

Table 2. Antenatal diagnostics from II period (2002 by 2011)

malformations	Total	Antenatal diagnostics	Interrupted from identified	Born
gastroschisis	39	35 (90%)	21 (60%)	18
Congenital diafragmatic hernia	28	19 (68%)	8 (42%)	20
omfalocele	18	11 (61%)	8 (73%)	10
Esophageal atresia	32	6 (19%)	5 (83%)	27
Intestinal obstruction	51	14 (27%)	5 (36%)	46
Anorectal atresia	48	6 (12%)	5 (83%)	43
Lungs malformations	10	8 (80%)	6 (75%)	4
Tumors	4	4 (100%)	2 (50%)	2
Total:	230	103 (45%)	60 (26%)	170

Table 3. Transportations newborns with congenital malformations and mortality in groups

I period		II period	
Without transportation	transportation	Without transportations	transportations
55	47 (46%)	97	71 (42%)
32 mortality	20 mortality	23 mortality	6 mortality
58%	42%	23,7%	8%

The authors:

1. Savvina Valentina A. - PhD, Associate Professor of Pediatrics and Pediatric Surgery MI NEFU, chief out-of-staff pediatric surgeon MH Republic Sakha (Yakutia), the doctor of the highest category, pediatric surgeon, orthopedic surgeon, neonatologist at the surgical department of the Pediatric Center, 677018, Yakutsk, Yaroslavskii str.15. R.39, e- mail: SavvinaVA@mail.ru

2. Varfolomeev Ahmed R. - MD, Professor of Pediatrics and Pediatric Surgery MI NEFU, Head of the Course of Pediatric Surgery

3. Nikolaev Valentin N. - Associate Professor of Pediatrics and Pediatric Surgery MI NEFU, doctor of the highest category, pediatric surgeon, Pediatric Center surgical department RHN№1-NCM

4. Tarasov Anton Yu. - Head of the surgical department of Pediatric Center RHN№1-NCM

5. Bourtsev Eugeny Innokent'evich - Head of the neonatal resuscitation, Perinatal Center RHN№1-NCM

MACRONUTRIENT COMPOSITION OF BREAST MILK AND FEEDING HABITS OF LACTATING WOMEN OF DIFFERENT ETHNIC GROUPS IN THE RUSSIAN NORTH

Savvina M.S., Chasnyk V.G., Burtseva T.E.

Abstract

The study is based on results of energy value and macronutrient composition of breast milk research and its relationship to diet of lactating women of different ethnic groups living in the Republic Sakha (Yakutia). We revealed that the energy value and the macronutrient composition of breast milk to a large extent were determined by ethnicity and region of residence of women.

Keywords: breast milk, energy value, macronutrient composition, ethnicity.

Introduction: A food of the child belongs to the most important factors of formation of its health and providing an optimum level of physical and intellectual development, quality and life expectancy improvement. Breast feeding is an ideal food of babies. Breast milk contains almost full set of the substances necessary for a food of the child.

The optimum composition of breast milk forms features of a fatty, carbohydrate, mineral and power exchange. It provides optimum conditions for physical and intellectual development of the child.

Research objective: To determine the power value and macronutrient composition of breast milk and their communication with a diet of feeding women of the different ethnic groups, living in the north of Russia.

Materials and methods: Research groups “mother – child” were picked up in a random way for satisfaction of criteria of inclusion which were: age of mother 18-45, breastfeeding, known ethnic origin, any number of previous pregnancies, filling of the card of the menu for 3 days, absence of diseases in day of inspection, signing of the informed consent.

According to the filled cards the average macronutrient contents in a daily diet and its power value was calculated.

Results: At the first stage of work the assessment of dynamics of the contents macronutrients in milk of mothers depending on lactation duration was made, age of the mothers, lengths of a body and weight of a body of the child at the birth, taking into account the place of residence and ethnic group.

Macronutrients concentration in milk depended on duration of the period of a lactation in all ethnic groups a little.

For the purpose of identification of communication of an ethnic group of the woman with the macronutrients contents in breast milk with the living place (village, city-village, Arkhangelsk region – YNAA – Yakutia), with body height and weight of mother, with characteristics of the social status, the course of pregnancy, age of the woman, existence of a professional harmfulness and addictions, number of pregnancy and for feedings. 8 most informative were defined for classification of parameters.

The received results testify, about that the content of proteins and fats in breast milk of women of all regions is slightly higher and carbohydrates below average values. The analysis of the obtained data leads to a conclusion that the quantity macronutrients in breast milk is caused by an ethnic group and the region of residence.

For the purpose of an assessment of a role of differences of a diet of feeding mother in formation of macronutrient composition of breast milk the energy value and the content of proteins, fats and carbohydrates in a food allowance of women of different ethnic groups are investigated.

The amount of proteins in a ration of the Russian women living in village, is significantly higher, than at native women. The same pattern is taped for the women living in Yakutsk: proteins in a diet of native woman were less, than in a diet of the Russian woman.

Proteins, fats and carbohydrates in a diet of native woman living in Yakutsk was significantly less, than at the woman living in village. Amount of carbohydrates in a diet of woman of both groups was above references.

Conclusion: The macronutrients contents in breast milk are defined by an ethnic group and the region of residence of the woman. Milk of native woman contains more fats; it has less than proteins and carbohydrates in comparison with milk of the Russian and Yakut woman. The content of proteins and fats in breast milk of woman all ethnic groups living in studied groups is slightly higher, in carbohydrates – below averages on population of values.

References

1. Kozlov A.I. Vershubskaya G.G. Medicinskaya antropologiya korennoho naseleniya Severa Rossii [Medical anthropology of indigenous people of the North Russia]. Moscow: Izd-vo MNEPU, 1999, 10 p.
2. Muhina J.G. Chubarova A.I. Geraskina V.P. Sovremennye aspekty problemy laktaznoy nedostatochnosti u detey rannego vozrasta [The modern aspects of a lactase failure problem at children of early age] Voprosy detskoy dietologii [Problems of child dietology]. 2003, №1 (1), pp. 50-56.
3. Netrobenko O.K. Pitanie i rost grudnogo rebenka: otdalennye posledstviya i svyaz s zabolevaniyami [Food and growth of the baby: remote consequences and communication with diseases] Pediatriya [Pediatr.]. 2009, № 88 (5), pp. 72-76.
4. Fateeva E.M. Kon I.Y. Otdalennoe vliyaniye grudnogo vskarmlyvaniya na zdorovie i kachestvo jizni cheloveka [Remote influence of breastfeeding on health and quality of human life] Voprosy detskoy dietologii [Vopr.det.dietol.]. 2005, 3(4), pp. 34-37.
5. Fateeva E.M. Popovich M.V. Biologicheskiye, socialnye i ekonomicheskiye prioritety grudnogo vskarmlyvaniya [Biological, social and economic priorities of breastfeeding] Materialy V kongressa pediatrov Rossii [Materials of the V Congr. pediatr. of Russia]. Moscow, 1999, 495 p.
6. Guemond M. Breast milk: a source of bifidobacteria for infant gut development and maturation? / M. Guemond, K. Laitinen, S. Salminen // Neonatology. - 2007. - № 92. - P. 64-66.
7. Heinig M.J. Host defense benefits of breastfeeding for the infant. Effect of breastfeeding duration and exclusivity / M.J. Heinig // Pediatr. Clin. North Am. - 2001. - Vol. 48(1). - P. 105-23.
8. Hollox E. Lactase haplotype diversity in the Old World / E. Hollox, M. Poulter, M. Zvarik [et al.] // American Journal of Human Genetics. - 2001. Vol. 68. - P. 160-172.
9. Villalpando S.F. Lactation performance of rural Mesoamerindians / S.F., Villalpando, N.F Butter., W.W. Wong [et al.] // Eur. J. Clin. Nutr. - 1992. - Vol. 46(5). - P. 48-337.
10. Newcomb P. Breast feeding practices in relation to endometrial cancer risk / P. Newcomb, A. Trentham-Dietz // USA, Cancer Causes Control, 2000. - Vol. 11 (7). P. 7.

The authors: Savvina Maya S. - Senior Scientist YSC CMP SB RAMS, email: maya_savvina@mail.ru, Yakutsk, Russia
Chasnyk Vyacheclav G. - MD, Head of Chair SPb GPMU, Saint Petersburg, Russia
Burtseva Tatiana E. - MD, Deputy. Dir. YSC CMP SB RAMS, Yakutsk, Russia.