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Multiple Pregnancy: Factors Contributing to Early Infant's Breast-feeding – Own Experience

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Abstract. The aims of the study were as follows: 1. to evaluate the effectiveness of current program to promote breast-feeding in our population of infants from multiple pregnancy; 2. to define factors responsible for failure in early breast-feeding establishing and /or maintaining breastfeed during the hospitalization of the babies in neonatal department. 122 newborn infants (2 sets of triplets and 58 twin pairs) born in the Clinic for Pathology of Pregnancy and Labor in Szczecin, Poland, in the years 1995 (January) – 1999 (May) from multiple pregnancy were included in the study. In the examined material there were estimated neonatal conditions at birth, neonatal complications, which may disturb successful breast-feeding as well as other factors contributing to early breast-feeding, the way of feeding the babies during neonatal period and the mean time of starting breast-feeding. It was found that most of the examined babies were born with the features of prematurity: mean gestational age was 35,6 ± 2,2 weeks and mean birthweight – 2225,3 ± 193,2 grams. Only 57,4% of babies were born in good conditions according to Apgar scores. Factors which influence in a negative way early breast-feeding were as follows: respiratory disturbance (22,1%), temporary oral nutrition intolerance due to sickness of the baby or early onset of infections (27,5%), operative delivery (62,3%), medicine taken by mothers (13,9%) and failure in maternal lactation (8,2%). Factors disturbing a normal course of breast-feeding were: fototherapy due to hyperbilirubinemia (20,5%) and late onset of infections (1,6%). In most cases breast-feeding was started 3-4 days after birth and the most frequent way of feeding was formula followed or in combination with maternal milk (at discharge in 86,9% of babies).

We concluded that exclusive breast-feeding, despite program of promotion, is a rarity in population of newborn babies born from multiple pregnancy; time to start breast-feeding in this population is usually 3-4 days after delivery. Most pre-term and full-term twins are discharged from neonatal department on maternal milk – exclusively or in combination with formula in situation of scarce maternal milk for two or more infants – what should be considered as our professional success.

Key words: Multiple pregnancy, Newborn babies, Breast-feeding

INTRODUCTION

The benefits of breast-feeding for pre-term and full-term infants are well documented. Breast-feeding facilitates maternal-infant attachment, provides optional nutrition to infants, immunologic protection, and minimises economic impact [1, 4]. These benefits are multiplied with twins and higher-order multiples, who often are born at risk. Supporting a mother as she starts to breast-feed one infant requires specific knowledge and skills. Health professionals need additional knowledge and skills if they have to provide appropriate assessment, intervention and support, when a mother breast-feeds twins or higher-order multiple [4].

In 1990 a National Program to Promote breast-feeding was created at the Institute of Mother and Child, in Warsow, Poland. Since that time systematic education of doctors and nurses involved in the Program of all neonatal centres in Poland has been starting. In 1994 education was ended and assessment of the results were begun [8].

The aims of the study were to evaluate the effectiveness of current program to promote breast-feeding in our population of infants from multiple pregnancy as well as to define factors responsible for failure in early breast-feeding establishing and /or maintain ing breast-feed during the hospitalization of the babies in the neonatal department.

MATERIAL AND METHODS

122 newborn infants born in the Clinic for Pathology of Pregnancy and Labor in Szczecin, Poland, in the years 1995 (January) – 1999 (May) from multiple pregnancies were included into the study. The examined material consisted of 2 sets of triplets and 58 twin pairs (19 mixed, 20 female and 19 male pairs). 92 of the examined newborn babies (74,1%) were born by caesarean section and the other 30 (25,9%) by vaginal delivery. The course of pregnancy in 37 (61,6%) out of 60 analysed cases were complicated; that were as follows: imminent preterm labor (27 cases), pregnancy induced hypertension (3 cases), gestational diabetes (3 cases), polyhydramnion (3 cases) and thrombocytopenia (1 case). 61,5% of the examined infants (36 pair of twins and 1 set of triplets) were born before 37 week of pregnancy.

In the study material there were estimated neonatal conditions at birth on the basis of gestational age, birthweight and 5 minutes Apgar score. There were also assessed neonatal complications, which may disturb successful breast-feeding, such as: need of staying in incubator, oral nutrition intolerance, respiratory distress syndrome, hyperbilirubinemia and infections as well as factors contributing to early breast-feeding.

Into the analysis also included the way of feeding the babies during neonatal period by assessing the rate of exclusive maternal milk feeding, combination formula with maternal milk feeding and formula feeding only as well as the mean time of starting breast-feeding.

RESULTS

Data shown in table 1 indicate that most infants were born pre-term with mean gestational age 35,6 ± 2,2 weeks and birtweight - 2225,3 ± 193,2 grams. Only 57,4% of the examined newborn infants were born in good conditions according to Apgar score.

Table 1 - Neonatal conditions at birth

Examined features	Mean	Range
Gestational age (weeks)	35,6 ± 2,2	26-40 weeks
Birthweight (g)	2225,3 ± 193,2	800-3400 g
Apgar score	**N**	**%**
0-3	23	18,8
4-7	29	23,8
8-10	70	57,4

Table 2 - Neonatal complications contributing time of beginning or course of breast-feeding

Type of complications	Number of newborn infants	Duration (days) Mean	Range
Necessity of oxygen mask in incubator	70 (57,4%)	5 ± 1,5;	1-40
Respiratory distress syndrome			
CPAP	10 (8,2%)	2,5 ± 0,5;	1-4
Respirator	17 (13,9%)	6,5 ± 2,5;	3-20
Fototherapy due to hyperbilirubinemia	25 (20,5%)	3 ± 0,5;	1-6
Infections			
Early onset	4 (3,3%)	5 ± 1,5;	5-7
Late onset	2 (1,6%)	6,5 ± 2,0;	7-14

Table 2 shows the negative influence of neonatal complication on early beginning or course of breast-feeding. More than a half of the examined babies need atmosphere of incubator with oxygen for at least 5 ± 1,5 days. 27 infants (22,1%) were treated with respiratory support in Neonatal Intensive Care Unit (NICU). Fototherapy due to hyperbilirubinemia was applied to 20,5% of babies. Infections followed by temporary oral nutrition intolerance were observed in 4,9% of babies.

Data presented in table 3 indicate that some factors influence negativly the breast-feeding starting but fortunately in most cases babies were fed on maternal milk during 3-4 days after birth. The first factor responsible for delay in breast-feeding, in our population of twins, was operative delivery (caesarean section). Sickness of the critically ill pre-term twins followed by temporary oral nutrition intolerance was the next factor influencing negatively the possibility of early feeding with maternal milk. Medicines, contraindicated during lactation, given temporary (in 4 twins' and 1 triplets' mothers) or permanent (3 mothers) to lactated mothers were at the third place.

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Table 3 - Factors contributing to early breast-feeding of newborn babies from multiple pregnancies

Factor	Number of newborn infants	%	Time of starting breast-feeding
Delivery by caesarean section followed by delay in lactation	76	62,3%	3-4 days of life
Medicine taken by mother	17	13,9	
Temporary	11	9,0	3-4 days
Permanent	6	4,9	never
Sickness of preterm babies followed by oral nutrition intolerance for 5-14 days	30	24,6%	5 ± 2 days
Lack of maternal milk	10	8,2	Never

Table 4 - Type of feeding during staying in neonatal department

Type of feeding	Number of newborn infants	%
Exclusive maternal milk	6	4,9
Mixed: formula followed by or in combination with maternal milk	100	82,0
Formula only	16	13,1
Maternal milk at discharge	106	86,9

Data presented in table 4 indicate that exclusive breast-feeding was observed only in 6 (4,9%) infants. The most frequent way of feeding our babies from multiple pregnancies was formula followed by maternal milk or formula in combination with maternal milk in cases of poor human milk for more than one baby. 16 (13,1%) babies were discharged at formula; in 6 cases due to permanent exposure on medicines contraindicated during lactation and in the other 10 due to lack of maternal lactation.

DISCUSSION

The optimal feeding of human infants is with breast milk; in addition to psychological benefits breast-feeding has been shown to decrease the risk of gastrointestinal and respiratory diseases in infancy [1]. Program of breast-feeding has a major public health initiative in North America and Europe. Our neonatal department has been involved in the Polish Program of Breast-Feeding Promotion in 1995. Before 1990 the incidence of breast-feeding among the mothers of newborn infants declined steadily to reach nadir in 1988 – 0% of exclusive breast-feeding and 68,9% mixed feeding [8]. In 1990 a Program of Breast-feeding was created in Poland and in 1995 results

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were as follows: exclusive breast-feeding in 73,2% of infants and 97,2% mixed feeding babies in singleton population [8]. Since that time breast-feeding among newborn babies continue to increase. In our population of babies from multiple pregnancies eclusive breast-feeding was observed very rarely but mixed feeding was in 86,9% of babies at discharge.

There are many factors which contribute to the beginning or course of breast-feeding. Some of these occurred more frequently in twins than in singletons.

Most of our examined babies (74,1%) from twin population were born by caesarean section followed by delay in lactation. It is known that operative delivery is performed in pregnant women with multiple pregnancies more frequently than in singletons [5]. Before 1970 the standard obstetrics practice was to manage a twin labor according to the presentation of the first twin, with the delivery of second twin managed by manoeuvres appropriate to the presentation encountered [5]. However the twin B was often born in bad condition and with birth injures followed by increased neonatal mortality and morbidity rate. On the basis of this evidence, Taylor in 1976 recommended routine caesarean section for twins presenting other that vertex-vertex position [5]. At the end of 1970s Taylor's recommendations became widespread practice not only in the United States but in many European countries and in Poland too. Such policy caused an increased rate of operative delivery in twin population.

At present, prenatal ultrasound examination gives us a possibility to correctly recognise twin presentation before delivery and decide about the most appropriate way of delivery very often about caesarean section. On the other hand operative delivery influences negatively the beginning of breast-feeding and forced us to feed many babies from multiple pregnancies with formula for at least 3-4 days. Fortunately 86,9% of our twin population was at discharge on maternal milk. This indicates that after delay in lactation normal course of breast-feeding was possible in most of our twins born by caesarean section and even in one set of triplets.

Perinatal hypoxia is one of the known reason responsible for oral nutrition intolerance not only in pre-term but also in full-term babies. In our study material despite the high rate of prematurity (61,5%) only 18,8% of babies were born in bad conditions (0-3 Apgar score), while oral nutrition intolerance was observed in 36 (30,5%) babies mainly due to sickness caused by prematurity and early or late onset of infections.

Mothers of the sick twins, who are staying in NICU, not breast-feeding and with no enteral feeding, are encouraged but not forced to keep up lactation and bring maternal milk for their sick and critically ill baby. Despite the high rate of prematurity (61,5%) most of the examined newborns, among them 1 set of triplets too, were breast-fed at discharge. Our data, similarly to others authors' results [2, 3, 6, 7], show that even low-birth-weight twins with many factors contributing to normal course of breast-feeding can be successfully breast-fed.

All our professional staff is involved in the program of breast-feeding promotion and we try to solve all problems connected with delay in lactation and/or not enough milk in breast, not only in singletons but especially in multiple births.

It is well known that during lactation and especially in the first days after delivery many women take medications for therapy of acute or chronic problems. Some of these medicines are contraindicated during lactation [9]. In our study 13,9% of babies were not feeding with maternal milk because of that reason. Fortunately most of the medicines

were used only for a few days and after delay in breast-feeding normal course of lactation was possible. However in 3 mothers permanent therapy was necessary and 6 babies were on exclusive formula feeding.

CONCLUSIONS

Exclusive breast-feeding, despite the program of promotion, is a rarity in population of newborn infants born from multiple pregnancies; time to start breast-feeding in this population is usually 3-4 days after delivery.

Factors contributing to early starting of breast-feeding in infants from multiple pregnancies are as follows: delivery by caesarean section followed by delay in lactation, medicines contraindicated during breast-feeding applying to the mothers and sickness of pre-term babies followed by temporary oral nutrition intolerance.

Most pre-term and full-term twins are discharged from neonatal department on maternal milk – exclusively or in combination with formula in situation of scarce maternal milk for two or more infants – what should be considered as our professional success.

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