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SIGNIFICANCE OF PRENATAL CARE COURSE IN THE POSTNATAL NEWBORNS WITH SOCIAL ADVERSE MEDICAL HISTORY

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Introduction

Prenatal health care is a complex, continuous and preventive care of the pregnant woman. In midwifery care it is the most important part of future population (Eliasova, 2008). One of the roles of prenatal care is:

- ensuring physiological course of pregnancy
- minimize or eliminate risks to the development and fetal growth
- promote a woman in such activities, which positively influence the course of delivery
- minimize the risks that may affect the course of pregnancy birth
- mentally and physically prepare a woman in childbirth.
- Prenatal care in midwifery aims to:
- separate providing of prenatal care by a midwife at the physiological conditions of pregnancy,
- collaboration with a woman, family and community in terms of health counselling and education in the survival of pregnancy, education on parenting, meeting needs and addressing their lack of midwives,
- providing information on early pregnancy diagnosis and diagnosing of pregnancy,
- monitoring during pregnancy, performing basic screening examinations,
- implementation of the basic screening to detect risk and pathological pregnancies. The disclosure of these factors is important to tell a doctor about them and work closely with him,
- course leadership in psychophysical childbirth preparation for pregnant women and for accompanying people,
- working with a pregnant woman and her family for creating birth plan (prepared according to the Concept of midwifery-number : 10973/2006 - OO).

Aim of work

We try to highlight impact of prenatal care on the postneonatal period of newborns and their further development using statistical analysis.

Research samples and methodology

Research samples consisted of newborns from socially disadvantaged backgrounds:

- newborns from socially disadvantaged backgrounds in childbirth group A = experimental group
- newborns from socially disadvantaged backgrounds in childbirth group B = control group.

Group A (experimental sample) included 50 newborns of respondents, which operates a midwife through health - educational action and implementation of prenatal care in their natural environment. Control group B included 50 newborns of respondents whose pregnancies took place without the interaction of midwives in their natural environment. Selection of respondents in this group was subjected to the control so that we ensure intactness of both groups. To properly evaluate the impact of a midwife and antenatal care implemented at postneonatal period of newborns, we focused on the selection of indicators that can be objectively measured and evaluated. Another condition for the establishment of indicators was the possibility of verifying the data from medical documentation. The data were processed in the statistical program SPSS 15.0 by the *descriptive* methods (descriptive characteristics, average graph and Eta to compare a numerical variable in two samples, cross tables, cumulative bar graph, the Cramer V contingency factor to compare categorical variable in two samples) and *inductive statistics* (ANOVA for the numeric variable, Chi2-test of independence for imperative). Because the two random samples were large enough (n1 = n2 = 50), we used parametric methods, including

ANOVA and t-test without the normal distribution of the variable in the base group. Calculated P-values were used to determine statistical significance of differences between samples. We set the significance level for the *traditional* 5%, it means that *P-values> 0.05 represent statistically significant difference whereas the values <0.05 show statistically nonsignificant difference*.

Measuring indicators of prenatal care impact on a fetus are:

- newborn vitality
- implementation of resuscitation
- newborn maturity
- newborn anthropometry - weight/length
- gestational age
- Apgar score
- course of early neonatal period
- infant nutrition - breastfeeding.

Results and interpretation

Newborn vitality, where we studied live born children, has a direct relationship with the course of pregnancy. The sample A included 98.0% live born newborns and 2.0% stillborns. In sample B there were 95.9% live born children and 4.1% stillborns. Based on calculations of the inductive analysis for this indicator *there is no difference between statistically significant samples* because the value of **V** = 0.06 and **P** = 0.55. It is interesting to present statistical data from the Institution of Public Health reports on health of the SR population from 2006 to 2008. In 2006 there were 53 904 live born children including 26 222 girls and 27 682 boys (born in total - 54 122 children). In 2007 54 631 children were born totally including 54 424 live births and 207 stillbirths. And in 2008 the increase was higher, 57 586 children were born totally including 57 360 live births and 226 stillbirths. Infant mortality is the mortality of children under one year, the rate of infant mortality, which reflects the proportion of children deaths aged under one year, calculated per 1000 live births, has a positive trend in the Slovak Republic. Since 2004 its development has continued a downward trend with small fluctuations in 2005. In 2008 we recorded the highest infant mortality in Presov and Kosice regions, in other regions it was a few times lower. We believe that the infant mortality rate is currently involved infants from socially disadvantaged backgrounds, which prenatal and postnatal period was marked by the negative impact of social, economic, environmental and genetic factors. From 2004 to 2008 neonatal and perinatal mortality rates had downward trends.

Implementation of resuscitation - in this case we wanted to find out whether the neonatal resuscitation (cardio-pulmonary-cerebral resuscitation) was necessary to perform after birth. In the sample Aresuscitation was performed in 4.0% of neonates and in sample B resuscitation was made in 4.1% of newborns. We confirmed by the statistical analysis that the *difference in a sample of this indicator is not statistically significant,* as evidenced by the value **V** = 0.002 and **P** value = 0.98.

Newborn maturity was examined by retrospective analysis of the neonatologist records. The sample A contained 82.0% of mature newborns, 16.0% of immature and 2.0% of newborns were not evaluated. The sample B included 71.4% of mature newborns and 28.6% were immatured. Using statistical inductive analysis we calculated the difference between examined subjects, **V** = 0.18 and **P** value = 0.2, which in this comparison *is not statistically significant*.

Newborn weight - here we studied which birth weight were the newborns born in both groups. In the sample A the average newborn weight was 2890.00 g, the median was 2900 g and the standard deviation was 523.820 g. In sample B the average weight of newborns was 2520.41 g, the median was 2550 g and the standard deviation was 594.674 g. The average weight was subjected to statistical analysis, where **Eta** = 0.32, **F** = 10.779 and **P** value = 0.001 on the basis of which it is noted that the observation samples showed statistically significant differences. The average newborn weight is from 3000 to 4000 grams (Roztočil, 2001). A newborn with an average weight is more likely to have a better start in life.

Newborn length - we examined which length were the newborns born in both groups. In the experimental sample, the average length of neonatal values reached 47.88 cm, the median was 48.00 cm and the standard deviation was 3.192 cm. In the control sample the average length of newborns was 45.55 centimeters, the median was 46.00 cm and the standard deviation was 3.410 cm. Using statistical inductive analysis, we calculated the **Eta** value = 0.34, **F** = 12.314 and **P** value = 0.001, which indicates the statistical significance of differences observed in our samples.

Gestational age of newborns examines, in which week of gestation, the newborns were

born in both samples. In the sample A the average gestational age of infants was 38.38 weeks, the median was 39.00 and standard deviation was 2.267 week. In sample B, the average gestational age of newborns was 36.90 weeks, the median was 38.00 and the standard deviation was 3.029 week. Using inductive analysis, it is noted that **Eta** = 0.27, **F** = 7.616 and **P** value = 0.007 and the difference in samples *is statistically significant*. The default value for gestational age of a newborn is the 38th – 41st week, which determines the maturity of the newborn (Roztočil, 2001). Based on the results we can conclude that the newborns in the sample A were born in term of birth as mature and eutrophic. Neonates in the sample B were born before the date of birth and therefore in this sample there is a higher incidence of immature (borderline) or hypotrophic newborns.

Evaluation by Apgar score – was examined in 1st minute of the newborn life. In the sample A the average Apgar score was under 8.88, the median was 9.00 and the standard deviation was 1.523. In sample B the average value according to the Apgar score was 8.06, the median 9.00 and the standard deviation was 2.273. We calculated the **Eta** value = 0.21, **F** = 4.322 and **P** value = 0.040, where it is noted that the difference in the sample on the basis of calculations *is statistically significant*. Higher values of newborns in the sample A can be attributed to maturity of newborns and thus improved their viability.

The course of early neonatal period examines physiological or pathological process of the postnatal period of newborns in both samples. The determining fact is whether the birth occurred in the newborn has such problems, which require diagnostic - therapeutic medical intervention. In the sample A pathological course of the early neonatal period was 8.2% and in 91.8% of newborns it was the physiological process. In the sample B the pathological course was in 20.4% of newborns, the physiological course was in 73.5% and at 6.1% of newborns the course was not valued. To determine the statistical significance of differences in the samples we used the inductive analysis, where **V** = 0.26 and **P** value = 0.04 and the following notes identify *statistical significance*. This difference can be attributed to the action of many risk factors, one of them is smoking, bad nutrition, environment, infections resulting from inadequate or no prenatal care during pregnancy in women who come from socially disadvantaged backgrounds.

Breastfeeding - our research was focused on determining whether respondents of both groups breastfeed their children. In the sample A 68.0% of respondents were brestfeeded, 26.0% were not breastfeeded and because of early leaving health facility was not able to assess breastfeeding in 6.0% of respondents. In sample B 51.0% of respondents were breastfeeded, 14.3% of respondents were not breastfeeded, but only in 34.7% of respondents saying it was not possible to assess the state of lactation for the same reason as mentioned in the sample A. We calculated the value of **V** = 0.36 and **P** = 0.002 by inductive statistical analysis which *confirms the statistical significance* of differences in the sample. These differences clearly indicate the importance of good prenatal care implementation linked to medical - educational action in the field of breastfeeding, particularly among women from socially disadvantaged backgrounds. The benefits of breastfeeding for the infant, as an important factor in building a sound foundation for further development and growth of a child in terms of immunological, emotional but also economic issues, are clearly. We found that healthy child development and growth is due to qualitative prenatal care which is provided to pregnant women.

Conclusion

Based on the presented analysis dealing with prenatal care, performed by a midwife in the field of women from socially disadvantaged backgrounds is very important. The results show a positive impact on growth, development of the newborn and the postneonatal period has a great effect on the whole later life of the newborn. In this case, it is clear that prenatal care from the perspective of midwives, as well as pediatrics is preventive in nature and is well known that prevention is always less financially demanding than cure, it is still valid. Good health of mother is expected to give a healthy birth of a child. That is why the woman's care about her health is essential, especially during pregnancy. It is difficult, whether it's particularly complicated for women from socially disadvantaged backgrounds do not know or do not care about their health during pregnancy because of their ignorance and isolation caused by improper way of life. The manner in which these women live, in most cases is harmful. Pregnancy is largely compromised their lifestyle risk factors and the environment in which they live as well. In order to eliminate these risk factors is necessary

to change the wrong way of life, to remove harmful habit to pay more attention to their health and do everything to sound development and growth of the fetus and infant. Given the low awareness of health among pregnant women from socially disadvantaged backgrounds special training on pregnancy is required, which will take place through changes in their lives, thereby eliminating the negative impacts on growth and development of a fetus and infant too. Human life comes first, so changing attitudes of pregnant women to their health and the child's health is very important. Health is the most important thing and we always have to remember it when we are threatened it, or we lost this the most valuable thing. Then it's too late and often difficult for the mother of a child to cope with the serious disease of a child, which brings many problems affecting all areas of life.

Therefore, we consider for main priority to stress the implementation of prevention, health promotion and education for women and necessery to strengthen the competencies for independent midwife´s practice.(Andraščíková, Rybárová, 2003).

Summary

Aim. We try to highlight impact of prenatal care on the postneonatal period of newborns and their further development using statistical analysis**.**

Introduction. Problems of prenatal care impact on the postneonatal period are very topical. The role of prenatal care is to follow the course of pregnancy and solve problems in pregnant women, which may affect pregnancy, fetal development and newborn health. Active access of a midwife for prenatal care may positively affect pregnancy, fetal development, the early neonatal period and subsequent development of healthy child.

Research samples and methodology. In the paper we review indicators, which indicate a physiological condition during the neonatal period in relation to pregnancy and childbirth. Comparing the results of the two intact groups of infant mothers who had a different number of prenatal visits in the post-natal clinic we received comparable data for the statistical evaluation and found out the effect of prenatal care on the postneonatal period of newborns.

Conclusion. The results show the importance of prenatal care and its impact on the postneonatal period and further healthy development of individuals.

Key words: prenatal care, newborn, postneonatal period of newborns.

Значення пренатального догляду для перебігу постнатального періоду у новонароджених із соціально несприятливим анамнезом

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Резюме. Значення пренатального догляду на перебіг постнатального періоду лишається актуальною проблемою. Завданням пренатального догляду є спостереження за жінками з вирішення проблем, пов'язаних з вагітністю, котрі можуть негативно вплинути на її перебіг. Окрім цього, він передбачає нагляд за плодом, що формується, та за здоров'ям новонародженого. Активна участь медсестри в пренатальному догляді позитивно впливає на перебіг вагітності з формування плода, як і на ранній неонатологічний період, що сприяє розвитку здорової дитини. Стаття висвітлює критерії фізіологічного перебігу неонатального періоду з точки зору вагітності та народження дитини. Шляхом порівняння результатів спостереження за двома групами неповнолітніх породіль з соціально несприятливих сімей доведено значення якості пренатального догляду для перебігу постнатального періоду, як і для подальшого розвитку новонароджених.

Ключові слова: пренатальний догляд, новонароджені, постнатальний період.

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