A conducted in France.

1,924 primiparous women at term have been included in this trial, 964 in the experimental group and 960 in the control group, in six centers. There is no significant difference between the two groups concerning age, origin, level of education, number of abortions and prenatal care.

Concerning the results, no significant difference has been observed concerning the rates of interventions (5% c.section, 28% forceps in both groups). Duration of labour is significantly shorter in the experimental group, however this difference is not very important. According to these results the advantages of 'active management' do not seem very important. Moreover we observe a large difference for severe haemorrhage (9 cases in the experimental group and 1 case in the control group).

The association between haemorrhage and policy of management of labour needs to be further explored.

## **COMPANIONSHIP IN LABOUR: EFFECT ON THE MOTHER INFANT RELATIONSHIP**

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Labour is approached by many women with considerable anxiety. Part of this anxiety is related to the unfamiliarity of the labour environment. In many hospitals in South Africa women labour in particularly stressful conditions, without the support of chosen family or community members and in circumstances which cut across cultural practices and taboos.

The present study attempted to investigate the effects of maternal support in labour on maternal self-esteem, postpartum depression, mother-infant interactions and the marital relationship. Women agreeing to participate in the study were randomly allocated to a group provided with a birth companion (N=92) and to a group allowed to labour according to standard hospital practices (N=97). Psychological assessment of the mother and of mother-infant interactions were conducted on the first day after delivery and six weeks later. Obstetrical data were also obtained.

Results suggest that while measures of underlying personality traits did not distinguish between the two groups on entry into the study, measures of anxiety, post-partum depression, pain perception, coping with labour, interactions between mothers and their babies, breast feeding and post-partum marital relations showed marked differences. These findings emerged on the Day 1 measures but even more noticeably at the 6 week assessment.

## **COMPARISON OF TWO POLICIES OF MANAGEMENT OF LABOUR FOR PRIMIPAROUS WOMEN: PERMANENT PRESENCE OF A MEMBER OF THE STAFF VERSUS INTER-MITTENT PRESENCE**

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In order to evaluate the influence of the permanent presence of a member of the staff, a randomized controlled trial has been set up. It is based upon the conclusions of studies which showed some evidence of the effectiveness of the permanent presence of a member of the staff in reducing the rate of operative deliveries.

In the trial, two groups are compared: in one group the mothers received permanent support during labour and delivery, while in the other the presence of a member of the staff was intermittent. The study takes place in France, Belgium and Greece as part of an E.C. concerted action.

The trial was completed in France in June 1990, and will last until December 1990 in the other two countries. The results presented in this paper are based on the French trial: three centers, 1286 primiparous women, at term, with vertex presentation participated.

The evaluation is both medical and psychological. Medical data include the rate of operative deliveries, the length of labour and the health of the neonate. Psychosocial data include mothers' satisfaction about the experience of delivery. Father's opinions and the views of the midwives have also been considered in some centers.

The first results indicate that there are no major significant differences between the two groups on the medical criteria. Some significant differences in the answers to the questionnaire filled in by the mothers seem to indicate that the experience of delivery is slightly more positive in the group with permanent presence.



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## POST-NATAL CARE



## PATIENT SATISFACTION WITH MATERNITY HOME CARE

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Home help in the puerperium - or maternity home care - is given by qualified maternity assistants to families during childbirth and up to ten days afterwards at home. It's objective is to enable the families to look after themselves, including the new born baby, and consists of two basic programmes: 1½ hour visits and day care. In both programmes the assistants, attached to a maternity home care centre, assist midwives in home delivering, take care of the mother and the new born baby, and provide health education to the family. In the day care programme additional household services are rendered.

The demand for maternity home care is difficult to meet. On the one hand, the numbers of births, subjected to seasonal fluctuation, is rising since 1983. The number of women who give birth at home is stable, and the number of women who give birth in a hospital and are discharged almost immediately is still rising. On the other hand, the popularity of the profession is decreasing. These trends have resulted in a decreased availability of maternity home services.

Our research dealt with the question whether the shortage - at some places already existing, at others imminent - effects the quantity and quality of maternity home care as perceived by new mothers. During one week in September more than 1800 new mothers responded to a mail questionnaire sent by 58 (out of 76) centres. The majority of families prefer the day care programme in favour of the visits. To a large extent this preference is met, although approximately 25% of the families in favour of day care receive a combination of visits on the first days and day care on the remaining days, in spite of their preference. Even more serious is the fact that almost half of the families received a smaller amount of care than they wished for: the difference being almost two days.

New mothers evaluated the quality of maternity home care on three different dimensions. Items concerning the assistants during home delivery were judged 'good' or 'satisfactory'. The items on health education were marked likewise, irrespective of the received programme. Items relating to physical care for mother and child were rated higher. In this domain the day care programme consistently showed to be (slightly) superior to 1½ hour visits.

By and large, we conclude that the decreased availability has a quantitative rather than a qualitative effect. The maternity home care centres seem to

spread the shortage among their clients by appealing to their sense of solidarity.

In the early eighties, due to a cutback in expenditure, the average length of maternity home care shifted from nine to eight days. Nowadays, families receive seven days on the average. A considerable number of families regard this as insufficient. In our obstetrical system, with its emphasis on child bearing at home, maternity home care is of vital importance. Will the erosion of the amount of maternity home care undermine the entire obstetrical system?



# CONTINUITY OF CARE AFTER SHORT STAY DELIVERIES IN THE UNIVERSITY HOSPITALS LEUVEN: BRAKING THROUGH THE LINES

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## Background

In Belgium, the place of birth shifted in the last decades almost completely from home to freestanding maternity clinics and to maternity services located in general hospitals. Nowadays, more than 99% of all deliveries occur in general hospitals, including university hospitals. Until the mid-eighties the average length of stay for normal deliveries remained around 8 to 10 days.

Since then, maternity care has joined the general trend of shorter hospital stays and the growing demand for home care. A small but growing proportion of women prefer to return at home shortly after the hospital delivery. Several community based 'Kraamcentra' (Maternity Centres) started operating in Flanders, specifically for delivering non-medical maternity-related home care.

Meanwhile, changes in the hospital financing system encourage hospitals not to exceed an average stay of 6.2 days for maternity services.

## Current Organizational Deficiencies

The Belgian health care system has not yet adapted to these new trends. Insufficient communication between hospital and primary care providers and existing organizational routines have been found to result in overlap of some care, while appropriate care may not always be provided in time. In the case of short stay deliveries, hospital providers have no assurance that the necessary quality and quantity of post partum care (maternal as well as neonatal care) is guaranteed after hospital discharge. In Belgium, various professionals, including general practitioners, pediatricians, gynecologists, midwives and home care nurses, all deliver some primary care, often independent from each other.

## Experimenting a model of continuity of post partum care in Leuven

After meetings with all the providers involved, a model of agreements has been worked out. This model aims to insure that 1) the specific skills of each type of provider are used optimally 2) all the providers receive the necessary information in time (including feed back) 3) one person per family is responsible for assuring the continuity of care 4) one organization (Kraamcentrum 'De Bakermat') is in charge of coordinating the administrative and organizational aspects of the model of agreements. Special procedures are developed in case medical complications may occur.

By March 1991 the project will be six months in operation. An evaluation of this first semester will conclude our presentation at the conference.

## **POLICIES AND PRACTICES IN RELATION TO THE 'OPEN UNIT' IN NEONATAL INTENSIVE CARE UNITS: AN EEC PERSPECTIVE**

**M. Reid**

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Studies of quality assurance within the health service can only be carried out when basic information exists about the policies and practices of a unit. Within the field of neonatal care, the opening up of neonatal intensive care units to families has followed logically from the acceptance of bonding theory; however, little detailed information is known across the EEC about the impact of the 'Open Unit' on the staff or the parents. A pilot study of policies concerned with parental visiting and involvement within four countries revealed considerable differences. It was decided, therefore, to carry out - within a larger Concerted Action project - a descriptive study to provide base-line data from which to launch further studies.

Eleven EEC countries took part in the study, providing data from thirty-five units. Policies relating to all aspects of the topic were collected, together with a study of staff views on the topic. Over five hundred parents were interviewed for the study, initially, after the first week of the infant's life and secondly, nine months after the infant's birth.

The paper presents an overview of the range of policies relating to the entry of parents into neonatal units, summarises the parents' experience in visiting and caring for their infant, and finally offers a comparison between the unit policies and the parents' experience. Considerable country differences were revealed by the data; a detailed analysis of the parental interviews offers a greater understanding of the nature of those differences.

It has been argued that parental experience is a vital measure of the quality of care of a unit; while this is true, it is important to be able to place the parents' experience within the framework of the policies of that unit. Only then can one begin to evaluate whether the service provided matches the intentions of the service planners.

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## **ORGANIZATION OF PERINATAL CARE**

### **SECTION I**



# CONTENT OF PERINATAL CARE: COMPARISONS BETWEEN WESTERN EUROPE AND UNITED STATES

**C.A. Miller**

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Rates of infant survival, even when corrected for racial and socioeconomic status, have been known for many years to be less favorable in the U.S. than in Western Europe. A series of studies between 1986 and 1990 gathered data on perinatal care in the Western European countries with lower infant mortality rates than in the U.S. and compared the findings both within the European countries and in aggregate with the U.S. European countries identified by a WHO committee as having monopolistic systems of health care were excluded from the study. The purpose of the comparisons was to identify strategies that might be useful for promoting policies to improve pregnancy outcomes in the U.S.

Sources of data included review of the raw responses to the 1982 survey on European perinatal care reported by the World Health Organization Regional Office for Europe (EURO). The data were updated through 1986 by review of EURO files and consultation with various national officials. In addition, the author completed in 1990 a repeat survey of the same ten countries (Belgium, Denmark, France, the Federal Republic of Germany, Ireland, the Netherlands, Norway, Spain, Switzerland and the United Kingdom). The repeat survey emphasized postpartum care and preventive health services for infants and young children. Further data were drawn from reports by various authors from the Luxembourg Income Studies comparing among various nations the extent of poverty and its alleviation in households with children.

Results from these data reveal great variation among the study countries on how perinatal care is financed, staffed by professional and non-professional health workers, provided by public clinics or in private offices, and in the number and locale for the recommended number of prenatal visits. Invariably consistent among the study countries is the nearly complete enrollment of childbearing women in early and continuous prenatal care and the strong linkage of that care to a generous spectrum of social supports and financial benefits. These include some combination of home visitation, job protection and transfer to non-strenuous work for employed women, paid pre- and post-partum leaves, transportation privileges, birthing bonuses, children's allowances, and cash payments (France) as a reward for making prenatal visits. None of these benefits generally pertain in the U.S. Initiation of the supports and benefits in Europe is prompted by inter-agency notifications as soon as the pregnancy is confirmed, representing by perspectives from the U.S. a powerful set of incentives for women to

present themselves for prenatal care. The absence of financial barriers, and efforts to minimize cultural and language barriers appear to enhance effectiveness of the incentives for participating in the full sequence of recommended perinatal care.

Partly as a result of financial benefits associated with childbearing in Western Europe, poverty rates (corrected for purchasing power parities) in households with children are less than in the U.S.; income transfer programs in Western Europe alleviate poverty for households with children, and hence for many childbearing women, about twice the extent of that in the U.S.

The relevance of these observations for the U.S. suggests that current policies intended to lower economic barriers to a highly medicalized version of maternity care may yield disappointing results unless the perinatal sequence is linked to a more generous set of maternity-related social supports and financial benefits than is now contemplated.

# COMPARING THE DUTCH AND BRITISH ORGANIZATION OF MATERNITY CARE LONG-TERM CONSEQUENCES OF GOVERNMENT INTERVENTION

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The ideas expressed in this paper are based on a Ph.D. study (medical sociology) into the organization of maternity care in two neighbouring industrial countries. For this study in-depth interviews have been conducted with several opinion leaders in the field of the maternity services and a number of (practicing) midwives, General Practitioners and Government officials from Britain and the Netherlands. A review of the literature on the history and present organization of maternity care indicates that the Dutch midwifery profession has benefited over the past 150 years from Government legislation. This created a positive environment in which the midwifery profession flourished. At present over three-quarters of all Dutch midwives are practicing as independent community midwives, attending births at home and in hospital.

As early as 1818 the Dutch Government introduced an Act covering provincial medical examination boards for, among others, midwives. Midwifery was already recognised in the Netherlands as an independent medical profession in the mid-nineteenth century, and it also had its own schools of midwifery. In 1941 the financial regulations were laid down in favour of midwives. Doctors were to be re-imbursed for attending 'normal' deliveries only when there were no midwives practicing in the area.

In Britain the midwifery profession suffered from being a specialism of nursing, which in turn suffered from the 'Florence Nightingale' effect, i.e. being organised along the lines of a military model, with nurses clearly regarded as subservient to doctors. Moreover, laws concerning midwifery training and practice were not introduced until the beginning of the twentieth century: the first British midwifery law was the 1902 Midwives Act (England & Wales). The equivalent Scottish Act was not passed until 1916. The number of home births in Britain dropped rapidly between the wars; this process was driven by several different forces.

It can be argued that some of the hospitalization and medicalization of childbirth, and the decline of midwifery, could have been prevented if the British Government had not been strongly influenced by advice from the medical establishment on how to run the health services. Government regulation does not necessarily imply restriction: the Dutch midwifery profession is a case in point.

# A COMPARISON OF THE RESOURCE USE IN MATERNITY SERVICE PROVISION IN THE NETHERLANDS AND ENGLAND

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The aim of the study was to compare the resources used to provide natal and postnatal maternity services in two countries with differing systems of maternity care. The two countries chosen for their different systems were the Netherlands and England. The study used published national data for each country. Outcomes of maternity service provision in each country were discussed, and on the basis of the literature reviewed it was concluded that these outcomes were broadly comparable in the Netherlands and England. The study was in the form of a scenario study with the English system of total hospitalization at delivery imposed upon the Netherlands. Dutch tariffs were applied to the individual combinations of resources used for deliveries in different locations and carried out by different practitioners. The total cost per 100,000 births of each system was then calculated according to the costs of individual combinations of services and the proportion of women receiving that service. The total cost of natal and postnatal care in 1990 prices, of the system of maternity care in the Netherlands in 1985, was fl.430.4 million. See table 1. The comparable figure for England was fl.553.3 million. Whilst the average cost of individual combinations of resources tended to be lower in the English system of provision, the total cost of the Dutch system was approximately 78% of the cost of the English system. It was concluded that the reason for this is that in England most women receive a higher level of maternity care, whilst in the Netherlands women are assessed for risk early in their pregnancy and then given a level of care according to their need.

Table 1: Total cost of 100,000 births in the Netherlands and in England (imposed on the Netherlands) in million guilders

	THE NETHERLANDS	ENGLAND
SICKNESS FUNDS	281.7	360.3
PRIVATE INSURANCE	148.7	193.0
<b>MATERNITY CARE COSTS PER 100,000 BIRTHS</b>	<b>430.4</b>	<b>553.3</b>



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## **ORGANIZATION OF PERINATAL CARE**

### **SECTION II**

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## CO-OPERATION BETWEEN INDIGENOUS MIDWIVES AND THE OFFICIAL HEALTH CARE SYSTEM IN NICARAGUA

**K. Viisainen**

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The organization of perinatal health care is a great problem for Third World countries most of which are characterized by high birth rates and lack of resources for health care. These countries also present high perinatal and maternal mortality rates. In many of these countries the health authorities have started, with the formal encouragement of WHO, to train indigenous (lay) midwives to work as primary health care workers within official health care systems. This study examines the way in which such a government led training program for indigenous midwives effects the way these women work. It also examines the effects of the training on perinatal statistics.

The fieldwork for the study was conducted in 1989 in Nicaragua, where a training program for indigenous midwives has been established since 1983. The methodologies used were qualitative participant observation, in-depth interviews, and examination of government documents and available statistics. Thirty-eight indigenous midwives were interviewed about their practice and training experience, and one of the midwives was observed for a month's time in her daily practice. Maternity histories of thirty-three women in childbearing age were collected, and health care personnel and staff of the Ministry of health were interviewed. The researcher also participated in a training course where both training personnel and the participants were interviewed. The researcher also participated in a training course where both training personnel and the participants were interviewed. The available government documents about the training program and vital statistics were also examined.

Among the conclusions of the study are the following: 1) Indigenous midwives are a very heterogeneous group with differing skills and practice. This is not sufficiently considered in the way in which the training is taking place, and as such the program only serves the needs of a few of these women. 2) Although the training program was supported both by political decision makers and staff of the Ministry, health care personnel was very reluctant to accept lay midwives as collaborating agents in the health care system. Their role remained marginal within the organized health care, but very important for women's health. 3) According to the available statistical information in the country, births assisted by midwives are no more dangerous than hospital births which often happen in overcrowded conditions and even without assistance due to lack of assisting personnel.

# PRIMARY CARE OBSTETRICS IN SOUTHERN AFRICA

## A. Nolte

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During recent years there has been phenomenal changes and developments in obstetrics. Owing to the fact that training and the eventual provision of services go hand in hand, it is necessary to ascertain whether the training of the midwife complies with requirements set by the obstetrical practice.

During research done on the training of midwives, a survey was made of the primary obstetric services that are at present rendered in Southern Africa, as well as the social factors that influence the rendering of such services. The information was obtained through interviews with chief nursing managers in the different provinces.

The objectives of this paper will be to:

1. Discuss social factors that influence the rendering of primary obstetrical services in Southern Africa, namely cultural differences, urbanization, economic factors and education.
2. Discuss primary obstetrical services in Southern Africa under the following headings:
  - primary obstetrical services in urban and rural areas;
  - communication and transport between satellite clinics and hospitals;
  - the role that traditional birth attendants and lay health workers play in the delivering of these services; and
  - perinatal and maternal mortality figures.

Based on the research important recommendations were made which led to the improvement of primary care obstetrics.

## **PERINATAL CARE BY GENERAL PRACTITIONERS IN THE NETHERLANDS**

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In the last decades there has been a great change in obstetric care by General Practitioners in the Netherlands. In the sixties most of the deliveries took place under guidance of a GP (46%). Thirty years later (1990) the proportion had decreased to nearly 12%. This in favour of the proportion of midwives (43%) and gynecologists (45%).

These developments have influenced the position of the General Practitioner with regard to the perinatal care. Currently a discussion is going on in the Netherlands centered around the question 'how essential is the care of a General Practitioner during the pregnancy, deliverance and in the puerperium'. To give some clearance in this discussion we undertook a survey on the supply of perinatal complaints in General Practice, as well as the perinatal care which the General Practitioner gives. Finally we studied which factors (criterium variables), influence the supply of perinatal complaints and the actual perinatal care rendered by General Practitioners.

The data are derived from the database of the National Studies of General Practice. In this survey 161 general practitioners registered all contacts with patients during a period of three months. Reasons for the contacts, diagnoses and underlying illnesses were recorded. The first results show that 2% of the contacts deal with perinatal care. Three percent deals with contraception. If we differentiate between contacts in the prenatal, the natal and the postnatal period we see that the majority of contacts (66%) take place within the prenatal period.

## **REDUCING PERINATAL MORTALITY IN NIGERIA THROUGH PRIMARY OBSTETRIC CARE**

**A.E. Omu**

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Analysis of data on 1,500 unbooked parturients in a Nigerian teaching hospital revealed four cadres of obstetric care providers in the country. These are traditional birth attendants, trained midwives in maternity centres, medical officers in state hospitals and obstetricians, working with midwives and other paramedical workers in tertiary centres. Although unbooked patients contributed seven percent to the maternity population, its contribution to perinatal mortality is about 44 percent. Perinatal mortality rates for booked patients was 24/1000 live births. Caesarean section rate for booked patients was 12 percent and that for unbooked patients was 18 percent. Factors responsible for the high mortality rate include delays or deliberate refusal to refer the patient to hospital by the attendant, ignorance and illiteracy on the part of the patients and relations, inaccessibility to facilities, poverty, and cultural divergence.

Second phase of the project is the planned intervention: 1) community participation, 2) standardization of referral procedures, 3) training of traditional birth attendants to improve on their practices and integrate them into the primary health obstetric care, 4) integrative seminars for all workers in the primary obstetric care delivery system.

Preliminary results show encouraging trend to significant reduction in perinatal mortality. However, a few problems have been identified. They include the lack and cost of transportation of the patients and their relations from their locality to the hospital to which they have been referred, the attitude of health workers at the tertiary centre, which is that of disdain, hostility and dislike. More worrying is the cost of treatment in the tertiary centres.

In order to have a meaningful implementation of the primary obstetric care strategy, there should be aggressive health education in which personal health matters, the working system of the tertiary centres are discussed. The present rural development efforts of the Federal Government are in the right direction. To meet the huge financial implications of the primary obstetric care, the planned National Health Insurance Scheme should be commenced immediately.

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## **PROFESSIONALIZATION IN MIDWIFERY**





## **INTRODUCING REGULATED MIDWIFERY: NEW ALLIANCES OR NEW CONFLICTS?**

**K. Kaufman\*, M. Eberts\*\***

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\*\* Interim Regulatory Council for Midwives, Ontario, Canada

This paper is an analysis of findings from 'manpower' studies and our observations and experiences about primary care obstetrics in Ontario, Canada. We are directly involved in efforts to introduce regulated midwifery and increasingly aware of changing relationships among primary care providers.

Fifteen years ago general practitioners/family physicians attended well over half of all deliveries in Ontario whereas today they conduct fewer than 30%. The change is most apparent in urban areas, but rural areas predict shortages within the near future. A recent study of graduating family physicians indicates that only 20% are starting obstetric practices. This finding coincides with numerous vacancies in obstetrical residency programs and a shift of obstetricians to gynecology or sub-specialties.

Physicians express dissatisfaction with primary care obstetrics and cite lifestyle disruption, threat of litigation, and low remuneration as the primary causes. Their dissatisfaction is heightened by public interest in midwives and criticisms of medical-technological models of childbirth. Primary care obstetrics is no longer associated with prestige, importance, or career advancement.

Whether as cause or result, women are more visible as primary care providers, especially in urban communities. Midwives presently practice without legal sanction. Women family physicians are disproportionately represented in this area of practice, and midwives 'presently without legal sanction' receive more request than they can accommodate.

The position of primary care providers with respect to obstetric consultants appears uneasy. A recent conference for family physicians provided counsel on strategies for coping with consultants who are usually male and oriented to technological obstetrics. Hospital and professional management structures at present ensure that consultants can exert more influence over standards of care and resource allocation than primary care providers, a fact which increases the uneasiness between them. We anticipate similar problems for midwives, even after a credentialing process is in place. The different paradigms of reproduction adopted by specialists and midwives may confound consultation and referral relationships.

Some family physicians have responded enthusiastically to the impending legalization of midwifery. Currently, a few provide back-up for unregulated midwives and refer clients to midwives. Others are ambivalent or openly hostile and view midwives as competitors.

The future of primary care obstetrics may well depend on the ability of women - midwives and physicians - in primary care obstetrics to forge new alliances with each other and with the consumers who have criticized present practices. These alliances have the best potential for returning control of normal birth to women.

The alternative is increased discord and strain among providers as family physicians attempt to preserve their uneasy position in a male dominated medical hierarchy and midwives struggle to clarify relationship with family physicians and obstetricians.

We are challenged to find ways of bringing about the former solution and minimizing the possibility of the latter.

# THE DUTCH MIDWIFE, SPECIALIST IN THE PHYSIOLOGY OF OBSTETRICS (1940-1990)

A. Crebas

Amsterdam, the Netherlands

Since the 1940s, the midwife in the Netherlands is regularly referred to as 'a specialist in the physiology of childbirth'. On what grounds is this concept introduced, and how is it related to the division between primary and secondary obstetric care? Which is the role played by midwives themselves in profiling this professional identity? What is the future of this professional identity?

One way to answer such questions is to highlight the midwife as a specialist on her own domain. An important element accounting for this is the Dutch tradition of 'natural childbirth'. Attention will be given to the ideological and scientific meaning of this concept and its implications for the organization of obstetric care. The unique quality of the Dutch system of obstetric care will - briefly - be treated within this framework.

Crucial to the 'specialist' position of the midwife is her independent position as a 'medic' as well as her training, which is directed towards home birth. Also important is the relationship with both other professions within the field of obstetric care: the GP and the gynecologist. Relatively new is the influence of the interaction between midwives and consumers upon what is considered 'optimal perinatal care'.

A number of recent developments endanger the professional identity of the Dutch midwife. The presentation will conclude by briefly sketching some typical problems and some feasible solutions.

## **General background and purpose of the work**

The paper is mainly based upon a historical-sociological content analysis of obstetrics journals, public health care reports and books for consumers. It derives from my Ph.D. project, The professional identity of the Dutch midwife, specialist in the physiology of obstetrics (1940-1990), which is supervised by Prof.Dr. Chr. Brinkgreve, Katholieke Universiteit Nijmegen, Department of Women's Studies, and Prof.Dr. G. de Vries, Rijksuniversiteit Limburg, Department of General Sciences.

# **BARRIERS TO MIDWIFERY: AN INTERNATIONAL PERSPECTIVE**

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Research consistently demonstrates that midwives offer effective care. Not only is midwife care less expensive than physician care, midwives are often able to establish a rapport with clients that translates into better perinatal health for mothers and babies. It is odd then that the practices of midwives are still limited in many places in the world. In some places midwives face legal restrictions; in other places in the world. In some places midwives face legal restrictions; in other places midwives are limited by nature of medical practice or by other cultural and social factors.

Any attempt to improve primary care in obstetrics must understand barriers faced by midwives. Although there exist several social scientific accounts of midwives, no one has collated these works in a way that allows us to see reasons for the great variation in the practices of midwives. This paper is step in that direction.

Data for the paper are drawn from existing work on midwives in several nations and from my ongoing study of nurse and lay midwives in the United States. I begin by considering the many definitions of midwifery. These definitions prove to be political in nature, created to meet the needs of the organization doing the defining. I then develop a typology of the influences on midwifery including: 1) geography, 2) technology, 3) social structure, and 4) culture. In each of these areas, I offer illustrations of the way barriers to practice are created and sustained. I also consider the interaction of factors in different categories. I conclude with a discussion of paths to professional autonomy and the implications of professional autonomy for midwives.

This paper is both theoretically and practically useful. Our theoretical understanding of the social influences on medical practice is advanced by description of the social and cultural context of perinatal care and analysis of the interaction of medical practitioners in that setting. Those seeking the more practical goal of extending the services of midwives will benefit from the thorough description of the factors that conspire to limit their practices.

# OBSTETRICAL COLLABORATION AND MIDWIVES: A BROAD SURVEY FROM THREE REPORTS

**L.A.M. van der Hulst**

Midwife/sociologist, Amsterdam, the Netherlands

From the seventies the government began to consider the regulation of health care as one of her tasks, having become dissatisfied with making conditions.

In relation to the costs in health care provisions should be considered in relation to the costs and objectives.

The keyword is integral health care provisions. In order to actualize this, collaboration networks are pursued, between first and second line.

In the survey, as mentioned above, the concept of collaboration in relation to obstetrical organisation has been studied in the light of three advisory-reports from the last thirty years.

This three reports are:

- Centrale Raad voor de Volksgezondheid. Advies inzake de verstrekking van Verloskundige Hulp uitgebracht aan Zijne Excellentie de Minister van Volksgezondheid en Miliehygiëne 's Gravenhage, 27 januari 1972.
- Advies inzake de verstrekking van verloskundige hulp 1977; Centrale Raad voor de Volksgezondheid. (And the concrete effects of that advise, written in the 'Sikkel-report of 1979.)
- Adviescommissie Verloskunde. Verloskunde Organisatie in Nederland: Uniek, bewonderd en verguisd, eindrapport, Rijswijk, September 1987.

In this analysis the position and role of midwives within the collaboration network will be emphasized.

## **The aim of the survey is to show that:**

- A. In each of the three reports about collaboration within obstetrical health care, a different view of incidence is chosen for argumentation, depending on the social context and developments within obstetrical care.
- B. The occupational-role of midwives within the collaboration network is deepening and becoming more accentuated, at the same time midwives are profiling themselves more and more.

## **The following conclusion may be drawn from this:**

If collaboration allows for optimum utilization and attuning of everyone's professionalism, midwifery is becoming more conscious of this fact and therefore more alert and 'quick-witted' in relation to her specific contribution and expertise within obstetrical collaboration.

This is expressed by a certain resoluteness in fighting for her particular position among other workers in the obstetrical field. As far as the government is concerned, midwifery is seen more and more as a pressure group, that they cannot get around.



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**WOMEN'S WISHES AND CHOICES**

**SECTION I**





# THE WOMENSCHOICE ANTENATAL CARE STUDY: ARE WE LIVING UP TO WOMEN'S EXPECTATIONS?

**R. Cochrane**

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## **Introduction**

The Womenschoice antenatal care study was undertaken to assess women's expectations about and experience of antenatal care in Tower Hamlets in East London. The area was entering a period of change at the outset of the project because of centralization of the local maternity services and the imminent National Health Service reforms, and thus, an appraisal of women's views was timely.

## **Method and preliminary results**

Shortly after they had booked for maternity care, over 900 women were interviewed about their expectations of the antenatal service and their knowledge of the service so far. These women were representative of the English-speaking population of the borough (which has a high percentage of Bangladeshis). They participated in a wide range of maternity care provision, from hospital based and 'shared' care to community based general practitioner or midwifery care. As many women as possible were interviewed again postnatally to determine the quality of care they felt they had received. Many aspects of care were examined including the number of different personnel seen, the standard of explanations given, clinic waiting times, the understanding of routine tests and the experiences of ultrasound scans and parentcraft classes. These soft data will be complemented by details of the labour, delivery and perinatal outcome.

Preliminary results indicate that (1) an overwhelming majority of women would prefer total maternity care from a midwife or general practitioner as opposed to hospital staff and (2) that community based care does not confer any increased risk to mother or baby in terms of obstetric outcome.

## **Discussion**

Over the last 30 years in Britain the autonomy of the midwife has been eroded and her role in maternity care fragmented. As a consequence many midwives have left the profession. If we are to address the issue of consumer choice in relation to the maternity services, there should be an enhancement of the British midwives' role. These professionals are too highly skilled and regarded to be used simply as chaperons and form-fillers. Women on the whole expect more from the maternity services than is currently being provided. They and their babies will suffer no harm and will be more satisfied if antenatal clinics were reorganised to involve predominantly midwives rather than the exception.

# HOME OR HOSPITAL CONFINEMENT AND THE ACTUAL LOCATION OF CONFINEMENT: WOMEN'S PREFERENCES AND EXPERIENCES

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## Introduction

Provided there are no medical contra-indications, Dutch women may choose either to give birth at home or in the hospital.

The purpose of this study was to evaluate the decision-making process regarding the preferred site for confinement. Further, variables related to referrals were analyzed. Finally, women's subjective experiences of birth were evaluated and related to the actual locations and events.

## Methods

A total of 170 nulliparous women participated in a prospective study during their pregnancies and first six post-partum months. Of these women, 100 had a preference for delivery at home and 45 for hospital confinement. The remaining 25 women were in doubt about the preferred location. All women received antenatal care from midwives at the beginning of their pregnancies, which were regarded as low-risk in terms of pregnancy outcome. Interviews and assessments took place at 18 and 34 weeks' gestation, about 10 days after confinement, and three more times in the post-partum period.

Women's motives for choosing a particular location of confinement were elicited, as well as subjective and objective birth experiences. Moreover, socio-demographic, well-being and attitudinal variables were assessed.

## Results

Preferences for either home or hospital confinement were predicted by a stepwise discriminant analyses. Educational level, psychological well-being, anxiety concerning complications at birth, and attitudes towards female social roles accounted for 78.6% of the variance. Voluntary changes in preferred location of confinement were rare. Obligatory changes due to referral to consultant-obstetricians occurred frequently (58.8% of the total sample). Insufficient progress during labour was a major reason for 76.4% of the variance of referrals. Home confinements were assessed as most positive.

Preferences for the location of confinement for a next pregnancy were, in the majority of cases, the same as for the present pregnancy, independent of actual events.

## Conclusions

We are dealing with different groups of women if we compare women preferring home birth with those preferring hospital confinements. These

different characteristics are related to well-being issues as well as to referrals and obstetrical outcomes. Regarding the preferred location for a next confinement, we found that such preferences are relatively independent of actual experiences.

# PREGNANT WOMEN EVALUATE THE HEALTH CARE SYSTEM. A COMPARATIVE STUDY FROM A COUNTY IN DENMARK

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This study focuses upon the users satisfaction with the health care system. Specifically we looked into the changes in evaluations following the 1984 amendments to the regulations. A number of conclusions and recommendations is given for a new structure for the initial contacts between the pregnant and the 'system'.

The study includes 279 evaluation forms from all pregnant women in one month in the county. They answered 107 questions of which initial interest covers the following three dimensions of the problem:

The health care system is defined as a series of consultations:

The first contact to the general practitioner.

The first contact to the medical staff at the birth department, and

The first contact to the midwife.

The satisfaction is defined as a value on a scale 1 through 4 for the following elements in the contact with the health care personnel:

The duration of the consultation,

The information provided, and

The overall impression with the consultation.

The change in the satisfaction level is found by comparing a similar analysis from 1984, where a countrywide analysis included the same set of questions. That study was the basis for recommendations for the health care system today.

The overall satisfaction increased. But the results also expose that the implementation includes more efforts from the health care system than justifiable. The information provided, the sequence and the time between consultations with the three representatives can be much more reasonable.

## **The main conclusion is:**

The pregnant woman prefers to meet the midwife as soon as possible and she wants to stay in contact with the same midwife through her pregnancy. The standard schedule for consultations must be changed and the information given to the pregnant must be coordinated between the involved parties.

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**WOMEN'S WISHES AND CHOICES**

**SECTION II**



## **WOMEN'S REACTIONS TO VAGINAL EXAMINATIONS IN SEVERAL EUROPEAN COUNTRIES**

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From the literature, it seems that vaginal examinations are regarded by the women as a negative experience but the majority of the studies reported reactions from non pregnant women or women who lived in countries where this examination is seldom carried out during pregnancy. It is therefore important to measure the psychological reactions of pregnant women in some other countries. This is part of the assessment of routine vaginal examination as a screening method for preterm labour, a European multinational randomized controlled trial.

In each country participating in the trial, a subsample of 400 women was drawn from the total sample. A questionnaire was administered two to five days after birth when the woman was still in hospital. It was a self-administered questionnaire. Women were asked about their views to this examination (feelings, knowledge, wishes), their type of care (place, provider), complications of their pregnancy and their social characteristics.

Preliminary results will be given about variations in women's reactions according to countries and maternal characteristics. Multivariate analysis of factors related to embarrassment during the examination will be presented. This reaction was not related to the number of vaginal examinations which were carried out, nor to the pregnancy complications or the organization of prenatal visits. Nevertheless the women of lower educational level were more frequently embarrassed than the other women.

These results emphasize the importance of the negative feelings of the pregnant women towards vaginal examinations, even in countries where it is a routine examination.

## PREFERENCES FOR PLACE OF BIRTH AND OBSTETRIC ASSISTANCE IN THE NETHERLANDS

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Obstetric care in the Netherlands is, when compared to most industrialized countries, a unique phenomenon. In the majority of these countries, deliveries occur in the hospital, while in the Netherlands almost 36% of the number of births are delivered at home.

An important reason for the high percentage of deliveries at home is the fact that the authority to carry out deliveries independently is not confined to general practitioners and gynecologists-obstetricians but also given to a third professional group: the midwives. Almost 43% of all deliveries are carried out by midwives.

The second reason for the high percentage of home deliveries is a cultural one. Giving birth at home is an accepted phenomenon in the Netherlands. To test this proposition we used information from the 'National Study of morbidity and interventions in general practice' which was carried out in 1989. Within the framework of this study there was a (pollsters) survey based on a random sample of 13,000 persons. One of the subjects of this survey was the preference women had for the place of the delivery and the kind of professional assistance.

This survey shows that almost 39% of all respondents prefer a delivery at home and 36% prefer a clinical delivery. When we asked all women in the age group of 20 to 45 years which professional assistance they prefer, most of them preferred assistance by a midwife (37%). Only 14% prefers an assistance by a gynecologist and only 7% by a general practitioner.

The figures mentioned above illustrate that in the Netherlands, in contradistinction to most industrialized western countries, a home delivery is seen as a very desirable situation.



## WORK DURING PREGNANCY

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Swedish pregnant women have in recent years become healthier in the respect of the outcome of pregnancy for mother and child. In spite of this fact, doctors at our maternity care units will spend a great deal of their time there on questions concerning sick-leave. To throw light on this apparent paradox, sick-leave during pregnancy was studied in a ten years period among pregnant Swedish women.

### **Material and method:**

2700 maternity care case reports from 1978 to 1989 were studied. Data were collected from standardized case notes concerning the number of days on sick-leave during pregnancy, the diagnosis on the doctors certificate and the outcome of pregnancy.

### **Results:**

Our study revealed that in spite of our expanded Social Security System for pregnant women there was an increase in sick-leave during pregnancy from 46% to 63% during this ten years period. The average number of days on sick-leave increased from 54 to 72 days in the same period. In 1989, almost 50% of the pregnant population had been on sick-leave during their last month of pregnancy. No difference could be found in the outcome of pregnancy between the group of women who were on sick-leave compared to the working group. The most common diagnoses on the doctors certificate 1989 were in order of frequency; back trouble, fatigue and uterine contractions.

### **Discussion:**

The fact that such a large amount of pregnant women today do not wish to or cannot work to a normal extent during pregnancy probably does not reflect a corresponding degree of sickness in this population. A more probable explanation instead would be simply a change of attitude towards working during pregnancy among these women.

### **Conclusion:**

We find that the phenomenon of sick-leave during pregnancy rather is an expression for the insufficiency working pregnant women respond with to the demands of modern society. In a society where the majority of pregnant women are active in working life, the sickness expressed in days of sick-leave have therefore rather social than medical reasons.



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**WOMEN'S WISHES AND CHOICES**

**SECTION III**



## **TURKISH WOMEN IN AUSTRIA AND CHILDBIRTH: ATTITUDES, COMMUNICATION AND COMPLIANCE**

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Turkish migrant workers, 'Gastarbeiter', and their families are the largest group of aliens in the Tyrol province in western Austria. They make up ca. 5% of the population. Most come from a small-town and rural background in central and eastern Turkey with a significant number of Kurdish-speaking families. Records of 121 Turkish women who had given birth at our institution were compared. 60 women were interviewed in Turkish or Kurdish by one of the authors (S.U.) when they attended the out-patients-clinic. Contrary to widely held beliefs and clichés, patient compliance during pregnancy was very good. More than 80% of the women studied went for pregnancy-check-ups at least 4 times during pregnancy. A number of conditions are diagnosed at these examinations: tuberculosis, genetic disease, diabetes and Rh-negative women who had previously given birth in Turkey and who had not been immunized post partum were detected. The federal 'Mutter-Kind-Paß'-program in Austria whereby every woman receives the equivalent of roughly a month's salary if she has been to four examinations during pregnancy proves a powerful incentive. However, most problems are not the result of medical conditions but of lack of communication and understanding. More than two-thirds of the women who gave birth spoke little or no German. When relatives and hospital cleaning staff served as interpreters, some information was either withheld by the patient or made up by the interpreter. Attitudes vary from naive trust in the power of medical technology to diffidence, particularly when dietary recommendations are concerned. The strict hygienic rules of Islam, and the support and nurture supplied by the tightly-knit family structure of Turkish migrants should be recognized as positive factors.

## EFFECTIVENESS OF HEALTH EDUCATION IN THE FINNISH MATERNITY HEALTH CARE CLINIC

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The study is a prospective follow-up study of 1443 nulliparous women from their first visit to a maternity health care clinic (MHCC) (on the average in the tenth week of pregnancy) to the puerperal period using stratified randomized cluster sampling and confidential questionnaire analysis.

The purpose of the study was to search for methods for the identification of mothers with specific needs and childbearing problems. The second purpose was to collect baseline data on nulliparous women's childbirth knowledge and how this knowledge changes during pregnancy. Data were also collected on their health behaviour at their first visit to the MHCC in an attempt to contribute to the development of the MHCC health education.

Overall, the mothers had a very good knowledge of childbirth, although several knowledge gaps were found especially about health behaviour during pregnancy and breast-feeding. The level of knowledge of initially, poorly aware mothers was improved by the work of the clinic, while initially, highly aware mothers received little new information and felt disappointed. Both alcohol intake and smoking had in the main been reduced as soon as the mother learned that she was pregnant, and there was little more the clinic could do to modify adverse effects on the fetus.

Initially, lower childbirth knowledge was associated with factors such as lower educational level, unemployment, lower use of cultural services, unhealthy lifestyles, lower interest in health counselling and lower confidence in health care systems, negative delivery experiences and poorer pregnancy outcome. Lower childbirth knowledge was associated with many socio-emotional, socio-economical and environmental disadvantages, a fact that increased the need for supplementary health counselling, social support and careful obstetric surveillance. Low childbirth knowledge may thus imply less favourable living circumstances, and it could indicate to the MHCC staff that they should direct their attention to identifying those individuals in need of support.

Highly knowledgeable mothers are also a real challenge to the staff of the MHCC. These mothers need individual, detailed information and thorough conversations in order to retain and even to increase their motivation for preventive health care.

## **WOMEN'S WISHES AND CHOICES AS REFLECTED IN CHILDBIRTH BOOKS**

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Many pregnant women turn to books for information, guidance and support. The extensive popular literature on pregnancy and birth attests to a strongly felt need for understanding and for clarification of available choices in childbirth. This paper explores the ways in which these books, written by mothers, midwives and physicians, reveal and reflect women's wishes and enhance or undermine their perception of choice.

This paper examines ten representative books from the United States and England. Analyzing conceptualization and text, it focuses upon the structure and organization of each book, the nature of the information and advice presented, the medical and non-medical language used, the reasons given for procedures and practices, the description of available choices. It ascertains whether women's experiences, strengths and abilities are portrayed, whether childbearing is considered mainly as a personal, individual event or as occurring in a social, political context. It asks how problems are presented, solutions obtained. Photos and illustrations are evaluated. When scrutinized in detail, these books reveal the authors' underlying assumptions about the nature of birth and the extent to which they believe women have the choices available to satisfy their wishes.

Each book presents a particular view of birth. Some, restricted to small subcultures of women, are cohesive, visionary, womancentered. Others exhibit internal contradictions; they seem to offer choice, but in reality end up replicating and reinforcing, in manifest and subtle ways, the restrictive social and medical contexts in which women give birth today. It becomes clear that for all the talk of meeting women's wishes, for all citizens' and professionals' efforts to that end, women still do not have the choices they desire.





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## METHODOLOGY OF OBSTETRIC CARE RESEARCH



# GENERAL PRACTITIONERS' COMPLIANCE TO THE TREATMENT PROGRAM FOR ANTENATAL CARE IN NORWAY

**B. Backe**

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In 1984 the Norwegian Directorate of Health issued guidelines for antenatal care and a standardized antenatal record. This came after a debate initiated by an audit of perinatal deaths. In the debate, the competence of the care providers - the general practitioners - was questioned. - Two years after we were commissioned to answer two questions: To what extent are the guidelines complied with? Which doctors are not complying with the guidelines?

## **Method**

The standardized record makes it possible to evaluate the content of the care on elements of major importance. A score for compliance was developed, concentrating on screening for disease or increased risk in pregnancy. The items in the score were based on the experience gained in the perinatal audit. The score is made up of nine items. The reproducibility of the score has been evaluated.

## **Material**

In a one year material comprising all delivering women in a county in Norway, the score was tested. Two trained persons (an obstetrician and a midwife) have assessed all records (N=1908). Written definitions were followed. With logistic regression, a more detailed analysis was performed on 1,574 pregnancies where care had been provided by 158 general practitioners who could be identified.

## **Results**

Compliance was lower to items where the physicians had to record their clinical judgement. Twin mothers and women with breech deliveries had lower score, the reason is that they to a greater extent were controlled by hospital doctors, following the hospital routines and neglecting the officially prescribed routines for patient documentation.

If the controlling physician was male, odds for low score was 33% increased (Confidence intervals 1.04 to 1.71). If the physician worked single-handed, odds for low score was 58% higher compared to doctors working in group practice (CI 1.24 2.01).

## **Conclusion**

Before the quality of antenatal care can be assessed, important objectives must be defined. The score for compliance to the treatment program provides a tool for quality assessment of antenatal care.

# INTRAPARTAL ELECTRONIC FETAL MONITORING AFTER LOW RISK PREGNANCY

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The use of intrapartur Electronic Fetal Monitoring after low risk pregnancy was evaluated by means of the intra and interobserver variability as well as the validity of this method to diagnose fetal distress (Berghs and Spanjaards, 1988).

In two rounds 294 CTG registrations made during the second stage of labour were judged by six observers, according to Fischers pattern recognition, (1976). The **intraobserver variability** for the observers separately was calculated as the percentages registrations with the same judgement in both rounds. The variability was 67%-89%. We found that the observers judgement in one round corresponded moderately to his own judgement in the other round, but that there were substantial differences between the judgements of the separate observers. The **interobserver variability** revealed a kappa value of 0.35-0.49.

To study the **validity** to detect fetal distress the 294 registrations were classified in Fischer patterns according to the majority of the observers judgement in the previous two rounds. The registrations were divided in suspicious for fetal distress and supposed normal. The umbilical cord blood gas values and the neurological condition of the newborn (Brechtel, 1977) were used as a standard for distress. The validity is given in Table 1.

## Conclusion

Routine intrapartur Electronic Fetal Monitoring after low risk pregnancy is not expected to improve neonatal outcome.

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	pH umb. A	Neurologic score
	- 7.20	- 54
Specificity	28.8	25.9
Specificity	87.2	83.2
Pos. pred. value	47.9	13.7
Neq. pred. value	74.9	91.6

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## RISK OF NEONATAL MORTALITY ACCORDING TO GESTATIONAL AGE, BIRTHWEIGHT AND OTHER INFANT AND MATERNAL CHARACTERISTICS

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The routine French vital statistics system provides little information on perinatal health: no registration of stillbirths before 28 weeks of gestation, no certification of cause of death of stillbirths and some of the very early neonatal deaths and no medical data for livebirths.

In order to provide the necessary information to monitor perinatal health and health care, a study has been carried out in 1988-89 in 10 voluntary regions of France, covering about one third of all births in the country. The study included:

- 1) all stillbirths and neonatal deaths of infants born in these regions for a period of one year,
- 2) all livebirths occurring in these regions for a period of two weeks. In both cases, the population included all births of 500 g or more.

The objective of this paper is to estimate the risk of neonatal mortality in relation to gestational age and birthweight, and other infant and maternal characteristics. Deaths due to congenital malformations were excluded. The sample includes 713 neonatal deaths, and 9450 livebirths. Adjusted odds ratios have been estimated using multiple logistic regression.

The results show *the importance of both gestational age and birthweight* in the prediction of neonatal mortality, and confirms the high risk associated with births before 35 weeks of gestation (compared to gestational age 39 or more), OR = 25, or birthweights lower than 2000 g (compared to birthweight 3000 g or more), OR = 9. The analysis also showed that *the neonatal mortality risk is still significantly increased at gestational ages 35-36* (OR = 4), or for birthweights between 2000 and 2500 g (OR = 2), *and even at 37-38 weeks or between 2500 and 3000 g* (OR = 1.5). After taking gestation and weight into consideration, the risk of neonatal mortality was higher for boys than girls (OR = 1.5), and *the risk associated with multiple births was limited to birthweights over 2500 g*. However, because of the high proportion of preterm low birthweight babies in multiple births, *20% of all neonatal deaths, congenital defects excluded, were from multiple births*. The increase observed in the number of multiple births, associated with the development of infertility treatments, shows the importance of monitoring this component of mortality.

# **ASSESSING WOMEN'S ATTITUDES TOWARDS OBSTETRICAL CARE: A QUALITATIVE RESEARCH AGENDA**

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This paper describes the research design currently being developed for a major investigation into women's satisfaction with obstetrical care provision. The study will focus on two separate study areas in South Wales, and will involve the participation of over 1100 women over a two year period. The first stage of the research will seek to elicit the changing expectations of and attitudes towards obstetrical care by some 100 respondents during the course of their pregnancies. This information will be obtained using qualitative methods within an unstructured interview environment, and will be used to inform and structure the subsequent quantitative questionnaire which will be administered to a further 1000 women using a postal survey. In essence, the research design will set up two panels of respondents: the smaller panel will be used to determine the focus, content and layout of the larger survey, and both will be carried out during and following the pregnancies of all the women.

This paper focuses upon the central role of the unstructured interview within this over-all research design. It will be argued that this qualitative base will provide the essential grounding for a more patient-centered approach towards assessment of the quality of obstetrical care.

## THE WORMERVEER STUDY, METHODOLOGY AND SIGNIFICANCE FOR THE DEVELOPMENT OF A NATIONAL OBSTETRIC DATA BASE IN THE NETHERLANDS

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In the Wormerveer Study, a group of 8480 women, consecutively booked in a practice of independent midwives in Wormerveer during a 14-year period, were followed during their pregnancy and delivery; the condition of the 8055 infants was reported by midwives, obstetricians and paediatricians. A complete follow-up was achieved. The 7980 women eventually delivering an infant of >500 grams were divided into three groups, according to the place of delivery and the professional who was supervising confinement. Of the 7980 women 1367 (17.1%) gave birth in hospital after maternal referral during pregnancy, 632 (8.0%) gave birth in hospital after referral during delivery, and 5081 (74.9%) delivered outside the hospital in a maternity unit or at home.

The criteria on which the division into three groups is based will be discussed. For instance: a woman referred to the hospital because of threatening preterm labour may be classified either into the group 'referral during labour' or into the group 'referral during pregnancy'. The choice for one of these alternatives may have important consequences for the neonatal outcome in these groups and for the insight into the system of care and of referral.

A basic principle of the system of obstetrical care in the Netherlands is the selection during pregnancy of two groups: at high risk and at low risk. One of the aims of the Wormerveer Study was to gain more insight into the selection process by the midwives, and into the effect of the referral system. A national obstetric data base is now being developed in the Netherlands, and one of the aims should be to give insight on a national scale into the selection and referral system and its effects. However, up to now the data base is divided into two: hospital-based data and data collected by midwives. This separation into two hampers the understanding of the interaction between primary and secondary care in obstetrics. The Wormerveer Study could serve as a model how to set up a data base giving a maximum of insight into this interaction and into the quality of the care.



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## WORKSHOPS



## **ANTE-NATAL AND POST-NATAL GROUPS IN SOUTH-EAST LONDON: A NEW CONCEPT IN EDUCATION AND SUPPORT**

**J. Demillew, N. Leap**

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We both work as independent midwives in South East London offering continuity of care for women who book with us for home birth. An important part of our work is the running of groups in our local community. These are free and open to all women whether or not they are booked with us. The groups provide an ideal opportunity for midwives to be accessible and visible within their local area.

At any stage of their pregnancy, women can come along to an ante-natal group where THEY decide the topics for discussion, and there is no pre-planned agenda. The women decide what information is relevant to their needs, and are able to make choices accordingly. The midwife facilitating the group is not necessarily the focal point of the group, and her role is to listen, to encourage discussion, and to decide when it is appropriate to interject with information. Strong friendships are formed within the group and the women support each other. After they have given birth, the women return to the group and talk about their experiences. Many of them will continue to meet to share experiences and to support each other in the post-natal group which is also facilitated by a midwife.

Some of the groups are open for male partners to attend, and one ante-natal group remains a women-only group at the request of the women. The groups are held in a variety of settings; a community centre, a local authority health centre, and one in the midwife's home.

We hope to show a video that is in the making which will describe the groups and give the women a voice to explain what the group has meant for them, and how they have benefitted from it. If the video is not finished we shall use quotes from the users to demonstrate the same.

Women describe the groups as providing 'a life-line' and a way of breaking down the isolation that so many new mothers feel. They also see the ante-natal groups as an invaluable source of information, and a welcome resource when making 'birth-plans'. The informal settings and loose structure ensure that people have a chance to talk about their fears and anxieties. They are able to ask questions in an unhurried atmosphere. Women without partners, black women, teenagers, older women, lesbian mothers - all describe the support they found in the groups. Almost all of the women breastfeed their babies and no-one has ever asked for a session on how to make up bottles of formula!

Evaluation of these groups comes from the participants. For the midwives involved the benefits are enormous. They give us a chance to listen to women and to respond accordingly and most importantly, a chance to learn from them.

# THE APPLICATION OF INTEGRATIVE MEDICINE IN OBSTETRICS

**V. Korbelt**

'Geburtshaus Nussdorf', Wien, Austria

Modern sciences have changed our view of the world. A new reality needs a new medicine. Medicine too, needs a new paradigm and a new way of approaching of human beings.

The paper will present the principles of a whole system approach. This means for obstetrics, that pregnancy, delivery and nursing is a unit. Birth is therefore a matter of the woman herself as a person, of the baby and their environment. Specialized knowledge of the organs and their function is no longer enough.

This new approach asks for another kind of interaction between the hospital staff and the individual women and her family, between the midwife, the nurse and the physician. This new approach asks as well for another organization of the obstetric department, for another architecture, another outfit and even another food and financial policy. It asks for another type of diagnosis, which goes far beyond the present technological possibilities such as ultrasound or blood tests.

The main part of the paper will then focus on working methods, goals and organization of the 'Geburtshaus Nussdorf', where this new approach has already been realized.

The results of more than a thousand deliveries (30% water births) including the percentage of women, who delivered without any medical intervention, will be presented.

Finally I draw conclusions from the humanitarian point of view for the new family and the situation of the medical staff and for the possibility of using the experiences of der 'Geburtshaus Nussdorf' in the Public Health System.

# THE WOMEN'S HEALTH CARE PROGRAMME IN CATALONIA

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In 1987 the Primary Health Care Service of the Catalan Institute for Health, and the Nursing Service of the Catalan Department of Health, designed the programme 'The Woman's Health Care Programme' in order to give full assistance to women and their families during the reproductive process, and to make this assistance more readily available to them, with the aim, as well, of enhancing the prevention of disease and the promotion of health.

The Women's Health Care Programme includes the following items: Antenatal care, Parenthood education, Postpartum care at home, Family planning, Teenagers, Prevention of genital and breast cancer, Gynaecological clinics, Sexually transmitted diseases and Menopause.

The team on the Woman's Health Care Programme consists of: Obstetricians and Gynaecologists, Midwives, Nursing auxiliaries, and Administrative staff.

This team works in coordination with: The general practitioner (medical and nursing professionals), Paediatrician, Psychologist, Social Worker, the Hospital involved in the programme, and the educators.

This programme was initiated in 1988, and is being implemented progressively achieved.

The community midwife works, either in the town, in the health centre, or in the antenatal clinic. She also collaborates with the specialists in the health centre.

The team of the Women's Health Care Programme is responsible for total care of the woman, and her family, during her reproductive process, making sure that she is seen always by the same obstetrician and the same midwife, except during labour.

## Conclusions

- This programme has enabled the midwife do retain contact with her clients from town (Health Centre), once she has referred them, if necessary to the specialist. This allows the midwife to coordinate her professional activities with those of the team.
- The woman is always seen by the same specialist and the same midwife.
- The services offered to women have increased and quality has been improved.
- Continuous in service education is available to all the members of the team.
- Performance joint policies have been established.
- This programme is designed to improve the quality of life for woman in our country.

## **A LOW COST INTERACTIVE VIDEO INSTRUCTION SYSTEM SUITABLE FOR PRIMARY CARE TEAM TRAINING IN ANTE NATAL AND POST-NATAL CARE AND MOTHER/CHILD INTERACTION**

**P. Heath**

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Improving the quality of professional understanding and practice in mother and baby care, in an ideal world, achieved by carefully supervised practice and time to develop a range of experience and repertoire of skills. Increasingly, the staff time to provide supervision is under pressure and new methods have to be found to increase the effectiveness of teaching these skills in the primary care team setting, where it is not possible to meet the costs of courses and other traditional methods of teaching and training. It is also very difficult to offer students a sufficient range of contacts with patients to give them a range of learning experiences without excessive intrusions on patient privacy and excessive burdens on skilled staff for whom having a student on visits is time consuming and of course not always possible in terms of confidentiality and relationships with the client.

Southern Derbyshire (population 500,000), community nurses have developed a low cost system which links professionally made videos of their staff in client work to computer learning programmes developed with groups of field staff. The hardware required is affordable in primary care settings, and the approach offers great flexibility and the possibility of covering many primary care mother/child health issues in a cost effective, learning effective flexible way.

Examples of interactive video instruction programmes already produced will be demonstrated (ante natal care, post natal care, mother/child interaction) and potential uses for such systems in improving the quality of primary care outlined.

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**POSTERS**





# CONFIDENTIAL ENQUIRIES INTO POST-PERINATAL DEATHS: MULTIDISCIPLINARY CLINICAL AUDIT

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## Introduction

Confidential enquiries, a form of multidisciplinary audit, into post-perinatal deaths in Southern Derbyshire were started in 1987 because of continuing anxiety about rates persistently higher than national, regional and local levels.

## Methods

The enquiries are based on the model developed in Sheffield. The programme is coordinated by a senior community child health doctor. The enquiries are instituted upon notification of a death which occurs routinely for deaths within the district; a variety of sources have to be relied upon for notification of deaths outside the district and some delay may occur. Written parental consent is obtained, normally by the health visitor. Questionnaires are then sent to the general practitioner, delivery unit, health visitor, social work department and paediatric and accident and emergency units of appropriate. Health visitor records are submitted routinely, as are post mortem reports within the district; these have to be specifically requested out of district. A home visit by a community child health doctor is offered to all parents after an unexpected death or death after an acute illness. Full case discussions, involving the general practitioner, health visitor and home interviewer and chaired by the coordinating doctor, are held on all unexpected deaths and those after an acute illness, usually in the general practitioner's premises. Other professionals may be invited as appropriate. The participants examine all the known information about the life and death of the infant; identify any adverse health or social factors and assess the significance or otherwise of these; assess the preventability or otherwise of the death, and, if appropriate, determine the point at which intervention might have prevented the death; and categorise the death according to the Sheffield system (see figure 1).

Figure 1: Categorization of deaths

Category	Type of death
A	Inevitable after birth
B	Possibly/probably preventable
C	Minor illness only
D	Unexplained deaths
E	Accidental death
F	Proven or probably filicide
G	Insufficient information for classification

Expected deaths are audited by the coordinating and another community child health doctor. Only if specific problems are identified is a full discussion involving the primary health care team convened.

**Results**

The post-perinatal death rate in Southern Derbyshire has continued to be higher than national, regional and local levels (see figure 2).

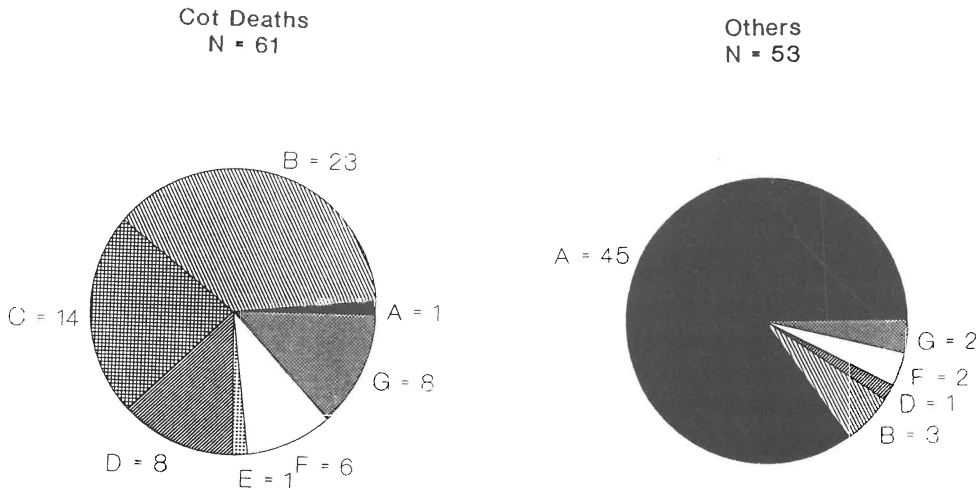
Figure 2: Post-perinatal death rates 1987-1989 Southern Derbyshire of national, regional and local rates

Year	Births	Deaths						
		No.	Rate*					
1987	7192	34	4.7					
1988	7043	53	7.5					
1989	7283	27	3.7					
<b>TOTAL</b>				**	**	**	**	**
				E. & W.	Trent	N.D.	Notts.	SE S.
1987-1989	21518	114	5.3	5.1	4.8	4.8	4.6	4.2

- \* Rates = per thousand live births
- \*\* E. & W. = England and Wales
- Trent = Trent Region
- N.D. = North Derbyshire
- Notts = Nottingham
- SE S. = S.E. Staffs

114 death were investigated and categorised (see figure 3).

Figure 3: Post-perinatal deaths in Southern Derbyshire by category



Comparison of these data with those of other districts carrying out confidential enquires indicates that the high post-perinatal death rate in Southern Derbyshire is largely because of a high rate of deaths in the B category (possibly or probably preventable) (unpublished data).

The majority of unexpected deaths have been audited by the process of a full multidisciplinary confidential enquiry culminating in a case discussion involving the primary health care team. Where a death has been deemed possibly or probably preventable the primary health care team have therefore been an integral part of the process of highlighting significant factors and identifying the point at which intervention might have prevented the death.

Important epidemiological data have been gathered relating the deaths by category to locality and to individual and area social, environmental and health factors.

### **Conclusions**

Confidential enquiries are multidisciplinary audit and provide valuable data on an individual case as well as a district-wide epidemiological basis. The individual case information is fed back in the process of the enquiry to those health professionals to whom it is most relevant, the primary health care team. The wider epidemiological data collected is of great value in service planning for the district.

Initial anxiety amongst professionals about the enquiries is being replaced by acceptance of their usefulness: in only one case in 1989 was it not possible to obtain sufficient information for classification as compared to nine cases in the previous two years.

There is some evidence from three year rolling means of a trend towards a reduced post-perinatal death rate in Southern Derbyshire (E.A. Adamson, unpublished data).

## NATIONAL DIFFERENCES IN ANTENATAL PRACTICE OBSERVED DURING A EUROPEAN TRIAL

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Over the last decade there has been a growing interest in international comparisons of practice in antenatal care (ANC). Within the framework of the E.C. collaborative studies, there is privileged direct access to more information concerning these differences. The access comes through data analysis and can be confirmed during field visits.

The REVE project aims at evaluating the effect of repeat cervical assessment (RVE) - and related interventions - on the rate of preterm birth. Major inter-country differences were obvious from the initiation of the project. Two large countries 'felt' participation in the study would be unethical, the French because they would not deny the women RVE and the British because they would not impose it. Even enthusiasm to reluctance, recruitment rates ranging from 92 to 50% of all patients.

In terms of provision of care, simple markers have been collected; results are provisional. They confirm huge disparities between countries much greater than differences between units inside one country. A few examples of these inter-country disparities are presented.

Average gestational age at booking ranged from 8 to 15 weeks probably reflecting the effects of shared care rather than delay in seeking for care.

Average maternal age ranged from 25 to 29, whilst average age at which studies were completed ranged from 15 to 20. Those countries where women complete schooling youngest are those where maternal age is lowest.

It is specifically in relation to RVE and attitudes to prevention of preterm birth that contrasts are most striking. In the arm allocated to RVE, the average number of cervical assessments ranged from 4 to 8 over pregnancy, while in the arm allocated to avoiding RVE the average number per pregnancy ranged from 1 to 3.

Similarly the rate of spontaneously reported 'contractions' ranged from 10 to 30% of pregnancies.

These preliminary data emphasize - if it was necessary - that further understanding of major differences in outcomes require further straightforward descriptive compilation of ANC practice over the E.C.

## THE PERTH THIRD STAGE OXYTOCIC TRIAL

**S. Bannister**

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Post partum haemorrhage is a major cause of maternal death in the Third World (Royston and Armstrong, 1989).

It is re-emerging in modern obstetric practice in the West (Gilbert et al., 1987).

The third stage of labour is managed in a variety of ways throughout the world. Recent evidence has shown active management to be superior to physiological management in reducing the risk of post partum haemorrhage.

However, which is the better oxytocic to use as part of the routine active management of the third state of labour remains unknown (Elbourne D., Prendiville W., Chalmers I.; 1988).

This presentation will describe a large randomised controlled trial comparing Syntocinon to Syntometrine, involving over 3,000 women, undertaken at King Edward Memorial Hospital for Women, Western Australia, during 1990 and 1991.

## PRIMIPAROUS AND MULTIPAROUS DELIVERIES: NEONATAL NEUROLOGICAL OUTCOME

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We studied 468 primiparous and 566 multiparous deliveries after low risk pregnancy. Data on pregnancy, delivery and neonatal outcome were recorded and the infants were neurologically investigated in the second week of life (Prechtl, 1977). The question was whether the more laborious deliveries of the primiparous women had influenced the firstborns neurological condition (Berghs and Spanjaards, 1988).

The differences in pregnancies between primiparous and multiparous women showed the slightly higher diastolic blood pressure in first pregnancies to be remarkable. Primiparous deliveries were more laborious indeed, regarding, for instance, longer second stages, more complications and more instrumental deliveries.

Firstborns had lower birthweights, were shorter, had lower Apgar scores, were more frequently hospitalized and had lower pH in their umbilical artery blood.

There were more ( $p < 0.01$ ) neurological optimality scores less than 54 in firstborns (13.3%) than in the other neonates (8.1%). Durations of second stage, birthweight and Apgar score at five minutes were related to the neurological optimality scores. But, in cases of second stages  $< 30$  min, birthweights  $> p10$  and Apgar scores at five minutes  $> 9$ , the differences in neonatal neurological scores of firstborns could not have been explained conclusively. This may indicate that firstborns distinguish themselves already before delivery. Primiparous and multiparous deliveries are to be studied separately, even after low risk pregnancies.

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- Prechtl H.F.R. The neurologic examination of the fullterm newborn infant. Clinics in developmental medicine 1977; 63, Heinemann, London.

# **THE ZAA NSTAD COOPERATIVE STUDY ANALYSIS OF THE INTERACTION BETWEEN PRIMARY AND SECONDARY OBSTETRIC CARE AND ITS IMPACT ON PREGNANCY OUTCOME IN AN URBAN AREA**

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## **Introduction**

In the 'Wormerveer study' (Eskes, 1989) a population of 8480 pregnant women who booked consecutively from 1969-1983 into one of the independent midwife practices in Zaanstad were analysed.

The quality of selection and obstetric care given by the independently working midwives proved to be adequate in many aspects. However, the cooperative effort of primary (midwives) and secondary (obstetricians) care was not effective in detecting all growth retarded infants; more over, in a number of perinatal mortality cases preventable factors were present.

The aim of the present study is to analyse again the cooperation between primary and secondary obstetric care. In contrast with the Wormerveer study, all pregnant women, consulting midwife and/or gynaecologist, in the whole urban area of Zaanstad are included.

## **Methods and results**

All pregnant women from 01-01-90 till 01-01-03 in the Zaanstad area are entered into the study. A special computerprogram was developed and is being used by the midwives and obstetricians of the region.

This program is composed of eight different parts:

1. general data
2. medical history
3. social data
4. pregnancy
5. delivery
6. neonata
7. puerperum
8. external contacts.

The completeness of the studygroup is controlled by the Registry Office of the municipalities.

Number of and reasons for consultations between midwives and obstetricians in relation to pregnancy outcome will be analysed. The experiences and results of the first 6 months are presented in this paper.

## **EVOLUTION OF PRETERM BIRTH AND LOW BIRTHWEIGHT IN FRANCE**

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In France, during the 1970's, a decrease in preterm birth (< 36 weeks), and low birthweight (< 2500 g) rates, was observed, in contrast with most of the European countries.

The objective of this paper is to give the most recent data on preterm birth and low birthweight rates in France and to discuss recent trends in relation to changes in practices.

Since the routine French vital statistics system provided little information on livebirths, it was necessary to carry out a survey. The study included all livebirths occurring in 11 voluntary regions of France, for a period of two weeks, in 1988-1989. More than 50% of the births occurred in the participating regions.

The sample includes 15,861 live births of 500 g or more. The results show a decrease in preterm birth (4.9% in 1989 and 6.5% in the same regions, in 1981). The rate of low birthweight remained stable (5.8% in 1989 and 5.3% in 1981). However, the evolution of very low birthweight rate (< 1500 g) was not the same in all regions. In Ile de France (Paris region) an increase in V.L.B. were born after medical decision. It could also be explained by an increase in risk factors such as multiple pregnancy. The results in the Ile de France region, show that rates of V.L.B. are very sensitive to modification in attitudes.



## AN INDICATOR OF THE CONTENT OF PRENATAL CARE IN DEVELOPING COUNTRIES

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The evaluation of prenatal care is often limited to measures such as the proportion of women with at least one visit. Information on the content of prenatal care is generally reported as unavailable.

However, information on tetanus immunization is frequently accessible because it is used to monitor the progress of the Expanded Program on Immunization. In developing countries, the prevention of neonatal tetanus should be one of the main objectives of prenatal care. With the exception of those who have already received 5 doses of tetanus toxoid during child-bearing age, all pregnant women should be immunized against tetanus during pregnancy.

We propose to use the following Tetanus immunization/Prenatal care (TP) ratio as an indicator of the quality of the content of prenatal care:

$$TP = \frac{\% \text{ Births to Women Immunized against Tetanus During Pregnancy}}{\% \text{ Births to Women Having Received at Least One Prenatal Visit}} \times 100$$

The TP ratio should be close to 100% and could even be greater than 100% if pregnant women who are not attending prenatal care are immunized.

We calculated the TP ratios for 24 developing countries, using the representative data collected by the Demographic and Health Surveys Program between 1985 and 1989.

The mean TP ratios were 72% in Africa (N=14), 85% in Asia (N=2) and 47% in Latin America and the Caribbean (N=8). Ranking the countries by TP ratios may give a different result than ranking them by proportion of women with prenatal care. For example, the TP ratio was 26% for Pery and 43% for Bolivia, while the proportion of women with prenatal care was 61% for Peru and 47% for Bolivia. Such results suggest a better content of care in Bolivia, even though more women had care in Peru. Another illustration is the comparison between Mali and Senegal, which have quite similar TP ratios (58% and 48%, respectively) but very different percentages of prenatal care (31% and 64%).

The content of care appears to be comparable in both countries, even though the proportion of women receiving prenatal care was twice as high in Senegal than in Mali.

TP ratios may also be used for comparisons between groups or areas within countries. We analysed the Demographic and Health Survey performed in Ghana in 1988. The results show for example, TP ratios of 87% in urban areas and of 84% in rural areas. Such rather similar ratios suggest that the relatively low coverage of tetanus immunization in rural areas cannot be explained by differences of content of prenatal care.

We conclude that the ratio of the proportion of women immunized against tetanus to the proportion of women attending prenatal care is a measurable indicator of the content of prenatal care in developing countries and that it is potentially useful for health management.

## **DOMICILIARY ANTENATAL CARE FOR HIGH RISK PREGNANCIES IN THE SOUTH WALES VALLEYS**

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The Home Antenatal Care in The Valleys team comprises research midwives, a medical geographer and a medical research fellow, and is studying high risk pregnancies in the South Wales Valleys, a recognised socially deprived area. A domiciliary antenatal care service is run by the community midwives and incorporates domiciliary fetal monitoring when appropriate. We are evaluating how the service may reduce frequency of antenatal visits, and the number of hospital admissions and may improve maternal and fetal outcome, as well as patient and staff satisfaction.

To quantify the degree of risk in pregnancy, we have modified the risk scoring system devised by Hobel and associates in 1973. Pregnancies were assigned to a low, moderate or high risk category following hospital booking visit. The type of antenatal care currently given to low, moderate and high risk pregnancies was assessed by reviewing a sample of 264 women attending for Consultant antenatal clinic booking during the month of January 1990. There were 82 primigravidae and 182 multigravidae.

The number of women in each risk category was as follows: low risk 143, moderate risk 98 and high risk 23. 39 (27%) low risk women developed one or more obstetric complications during the course of their pregnancy as did 32 (33%) moderate risk and 12 (52%) high risk. 244 (92%) women received shared care between General Practitioner and hospital. Women in the high risk category had fewer hospital antenatal visits, higher rates of clinic non-attendance and fewer scans than women in the low risk category.

This highlights the difficulty encountered when conventional antenatal care services are provided for high risk pregnancies, and a potential need for domiciliary antenatal care.

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## **MISCARRIAGE: A CROSS-CULTURAL STUDY OF WOMEN'S EXPERIENCES**

**B. Chalmers**

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Fetal loss in early pregnancy is a fairly common experience. Despite the intensity of feelings often evoked early pregnancy loss is frequently regarded as a predominantly physical rather than a psychological stress. In addition, while cultural differences in attitudes are acknowledged, little is actually known about the views of women of differing backgrounds towards this experience.

The present study explored women's attitudes to, knowledge about and experiences surrounding a spontaneous abortion before the 28th week of pregnancy. White, Asian, mixed racial origin and rural and urban African women experiencing a first pregnancy loss were interviewed following a standard questionnaire. A total of 106 women, equally distributed across the five groups, who and experienced a miscarriage within one year of the time of study were asked to participate.

Results suggest that women's experiences surrounding a miscarriage are intense and not always fully acknowledged or understood by those around her. In particular, the need to ascertain the cause of the event predominates. While some experiences surrounding the event are common to all women others are interpreted according to cultural beliefs and attitudes.

## **PREGNANCY OF OUTCOMES AND THE MIND: A STUDY OF THE BIOPSYCHOSOCIAL MODEL**

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Department of Family and Community Health, Haifa, Israël

The human mind-body relationship has long been an intriguing scientific question. This paper represents an attempt at analyzing one of its aspects. Our query was: are the relative contributions of antenatal biomedical and psychosocial risk assessments useful for prediction of bio-medical pregnancy outcome? Our study follows the work of others supporting the assumption that psychosocial risk has an effect on pregnancy outcome, distinct from that of the biomedical risk. In this study, pregnant women and their husbands were interviewed during the antepartum period in their homes. The final study population included 235 couples for whom additional data (i.e., outcome medical data) were collected after delivery. The questionnaire included questions regarding obstetric history, social networks, family functioning, stressful life events, and some questions about attitudes and health behaviors. Our findings show a combined effect (a statistical interaction) on medically measured pregnancy outcome of both psycho-social and bio-medical risk factors, mediated by structural and relational (family) support resources. In other words, women in the low medical risk group had a 2.7 higher likelihood for a negative pregnancy outcome if they also reported a low degree of social ties.

# REPORTED SYMPTOMS DURING PREGNANCY AND MEDICAL REACTION

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## **Introduction**

The purpose of the presentation consists of comparisons between the experienced symptoms (hazardous or not to mother or baby) during pregnancy, the propensity of the pregnant women to report the experienced symptoms to their doctor during antenatal visits, and the doctors' reaction to reported symptoms (prescribe a medication, give advice, do nothing). Variations in experienced morbidity are also analysed.

## **Methods**

A sample of 587 pregnant women were personally interviewed in the Wallonia Region in December 1985 during the last trimester of pregnancy (mean of 34,8 weeks of amenorrhea). They were affiliated to the feminine section (Femmes Prévoyantes Socialistes) of one of the main socio-medical insurance which covers one in five pregnancy of the region. They were interviewed about the social context of their pregnancy, the associated morbidity, the type of prenatal care, the content of the prenatal visits and their satisfaction with antenatal care.

## **Results**

15 symptoms (hazardous or not to mother or baby) were presented on a checklist, which is a valuable method to recall health problems. Among them, a mean of 5,3 were reported to be experienced.

The results consists first in comparisons between perceived and declared symptoms, which give estimates of non declared symptoms.

The assumption is that the differences do vary with knowledge, perception, the expected medical reactions and the anticipated severity of the risk. Targets for health education can be inferred from these comparisons.

Secondly, the results consist in an analysis of the doctors' reactions to the reported symptoms. Doctors seem not to be aware enough of the process which leads patients to declare or not an experienced symptom. About one in eight (17,5%) to more than one in three (35,9%) reported symptoms did not raise, according the interviewed women, neither a medication for relief or treatment, nor an advice.

Variations in experienced morbidity during pregnancy show that the women who have the feeling that their doctor doesn't understand them always, have experienced more symptoms than did the ones who felt they were exactly understood by him/her ('not always understood': 6,3 symptoms; 'exactly understood': 5,2 symptoms; t test:  $p < 0.01$ ). Two other variables of satisfaction with prenatal care ('general satisfaction', and 'need to receive

explanations after prenatal visits') show the same inverse association with the number of experienced symptoms (t test  $p < 0.01$  and  $p < 0.05$ ).

Misunderstandings during prenatal visits can affect at least the psychological well-being of pregnant women, or even the quality of the prenatal care itself.

Symptoms	Experienced symptoms	Reported symptoms (in % of exp. symptoms)	Doctors' reaction (in % of reported symptoms)				
			Medication	Advice	None	Don't know	TOTAL
Tired	68,9	72,6	19,7	54,1	25,2	-	100
Nausea	58,9	80,3	43,8	24,1	30,9	-	100
Heartburn	49,2	77,5	52,2	22,8	22,8	0,2	100
Leg cramps	47,2	55,2	34,0	36,6	27,4	-	100
Tightenings	37,8	84,6	30,3	41,5	27,2	-	100
Vomiting	36,6	87,5	53,7	19,2	25,0	-	100
Constipation	32,0	78,7	50,0	35,8	13,5	-	100
Swollen feet/legs	28,8	69,8	17,8	54,2	25,4	0,4	100
Insomnia	28,6	60,7	30,4	34,3	32,4	-	100
Headache/migraine	28,3	62,0	38,8	22,3	35,9	-	100
Painfull pre-term contractions	25,5	95,3	51,7	28,7	17,5	0,6	100
Teeth problem	24,3	63,6	(2)	(2)	(2)	(2)	100
Varicose vein/haemorrhoid	20,2	80,6	58,2	25,8	17,6	1,1	100
Vaginal bleeding	12,2	95,8	47,8	33,3	16,0	1,4	100
Fainting fit	10,2	91,6	45,5	32,7	20,0	1,8	100

## **E.C. CONCERTED ACTION ON THE EVALUATION OF PRE-, PERI- AND POSTNATAL CARE DELIVERY SYSTEMS**

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Evaluation of perinatal care delivery systems is part of the Medical Research Programme of the European Community (Health Services Research). In 1984, a workshop held under the auspices of the EC defined priorities for research in this field; during the period 1984-1987, a Project Management Group (PMG) representing all EC countries, and three multi-disciplinary working groups prepared the four projects described below, which started in 1988.

### **Subproject 1**

Evaluation of effectiveness of repeated vaginal examination in prenatal care to prevent preterm labour. Two policies are compared in a randomized controlled trial (RCT): vaginal examination repeated at each visit versus vaginal examination at first visit and/of after 36 weeks only.

### **Subproject 2**

Evaluation of management of labour for primiparous women. This project includes two RCTs. One compares two more or less intensive policies of rupture of membranes and use of oxytocin, the other compares permanent versus intermittent presence of a midwife with the women during labour.

### **Subproject 3**

Assessment of various approaches to prevention of neonatal per-/intra-ventricular haemorrhage, in very preterm babies, in order to prevent death and disabilities, and to reduce demands on the health services. Two RCTs evaluate the effectiveness of ethamsylate and of plasma expanders. The study includes a follow up at 18 months corrected age.

### **Subproject 4**

Implications for the health service of parental involvement in the care of very low birthweight infants in neonatal intensive care units. The aim of this study is to describe the policies, and the practices, and to analyse the implications of parental involvement in the care of very birthweight babies, for the health of the children, the parents themselves, the staff, and the health services. The study includes a follow up at 9 months.

**All for sub projects** have built in a multidisciplinary approach, and the evaluation includes medical, psychosocial and economic aspects. The main final results are expected for early 1992. Besides the answer to the main questions for which each subproject has been designed, the data will provide an excellent basis for comparison of practices within and between countries.



# COMPARING HOME TO HOSPITAL DELIVERIES. A STUDY ON MATCHED PAIRS

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## Introduction

In Switzerland only about one percent of all births take place outside a hospital. In the last years however there has been a tendency towards more 'natural' childbirth. A group of General Practitioners and midwives who attend home births in the area of Zurich has been formed in response to the demand of women for home delivery. The wish to evaluate the quality of care provided was the impulse for the present study. The study aims to objectively compare home deliveries with hospital deliveries. To determine whether home deliveries (under professional care) can be regarded as safe, to assess advantages and disadvantages of each system; and to determine which women can safely deliver at home.

## Method

The project is a prospective study designed with matched pairs. Entry criterion for each category is the intention to deliver in one or the other places stated at the first consultation during pregnancy.

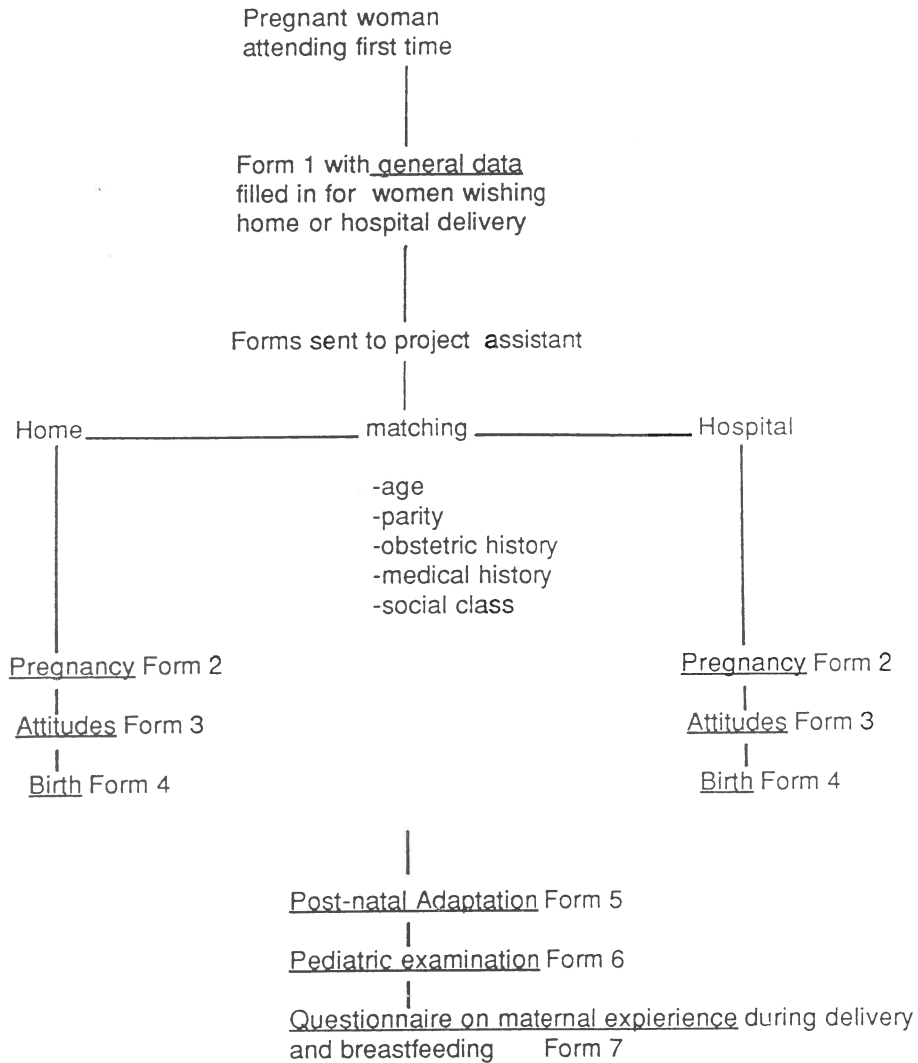
All women who attend one of the General practitioners or midwives and wish to deliver at home will be entered into the study. Among the women wishing a hospital delivery, a woman with the same criteria regarding obstetric and medical history, parity, age and social class is chosen to be followed with the same instruments as the 'home delivery' woman.

1. For every pregnant woman consulting with the study team a form is filled out with **general data** and sent to the project assistant.
2. The study assistant **matches** for every planned 'home' delivery with a planned stationary 'hospital' delivery.
3. During the **pregnancy**, personal history, gynaecological data, number of pregnancy controls, ultrasounds, pregnancy progress and complications are recorded on a **form** by the midwife or GP in charge, or on standard hospital forms for women who come to the Zurich University Clinic for pregnancy control.
4. Every woman in the study is asked to fill out a **questionnaire about attitudes** towards childbearing and delivery.
5. A special form is filled out upon **delivery**, regarding the progress of the delivery, type of monitoring, duration, interventions and signs of maternal stress are recorded.
6. The **state of the child** is judged immediately after delivery and 3 or 4 days later by a special pediatric examination.

7. Four months after delivery all women in the study are sent a **questionnaire** on their **experience during delivery** and with breast-feeding.

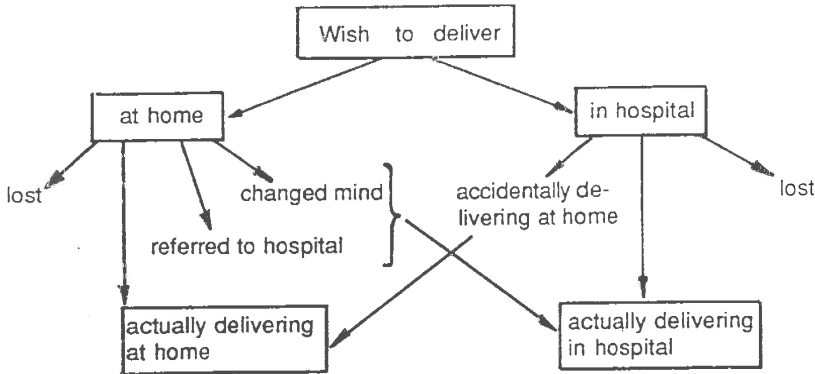
Table 1 illustrates the flow chart of the study.

Table 1: Flowchart



Some woman intending to deliver at home are referred to hospital during pregnancy, labour, or post-partum. Their delivery data are still registered in the standardized way and analysed amongst the 'home deliveries' (possibilities see table 2).

Table 2



**Study size and time table**

The study team attends approximately 250 women wishing a home delivery per year. In a two year period from March 1989 until March 1991 500 planned home deliveries can thus be entered into for the study. These will be compared to 500 hospital deliveries. Until January 1991 706 women have entered the study. 493 of them have already given birth and 119 pairs could be matched.

Most important **outcome variables** will be: referrals, complications, number of interventions, pregnancy duration, child's development, success in breastfeeding and maternal satisfaction.

This study will thus provide objective data in the controversy about place of delivery in Switzerland. An important side effect of the study is the fact that it helps the study team to standardize and evaluate the quality of care provided.

# ADAPTING INFANTS' GROWTH CURVES TO GESTATIONAL AGE

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Bar-Ilan University, Israël

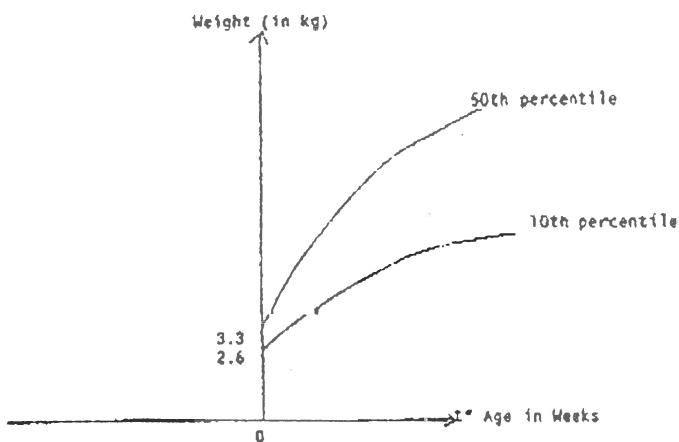
## Introduction

Growth curves of infants are used by doctors and parents as a tool to define the optimal feeding policy of the infant. The curves published by the National Center for Health Statistics show concave relationships between the age of the infant, and his weight and length. The curves refer to the distribution of the whole population and because of the concavity, the curves do not accurately represent full term pregnancy babies and thus are even less representative of babies born before 39 weeks of gestation. The latter group is estimated to be one quarter of the population and its portion may increase due to the improvement of care given to premature babies.

The median birth weight for boys is about 3.3 kg and a full pregnancy lasts 40 weeks. Forty weeks is also the mode for gestational age. The following examples demonstrate the misrepresentation of specific babies' growth along the curves.

The group of babies born at gestational age 36 weeks weighing 2.6 kg are presented on the 10th percentile in figure 1. At their first birthday half of them are presented on or above the 50th percentile curve. This presentation brings the illusion that most of the group exceeded the average rate of growth.

Figure 1: The Present Growth Charts



On the other hand, babies born at gestational age 42 weeks weighing 3.3 kg will, on their birth, fall into the 50th percentile. Most of them will fall below this curve on their first birthday, giving their parents a disheartening feeling that their infant did not continue to gain weight and remain on the curve as expected.

The need to standardize weight according to gestational age is well-known in the medical literature. Nevertheless this knowledge is not used in estimating growth curves.

We have devised a simple way to overcome the present misrepresentation caused by the variance of gestational age of babies. We suggest estimating the age of the baby from the time of conception and plotting the curves 12 weeks before the time of a median birth. Thus, new growth curves would be statistically estimated on the basis of two variables, the conventionally measured age and the gestational age. Babies whose gestational age is unknown would be omitted from the sample which is used to calculate the curves.

### **Bias in NCHS curves**

Our findings show that the present growth curves are biased despite the enormous sample that was used to plot them.

The following symbols will be used:

$g_1$  - Gestational age of infant 1. Age is measured in weeks.  $28 < g_1 < 42$

$t^*_1$  = Official chronological age of infant 1 (in weeks) ( $0 < t^*_1 < T$ )

$t_i - t^*_i + g_i - 40$ . Let us call  $t_i$  the effective age of infant 1.

NCHS omits  $g_i$  as a predetermined variable and uses  $t^*$  instead of  $t$ . It can be shown that the median curve of weight as a function of  $t^*$  is lower and its slope is larger in comparison to the median curve which shows weight as a function of  $t$ .

The predictive accuracy of the curves according to  $t$  is better than the predictive accuracy of the curves according to  $t^*$ .

By using  $t$  instead of  $t^*$ , we compare infants whose marginal growth rate has a smaller variance and thus we keep their order more stable along time.

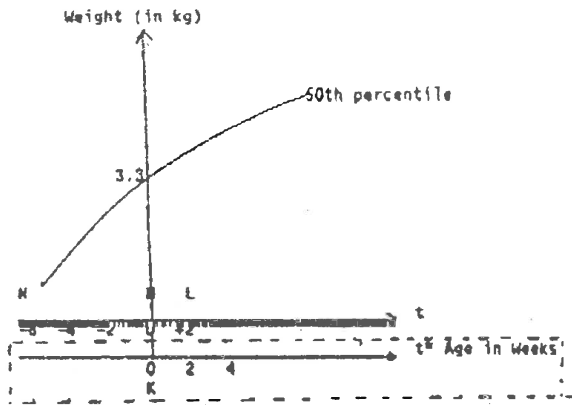
### **Technical device**

The variable  $t^*$  is clearer, better defined and much easier to process than the variable  $t$ . In order to combine the optimality of  $t$  and the facility of using  $t^*$  we have the following suggestion: At the bottom of the standard growth curves there will be a detachable gummed strip as shown in Figure 2.

On the baby's first visit to the clinic the doctor will record the estimated gestational age, tear off the strip and attach it at the appropriate place. For a baby born at 42 weeks of gestation, K will be placed exactly below L. For the baby born at 34 weeks, K will be placed below N. In case in which  $g_i$  is unknown, it will be assumed it is equal to 40 weeks. After this adaption of  $g_i$ , the nursing staff will use only  $t^*$  as a variable of growth.

The same procedure is suggested for the growth curves for length of the infant.

Figure 2: Suggested Growth Curves



By adopting  $g_i$  as a variable, we also give the parents the feeling that their baby is being given individual care and that there is no break between gestation and postnatal growth.

The suggested method will shift the whole set of the present growth curves upwards. The median weight and length of newly born babies will now refer only to full term pregnancy babies. This shift may also bring benefit to the 70% of the babies that are full term as the proposed curves will represent their growth better: their location on the curves will be more adaptable and stable.

## **ANTENATAL MIDWIFERY CARE OPINIONS AND SUGGESTIONS FROM PARENTS AND PERSONNEL**

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Spanga, Sweden

In this paper parts of four different studies, carried out during 1987-1990 in Stockholm, are reviewed.

60 newly pregnant women answered a questionnaire about their expectations on the antenatal clinic. Besides medical care, they expected psychological support and to meet the same midwife on all occasions. The expectations of social support were relatively low, but immigrant women expected help in social matters more often than Swedish women. Later 10 new mothers were interviewed. The continuity in seeing the same midwife on all occasions was considered important. They visited the clinic to feel secure and to get confirmation that the pregnancy was progressing normally. They did not acquire a true picture about the delivery.

59 new fathers answered a questionnaire about the degree of information and support they got from antenatal clinics in matters concerning delivery, parenthood and health education. Primarily it was information about the parenthood to come that the men were discontented with. Classes for parents were an important source of information. The visits to the midwife and the written information did not have the same importance.

Personnel working in antenatal clinics, delivery and maternity wards, child health clinics and public health centres (179 persons) answered a questionnaire about their opinions on antenatal clinics, about cooperation between the different institutions and about a future form of midwifery care documentation. The personnel wished to increase the level of cooperation and one third approved the idea of midwifery care documentation including psycho-social aspects with the purpose of improving continuity and enabling individually modified midwifery care.

The results from the surveys show that we must individually modify the midwifery care to fulfil the prospective parents expectations and needs. Consequently we have worked out a suggestion for a journal for midwifery care documentation based on our surveys, clinical experience, theoretical studies and thorough analysis of the present journal. The suggestion for a journal for midwifery care documentation has been designed to:

- help us in planning the individually modified midwifery care on both medical and psycho-social indications,
- help the pregnant women/the prospective parents to take active part in planning for the midwifery care,

- be a support in the psycho-social midwifery care,
- increase the continuity in the midwifery care within and between institutions,
- be useful in planning, documentation and evaluation of the midwifery care.

The suggestion for a new journal is now being tested by 10 midwives and the experiment will be finished in March 1991.



## **PREFERENCES FOR BIRTH COMPANIONS IN URBAN BLACK WOMEN IN SOWETO**

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Although most traditional African birth practices include the presence of a number of (female) companions during labour, with the increasing trend towards delivery in Western style hospitals and clinics, this has largely disappeared. In common with many third world hospitals, Baragwanath Maternity hospital (the major referral hospital for Soweto with 24,000 deliveries per year) and the 8 associated midwife delivery units in the area, do not allow any companion to accompany women in labour.

Other research currently in progress at this hospital is investigating a 'doula' system, but no information exists as to the personal preferences of these urban black women.

Mothers attending postnatal clinics at Baragwanath Maternity Hospital and at the Soweto Community Health centres were interviewed about their feelings about, and preferences for a companion during labour and delivery.

The results will be presented and differences between ages, educational levels, parity and other variables presented.

Recommendations for the further implementation of a labour companion system will be made.

# MIDWIVES TEACHING OBSTETRICS TO MEDICAL STUDENTS

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## **Introduction**

In the Netherlands six of the eight university hospitals employ midwives. Consequently a majority of medical students and medical residents receive obstetrical training from midwives. The midwives in these hospitals have two main tasks:

- to deal with normal obstetrics under their own responsibility and to share responsibility with the (assistant) gynaecologists, if pathology is involved
- to teach obstetrics to medical students.

The students receive their final obstetrical training at either the university hospital of Utrecht, or in a general hospital (not university), where midwives are not employed.

## **Methods of investigation**

A questionnaire was sent to all the students in Utrecht who had their training in obstetrics in the period January 1989 till March 1990, to ascertain their:

- Opinion of the training, score 1 to 5.
- Opinion of experience and authority in normal obstetrics.
- Plans to do with normal obstetric work, when they intend to become a GP.

## **Assumptions**

- The approach of midwives towards obstetrics and the attitude towards patients is different from that of the gynaecologist.
- The attitude of medical students is influenced mostly by those they work with.

## **Conclusions**

- In both hospitals the students have a great appreciation of the skills, knowledge and experience of the midwives.
- Although they should know that the GP has a general authority, whereas the midwife has a limited authority, a relatively large number of students think that the midwife has the same or even greater authority.
- The intention of becoming a GP scores very high. The female students score significantly higher than the male.
- When there is any intention of becoming a GP, plans to deal with obstetric work is also very high: with women planning to do obstetrics significantly more than men.

- Relatively fewer university trained practitioners planned to do obstetrics on becoming a GP (statistically not relevant, chi-square-test).

### **Discussions**

In the poster 5 statements are made regarding this investigation. The authors hope that these statements will contribute to a lively discussion about the tasks and responsibilities of midwives in training medical students.

# LABOUR EVENTS AND NEUROLOGICAL CONDITION OF THE NEWBORN AFTER LOW RISK PREGNANCY: A MULTI-VARIATE ANALYSIS

**E. Spanjaards, G. Berghs, A. Theeuwes, T. Eskes**

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Since the publication of Little's article in 1862 obstetrical thinking and practice is still influenced by the hypothesis that abnormalities of birth are the main causes of cerebral palsy in childhood.

We studied the influence of perinatal factors on the neurological condition of the newborn (Prechtl) in a series of 1034 low risk pregnancies statistically (Berghs and Spanjaards, 1988).

First step was to determine which variables of delivery and child correlated ( $p < 0.10$ ) with the neurological condition of the newborn. Secondly, by means of multiple regression analysis, we determined which of the variables selected in the previous step remained significantly related to the neurological findings in each others presence.

Duration of the second stage of labour (in primiparous deliveries), birth-weight and Apgar score at five minutes were identified as such.

The weight of each variable separately as well as the predictive value of these variables were assessed, these perinatal variables affected the neurological condition only slightly (regression coefficient 0.26 and 0.14 for primiparous and multiparous deliveries respectively). The positive predictive value was only 2%.

Therefore we concluded that in low risk pregnancies the importance of labour events for the neurological condition of neonates is overestimated.

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# THE ROLE OF MIDWIVES AND GENERAL PRACTITIONERS IN INFORMING AND ADVISING FUTURE PARENTS ABOUT BIRTH DEFECTS AND HEREDITARY DISEASES

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Free University Hospital, Amsterdam, the Netherlands

## Introduction

The fields of clinical genetics and prenatal diagnosis have recently grown considerably. Recurrence risks for birth defects and hereditary diseases and the use of prenatal diagnosis should nowadays be taken into account, when making so-called reproductive decisions.

The working committee 'Genetic advice concerning pregnancy' of the Free University Hospital evaluated to what extent and in which way future parents receive information and advice about serious birth defects or hereditary diseases. Hereafter methods and results are presented of a survey under general practitioners and midwives.

## Methods and Samples

A new questionnaire was made and sent by mail to general practitioners and midwives.

The inventory contained questions about five factors that are associated with elevated risks for having a child with a serious birth defect or a hereditary disease. These factors were: A) previous child with a serious birth defect or a hereditary disease; B) first and second degree relatives with such disorders; C) consanguinity; D) use of medicines during pregnancy; E) age of the women over 36.

The sample of midwives consisted of all of the midwives in the province Noord-Holland in the Netherlands (N=104). The response rate was 64%. From the population of general practitioners in the same province a select sample was drawn (N=127). Of this sample 75% returned a questionnaire.

## Results

The respondents were questioned how often they asked pregnant women about the presence of each of the risk factors. The percentages that chose the answer '(nearly) always', range, for the different factors, from 9% to 48% for the general practitioners and from 44% to 98% for the midwives.

Another question was how often the respondent gave information and advice if he knew that a risk factor was present. The percentages that chose the answer '(nearly) always' vary from 47% to 63% for the general practitioners and from 80% to 98% for the midwives.

## Conclusions

Many general practitioners do not systematically screen the group of pregnant women for the presence of the risk factors. Almost all midwives do inquire after most of these factors systematically. As a rule pregnant

women visit the midwife for the first prenatal consultation at the end of the first trimester. Some women will therefore be detected as being at risk only at that moment. This is considered to be a shortcoming, as these women are late both for sound decision making and the use of early prenatal diagnosis.

## **AN ATTEMPT TO REVERSE THE TREND AWAY FROM GENERAL PRACTICE INTRANATAL CARE**

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Intrapartum care used to be a central feature of general practice in the United Kingdom, but now 90 percent of women deliver under specialist care in District General Hospitals. As a direct response to the decline of general practice involvement in intrapartum care, the Association of General Practice Maternity Care was established in 1989 as an attempt to halt and reverse this trend.

The aims of the Association are as follows:

To support general practitioners and midwives providing intrapartum care whether this takes place at home, in isolated, attached or integrated general practice units, and to make it easier for women to have this form of care if they so wish.

To gather data on maternity care provided in the above settings and to encourage research concerning both the quality and outcome of such care and the level of maternal satisfaction.

To be involved in establishing appropriate training programmes for those wishing to undertake general practice obstetrics.

To provide a means whereby the arguments for maintaining general practice obstetrics can be effectively presented.

Membership of the Association is open to all those Interested in maintaining the role of the primary health care team in intrapartum care and is the only Organisation in the United Kingdom that includes both doctors and midwives. In the short time since it was set up, its contribution to the deliberations concerning the development of maternity services has become widely recognised.

This paper will describe the range of activities of the Association and the way in which it has become established, in the belief that this may have general relevance for those working in other settings.





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