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Very Early Discharge from Hospital after Normal Deliveries

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ABSTRACT

The aim of the present study was to investigate, in a descriptive study, how healthy women experienced early discharge from hospital, 6 -12 hours, after normal deliveries. Expecting couples were prepared for early discharge during pregnancy. The women delivered at the University Hospital in Uppsala. All infants had two obligatory medical examinations, one before leaving the hospital and one for metabolic screening after four or five days. Both mothers and infants received postpartum care at home by midwives.

One hundred and three women participated and answered a questionnaire four to five days after delivery. Twenty of the women were additionally interviewed by telephone four months after delivery.

The average length of stay at the hospital after delivery was 8 hours. The families had, on average, 1.9 visits at home. All women considered that they had received sufficient care and advice from the midwives, although 40 percent felt uncertainty about something in the postpartum period. Questions frequently raised concerned breast-feeding. Two infants were readmitted to hospital due to mild neonatal hyperbilirubinemia. All but three women wanted to repeat very early discharge after a future uncomplicated delivery. Ninety-five percent of the women were still breast-feeding after four months.

We conclude, that antenatal preparation and a well-organised, adequate postpartum home-care is of the greatest importance, to establish safe early discharge after uncomplicated deliveries. This concept of early discharge from hospital, with midwifery home care provided, is safe and appreciated by the new parents.

INTRODUCTION

The length of hospitalisation after both vaginal and caesarean deliveries has declined during recent years. Seven years ago, a non-randomised study of mandatory discharge only four hours after child-birth, with a control group remaining in hospital, was performed in Denmark (5). The early-discharged women, who had home-visits by midwives, were less satisfied with the postpartum period compared with the control group. They experienced less support, mainly concerning breast-feeding and they made 67% more telephone consultations. The women felt that they were not satisfactorily informed about the compulsory early discharge during pregnancy. An Australian study (4) evaluated satisfaction with domiciliary midwifery care after early discharge as compared with hospital care. The study showed that healthy women were largely satisfied with the quality of the care programme they had favoured, due to different expectations of postnatal care, regardless of the form of care they chose. There have been concerns, though, about whether women can choose freely or not. Data from the 1988 National Maternal and Infant Survey (8) suggest that economic factors have become a driving force behind early discharge. Of the total number of women, 12.3% were early discharged and left hospital after one night or less. These women had less education, inadequate prenatal care and lack of private insurance. With increasing early discharge from hospital, according to benefits for the families, there have been concerns about safety for the new-born, as expressed in the Washington State Experience (6). In another large study, 1200 women were followed in a programme for prenatal preparation. Risk assessment, postpartum breast-feeding counselling and home visits were studied (7). A moderate reduction of postpartum readmission to hospital was found. No disadvantages for the neonates were shown when adequate postpartum outpatient care was accessible. Other descriptive studies of low-risk populations could not demonstrate differences in maternal competence, breast-feeding, neonatal hyperbilirubinemia or readmission of infants to hospital, but implied psycho-social benefits for some mothers and infants (2, 1). There are previous Swedish studies of early discharge from hospital, where mother and child leave hospital within the first 72 hours after delivery, and are followed-up by home-care (11, 9). We wanted to make an evaluation of the new programme with very early discharge after childbirth, before introducing it on a large scale at the hospital. In Sweden almost 100% of the pregnant

women are registered in primary prenatal care. Ninety-nine percent of all antenatal care is public and free of charge. All women are given individual antenatal care 9-10 times during a normal pregnancy. No pregnancy or birth allowances are given. The mothers have 450 days maternity leave and the fathers have 10 days paid leave in connection with birth, to care for the new-born and for other children in the family. Preparation classes, of 6-8 couples, are offered to all pregnant women and their husbands. They meet on four to five occasions. In classes there is structural education about the progress of a normal pregnancy, delivery and the first postpartum period. Breast-feeding is discussed and encouraged. The view of breast-milk, as being natural, often uncomplicated, inexpensive and exactly adapted to the babies need, decreasing infection and allergy rates and giving a close body contact between mother and child, is introduced.

The aim of this study was to describe how healthy women experienced discharge from labour ward, directly but after birth, after having first rested, initiated breast-feeding, showered, having had a meal, and having prepared to go home. The postpartum care continued in their own home with home-visits by trained midwives. Few studies have examined the incidence of breast-feeding, comparing early discharged women with those in regular care. Additionally, the frequency of breast-feeding differs greatly between countries. In 1996, data from the National Board of Health and Welfare (10), 98% of the Swedish women were breast-feeding when the baby was one week old. At four months of age, 84% of all Swedish children are still breast-fed. While introducing this new concept of very early discharge after child-birth, we think it is important to maintain the high proportion of breast-fed infants and, furthermore, to evaluate how many children or mothers were readmitted to the hospital during the first four months.

METHODS

During six months 1996-1997, healthy women at low-risk, medically and socially, were offered the possibility to leave the hospital 6-12 hours after a normal delivery. The study was approved by the Ethics Committee of the Medical Faculty at Uppsala University. One hundred and three women were recruited after giving informed consent to the study. All participating women had experienced an uncomplicated singleton pregnancy. There were no signs of high blood pressure, intrauterine growth retardation,

gestational diabetes, macrosomia, bleeding, premature rupture of membranes or other complicating factors. Before the women were included in the study, the delivery should have passed without any complications and at term. The neonates were examined by a paediatrician before leaving the hospital. They were all healthy and of normal weight. The women were supposed to have good social support at home, meaning that the husband, or another relative, stayed at home to manage the household the first 7-10 days. Early discharge included continued postpartum care at home, with visits by specially trained midwives, taking care of both the mother and the child. All midwives providing home care were employed by the Department of Obstetrics and Gynaecology at the University Hospital. All families had at least one home-visit, but as many as they needed. If a woman did not require further home-visits, she none the less had a telephone-call every day in the morning from the home-visiting midwives. The midwives followed a structured protocol (table 1), being in contact with the mother and the child.

Table 1. Midwifery structured protocol, used at each home-visit after normal deliveries.

Neonate:	*Mother:*
general status	general status
elimination	uterus
umbilicus	perineal tear or episiotomia
skin, icterus (1-3)	
bilirubinemia if needed	
Breast-feeding:	*Information:*
position	delivery
sucking technique	diet
sucking willingness	exercise
pacifier	family relations and sexuality
intervals between breast-feeding	

They had the possibility to draw venous blood from the infant if neonatal hyperbilirubinemia was suspected. At the fourth or fifth day, all children were examined a second time by a paediatrician at the hospital and a metabolic screening was performed. The neonatal metabolic screening in Sweden includes blood samples for some inborn errors of metabolism and congenital hypothyreoidism. The women were asked at the same time to return the questionnaires in sealed envelopes. After the first week, if everything was normal, the responsibility was transferred, from the Department of Obstetrics and Gynaecology to the public and cost-free Child Health care programme. Uppsala is a university city and most of the families were living near the

hospital. After four months, the first 20 women in the study were interviewed by telephone.

The questionnaire included demographic questions concerning age, parity, marriage status and profession (table 2).

Table 2. Demographic distribution of 103 women with experience of early discharge after delivery.

	mean (range) ± SD	
women's age	29.6 years (21-40)	± 4.4
men's age	32.3 years (22-57)	± 6.1
children's birth weight	3696 g (2750-4730)	± 425
children's birth length	51.1 cm (48-55)	± 1.8
hospitalisation	8.0 hours (6-12)	± 2.0
home visits	1.9 visits (1-4)	± 0.8

Further questions focused on the information they had received and when. Experiences of the home-visit and care and support from the midwives were estimated on a scale 1-7. The women's worries about the baby, breast-feeding and extra contact with the hospital was registered. There were also open questions to both the mother and father or other relative about the first days at home.

A statistical calculation of the study was performed before start. In order to draw general conclusions of the experiences from a whole population choosing very early discharge after child-birth, from the small present descriptive study of 100 women, it was estimated that at least 70% of them (confidence interval 61-79%), should be satisfied with the postpartum care given and wanted to repeat very early discharge after a future uncomplicated delivery.

RESULTS

In the study, 20 women (20%) were primiparas and 82 (80%) multiparas. Fifty-two women had had their second child, 20 women their third, four women their fourth, one woman her fifth and one woman her eighth child. There were incomplete data from five women in this respect. Ninety-seven percent of the couples were married or living together. Twenty-eight percent of the women had an academic occupation, while 11% were out of work. The women had received information initially on early discharge, mainly from midwives and doctors in prenatal care units (table 3).

Table 3. Sources of information about early discharge after delivery

	n (%)
prenatal care, midwife or doctor	85 (82.5%)
relatives or friends	24 (23.3%)
preparing visit at the hospital	15 (14.6%)
newspapers	10 (9.7%)
other	2 (1.9%)

Most of them (95%) were satisfied with the information they had received. All but one of the women had the intention of breast-feeding the baby, but all of them did so before leaving the hospital. The families had, on average, 1.9 visits at home by a midwife. Thirty-six percent had one visit, 40% had two visits, 22% had three visits and 2% had four visits. Forty percent of the women felt uncertainty about something in the postpartum period (table 4). The most frequent questions concerned breast-feeding.

Table 4. Insecurity of following alternatives.

	n (%)
mother: breast-feeding	25 (24%)
breast, nipples	17 (16.3%)
bleeding	5 (4.8%)
other	4 (3.8%)
infant: behaving at the breast	11 (10.6%)
crying	8 (7.7%)
vomiting	7 (6.7%)
sleeping	5 (4.8%)
breathing	5 (4.8%)
other	12 (11.5%)

Fourteen percent of the women called a midwife or the maternity ward for advice. All of the participating women (100%) assessed that they had received sufficient comfort and care by the midwives. Ninety-four percent experienced early discharge to be positive or very positive (scale 6-7) and 93% experienced midwifery home visits as positive or very positive (table 5).

Table 5. Assessment of experience with early discharge and home visits of 103 mothers after delivery (on a scale 1-7)

	Very negative						Very positive
	1	2	3	4	5	6	7
early discharge	-	-	1	2	3	11	86
home visits	-	-	1	1	5	15	81

Comments from the three who were not positive to the concept, concentrated on that the mother or the father was tired, they wanted more help, possibly given by hospital staff, they felt insecure or had questions about how to deal with elder brothers or sisters. One woman and two children (3%) required an extra visit to a physician. They were readmitted for treatment. Both of the infants had mild jaundice, discovered at home by the midwife, who took blood samples at the home-visit. Maximum serum levels of bilirubin were 332 μmol/L and 328 μmol/L, respectively. The two children had light therapy and stayed in the hospital for another 39 and 70 hours, respectively. One woman had problems related to breast-feeding. This was a Swedish woman who had been living abroad and registered late, after 36 gestational weeks, at the prenatal unit. She had not been able to attend all prenatal preparation classes. She was readmitted to the hospital, after two days at home, for extra support and stayed in the hospital for four days, until she was comfortable with the breast-feeding. The baby was healthy. Answering the questionnaire during the first week after delivery, all women but three expressed the hope that they would be able to leave hospital early after a coming delivery, with domiciliary care. One woman had had her first child, and suspected that next time it could be exhausting with siblings and a new baby at home. The other two women expressed that they needed more rest before going home after childbirth; one had had her first and the other her second child. All women initiated breast-feeding. In our small study of the telephone-interviewed women, all but one, 95%, were breast-feeding after four months and the women were content with the support they had received at the home-visits.

After four months, 18 out of 20 fathers had spent some of the first two weeks with the baby and the wife at home, on average 9.2 days. In 30 % another person was staying in the home for the first few days, with or without the husband at home simultaneously. Twelve of the twenty telephone-interviewed women had, during the first four months, experienced some kind of difficulty. Five had had problems while initiating breast-feeding, two had had sore nipples and five had some other kind of problem at home (e.g. jealousy from siblings, fear of thoughts of sexuality). At the interview all but one woman was still breast-feeding. This woman had quit breast-feeding after one month. Four months after the delivery all interviewed women wanted, after a normal future

delivery, to leave the hospital as early as this time, being supported by a home-visiting midwife.

DISCUSSION

In the Danish study (5) the aim of discharging the mothers and new-born very early was cost-saving, but this could not be confirmed in the investigation. Others have been able to show cost-effectiveness (2, 9). The Danish mothers felt uninformed about the compulsory early discharge and were dissatisfied with the postpartum care. This emphasises the importance of seeing the pregnancy, delivery and postpartum period as linked together and influencing each other. The parents have to know what to expect after the delivery, if it has been uncomplicated. Data from the national study in the United States supported a legal decision mandating a minimum of 48 hours hospital-stay postpartum (8). The legislation was suggested to secure that discharge from hospital should be individually based on medical and social factors and not on the economic situation. The availability of adequate postnatal care should be general. We think that there is no need of such a law in Sweden, but fully agree with an individual evaluation based on medical and social factors, and that sufficient and high-quality care is crucial for accepting this method of postpartum home-care. We do not let the mother and infant leave the hospital if the obstetrician, paediatrician, or midwife has concerns regarding medical or psycho-social safety.

There are limitations with descriptive studies such as ours. Randomised controlled trials are difficult to perform in this respect and most studies published are descriptive. Gagnon et al (3) however, in a randomised study, with both groups equally prepared antenatally, found no apparent disadvantages, but observed emotional benefits for the family after early discharge. No control group was identified during our study. However, the University Hospital in Uppsala regularly distributes questionnaires to women in the Maternity ward asking about their satisfaction with the care, before leaving the hospital. Newly delivered mothers stay on average 2.3 days in the ward, 97 % and 96 % of them were generally satisfied with their hospital stay in 1996 and 1997, respectively. In the present study we found the same estimation of satisfaction in mothers who left hospital very early. These figures may reflect the women's satisfaction according to their own expectation of postpartum care, as others already have shown (4, 7). Comments from the participating women in our study were commonly that the

fathers and siblings got to know the baby sooner and were more involved in the care. The safety for the neonates was discussed in the Washington State Experience (6). The authors conclude that new-borns discharged less than 30 hours of age are at risk for rehospitalization within the first month. Subgroups at special risk in the report are children of young mothers < 18 years, primiparas or after rupture of membranes. Prematures, new-borns with serious medical conditions, multiple births and babies born after caesarean section, were excluded, but there is no information on how the women or families were prepared and risk-evaluated before delivery. Thirty per cent were reported to have had complications during delivery and 25% had less than adequate prenatal care. In our hospital these mothers would not have been included in the very early discharge programme. Although 40 % of the women study felt uncertainty in some aspect, only 14% made an extra telephone call for advice, but 100% felt that they had received adequate care and appreciated it. They were comforted by the daily visits by midwives or that the midwives called them every morning.

Experiences with home-visits revealed no disadvantages, concerning readmission rate to hospital, frequency of breast-feeding, when a prenatal risk-assessment was performed. In the study, the two neonates that developed mild jaundice requiring light therapy were both discovered by the midwife and diagnosed by blood tests performed at home. The families appreciated the care provided and 97% wanted to go home early after a normal future delivery.

As very early discharge after labour is encouraged in the Scandinavian countries,

we emphasise the importance of antenatally preparing the parents for fairly prompt hospital-discharge and, furthermore, giving a structured and adequate home-care by specially knowledgeable midwives. We do not consider it a failure if a child or a woman needs to be readmitted for some days. Our conclusion is that a healthy well-prepared woman with a healthy child, born at term after an uncomplicated pregnancy and delivery, can leave the hospital as early as after 6-12 hours, given that there is a well established programme for continued care at home.

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