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The impact of the rooming-in practice on the duration of breastfeeding

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AUTHORS' CONTRIBUTION: **(A)** Study Design · **(B)** Data Collection · **(C)** Statistical Analysis · **(D)** Data Interpretation · **(E)** Manuscript Preparation · **(F)** Literature Search · **(G)** Funds Collection

SUMMARY

Introduction. Breastfeeding is a physiological process that has been evolutionarily shaped for harmonious development of humans. For thousands of years, breastfeeding has sustained life and enabled preservation of the human kind. The aim of the paper was to assess the influence of maternal and neonatal care in the rooming-in system on the duration of breastfeeding.
Material and methods. The survey-based study involved 858 women after childbirth, staying in five hospitals of Pomerania Province in Poland. The study was conducted in women after term pregnancies, who gave birth to children without disorders in the neonatal period and with the birth weight over 2,500 g, and who were discharged not later than 15 days after childbirth.
Results. The rooming-in practice was followed in 89.2% of mothers and neonates after natural delivery, in 56.1% of cases after Caesarean section and in 83.33% of cases after instrumental birth. The application of this system depended on the type of childbirth in a statistically significant way. The duration of pregnancy and birth weight had no significant influence on allowing the mother and child to stay together in one room. The separation of the child from the mother for longer than an hour daily has a significant influence on the duration of breastfeeding as the only type of feeding (p=0.004).
Conclusions. The rooming-in type of care has a significant impact on the duration of breastfeeding, and the course of labor determines the possibility of applying this practice. Medical procedures recommended in the program called *10 Steps to Successful Breastfeeding* have a positive influence on the length of natural feeding. Caesarean delivery significantly restricts the possibility of the mother and child to stay together in the same room.
Key words: rooming-in practice, natural feeding, neonate, mother, breastfeeding

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INTRODUCTION

In the 1970s, early and long postnatal contact of the mother and the child was not deemed significant. The neonate was transferred to the adaptation unit for measurement and neonatological examination soon after birth. The mother could see her child for a moment only. However, research has revealed that these procedures were unfavorable and needed to be changed [1]. In order to improve neonatal and maternal care, units adjusted for the rooming-in practice were created [2]. Rooming-in is a practice where the mother and neonate stay together after birth all the time. It helps the mother to gently become accustomed to the maternal role under the supervision of healthcare professionals, which makes her feel secure. The constant presence of the mother with the child can be challenging, particularly when a woman is exhausted after prolonged labor or after extensive episiotomy and perineal suturing [2–4].

According to literature data, the positive influence of the rooming-in practice concerns the entire population of women, irrespective of the geographical region. Allowing the mother to stay with her child after birth impacts not only the course of lactation, but also helps obtain appropriate amount of milk and affects the speed of reacting to the neonate's needs by the mother. Postnatal separation of children from their mothers makes on-demand breastfeeding more difficult and can be conductive to difficulties in natural feeding.

MATERIAL AND METHODS

Characteristics of the respondents

The study involved 858 women after childbirth who stayed in five hospitals of Pomerania Province in Poland. All the women gave birth in the period between August 2014 and March 2015. The study was conducted in women after

term pregnancies, who gave birth to children without disorders in the neonatal period with body weight over 2,500 g, and who were discharged not later than 15 days after childbirth.

Study design

First of all, 1,000 questionnaires were distributed to random women. In total, 898 questionnaires were returned, of which 858 were completed correctly and 40 partially. A woman's signature under the questionnaire confirmed the respondent's consent to participation. The study involved information about perinatal medical procedures asked for in the questionnaire, which contained questions about the duration of pregnancy, labor as well as hospital procedures performed during hospitalization. The study was approved by the Ethics Committee for Academic Research of the Medical University of Gdańsk.

Conditions for common maternal and neonatal stay

The aim of the rooming-in practice is to enable the mother and the child to stay together in one room from birth until discharge. It is permissible to separate the child from the mother for medical procedures for no longer than 1 hour a day. The neonate remains together with the mother if the condition of both of them permits it. Observation of a healthy neonate does not justify his or her separation from the mother. The rooming-in system does not consist in the replacement of nursing care with care provided by the mother in puerperium [2]. This practice is followed in all hospitals in which the study was conducted. The rooming-in system was applied in 78% of the investigated mothers and children with the separation period lasting not more than 1 hour.

RESULTS

The study revealed that the application of the rooming-in practice depended on the course of labor in a statistically significant way. The rooming-in system was used in 89.2% of mothers and neonates after natural delivery, in 56.1% of cases after Caesarean section and in 83.33% of cases after instrumental birth. The course of labor, parity and place of labor had a significant influence on the common stay in the rooming-in unit. This relationship was not noted for the duration of pregnancy and neonatal birth weight (Tab. 1).

The separation of the mother from the child for more than 1 hour had no effects on the total duration of breastfeeding compared to mothers who were not separated from their children. The mean duration of breastfeeding in mothers whose children were separated from them for more than 1 hour was 6.7 months vs 7.4 for mothers who stayed with their children all the time (Fig. 2.).

Separation of the child from the mother for longer than an hour daily had a significant influence on the duration of breastfeeding as the only type of feeding with $p = 0.004$ (Mann-Whitey U-test). When the mothers were separated from their children for no more than 1 hour, the average duration of breastfeeding as the only type of feeding was 3.9 months, while in the case of separation lasting more than 1 hour, the average duration of natural feeding as the only type of feeding was 3.2 months (Fig. 3).

The study showed a correlation between the type of childbirth and common stay in the maternity ward ($p < 0.0001$, chi square test). After natural delivery, 89% of the mothers and neonates stayed together in one room. In the case of Caesarean section, 56% of the neonates could stay with their mothers. After instrumental birth, 83% of the neonates stayed with their mothers. As for water birth, 93% of the neonates stayed with their mothers all the time. Vertical deliveries constituted 1% of all deliveries, and all the neonates born this way could stay with their mothers all the time.

The analysis of the average duration of breastfeeding depending on the course of labor revealed borderline statistical significance. The

Tab. 1. Postnatal stay of the mother with her child depending on other factors

Stay of the mother with her child in one room	Spearman's R	P-value
Course of labor	0.258790	0.000000
Parity	-0.089546	0.008719
Neonatal birth weight	-0.020156	0.557307
Place of childbirth	-0.219297	0.000000
Duration of pregnancy (weeks)	-0.105971	0.002657

nonparametric Kruskal-Wallis analysis of variance showed no statistical significance but the median test showed p = 0.04. Due to conflicting results, the hypothesis about the existence of significant differences in average breastfeeding periods in these groups was not refuted.

There were significant differences in the duration of breastfeeding as the only type of feeding depending on the type of childbirth: p = 0.03 in the Kruskal-Wallis ANOVA and p = 0.009 in the median test.

The average duration of breastfeeding did not differ in a statistically significant way between women staying in different hospitals (p = 0.76 in the Kruskal-Wallis ANOVA), but differences were noted for the duration of breastfeeding as the sole type of feeding (p = 0.003 in the Kruskal-Wallis ANOVA),

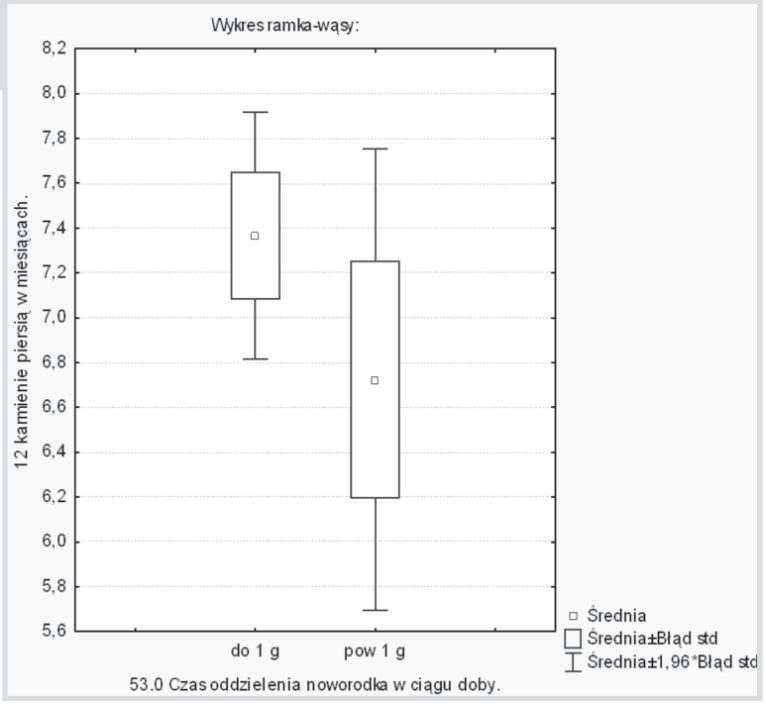

Fig. 2. Relationship between separation time and total duration of breastfeeding

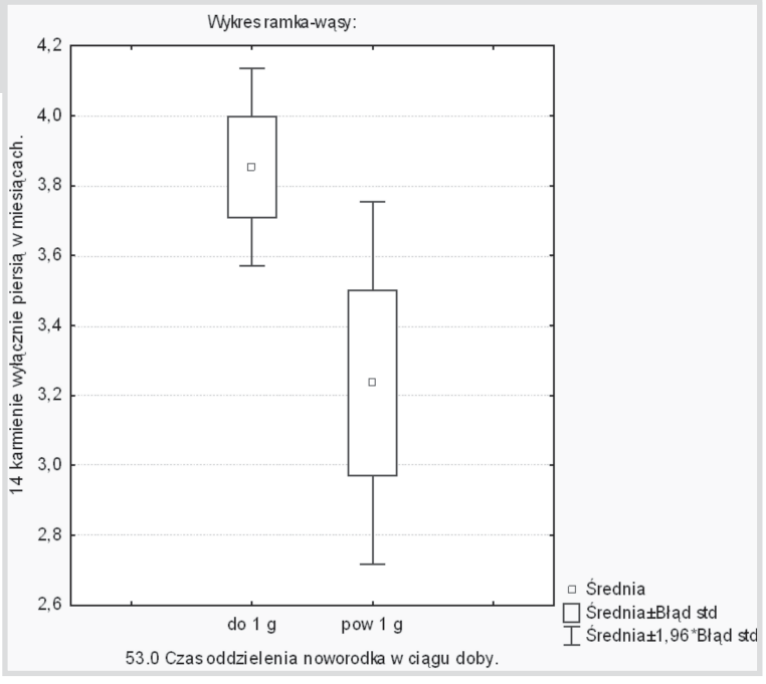

Fig. 3. Relationship between separation type and duration of breastfeeding as the only type of feeding

The longest average duration of breastfeeding as the sole type of feeding was observed in hospitals following the program called *10 Steps to Successful Breastfeeding*.

DISCUSSION

The consequences of early and broadly understood postnatal mother–neonate contact have been discussed in various publications [5–9]. The rooming-in system makes the adaptation period more beneficial for children. Neonates who stay close to their mothers more rarely develop jaundice [10] and gain weight faster [11]. Leander G. divided treated neonates into two groups. One group was separated from their mothers, who could, however, visit them. The other group was treated with photothera-

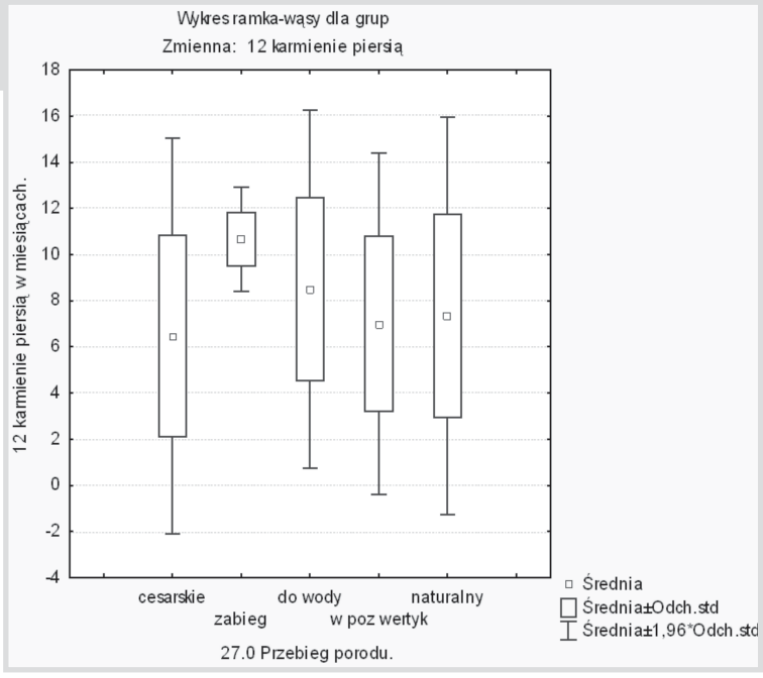

Fig. 4. Relationship between the type of childbirth and duration of breastfeeding

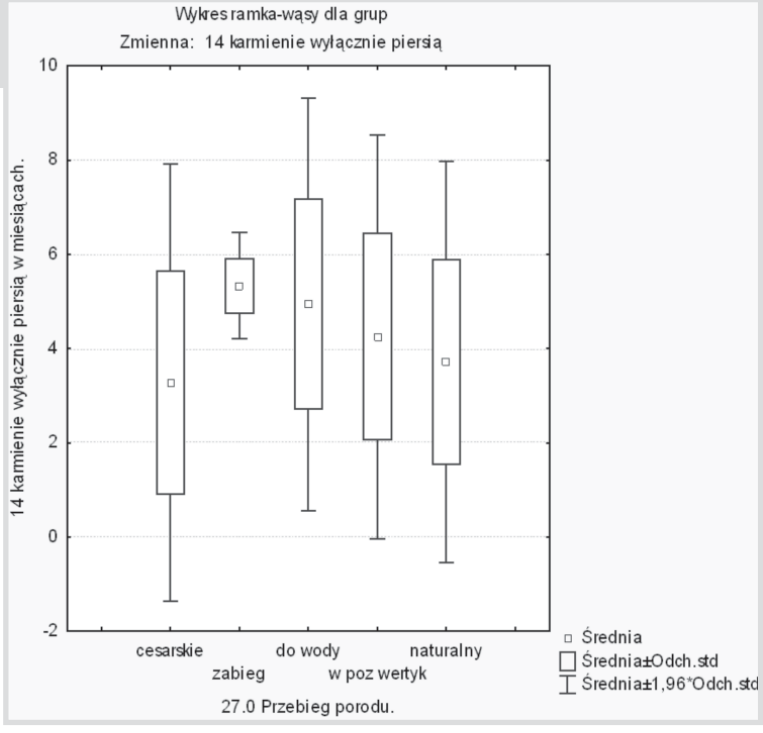

Fig. 5. Relationship between the type of childbirth and duration of breastfeeding as the only type of feeding

py in the mother's room. The study showed that neonates separated from their mothers were breastfed significantly less frequently [12]. Research shows that the rooming-in practice also reduces the number of neonatal infections [10,13,14].

Certain authors believe that staying in one room brings only short-term breastfeeding benefits if women are not properly educated, instructed and assisted. Mexican authors compared breastfeeding in women staying in hospitals where separated nursing care was provided with women from hospitals where the rooming-in practice was followed who were additionally educated about breastfeeding. They observed that the indices of breastfeeding as the only type of feeding were significantly higher in the rooming-in group compared with the separated group. However, four months after childbirth, this statistically significant difference was preserved only in women who, in addition to staying with their child, were also instructed about lactation [15]. Similar results were obtained in a study from Nicaragua. It was concluded that breastfeeding is longer if mothers stay with their children in one room and are additionally educated about breastfeeding, whereas it was significantly shorter in women who were separated from their children despite having been instructed about natural feeding.

Furthermore, the rooming-in system has a positive effect on the development of lactation and on starting breastfeeding. It also strengthens the bond between the mother and the child. This has been concluded by observation of mothers who stayed with their children for more than 8 hours a day. It was stated that this situation more rarely leads to parenting inadequacy [16] and that it creates a stronger bond between the mother and child. The introduction of the rooming-in practice in a Thai hospital reduced the rate of child abandonment by parents [17]. Various publications indicate that the positive influence of the rooming-in practice concerns the entire population of women irrespective of the geographical region. Allowing the mother to stay with her child after birth impacts not only the course of lactation, but also helps obtain appropriate amount of milk and affects the speed of maternal reactions to the neonate's needs. Postnatal separation of children from their mothers makes on-demand breastfeeding more difficult and can be conductive to difficulties in natural feeding.

In one study [16], mothers were allowed to have longer postnatal contact with neonates than anticipated in routine hospital practice. The study revealed that women who were allowed to exhibit more emotional behaviors towards their children, consisting in touching, changing diapers or observing, preserved this emotional state for longer. It was also found that these mothers were less likely to leave their children under other people's care.

CONCLUSIONS

The rooming-in practice has a significant influence on the duration of breastfeeding, and the stay of the mother and child in the same room depends on the type of childbirth. Separation of the child from the mother for longer than an hour daily has a significant influence on the duration of breastfeeding as the only type of feeding. Caesarian section significantly restricts the possibility for the mother and child to stay in one room. Medical procedures recommended in the program called *10 Steps to Successful Breastfeeding* have a positive influence on the duration of natural feeding.

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