

**ARTIFICIAL AND MIXED FEEDING OF INFANTS.
FEEDING OF INFANTS AFTER INTRODUCTION OF SOLID
FOODS. FEEDING OF THE HEALTHY CHILDREN AFTER 1
YEAR OLD.**

**Academic discipline «Pediatric Propedeutics»
*Self-study guide for the 3rd year
English medium students***

**ШТУЧНЕ ТА ЗМІШАНЕ ВИГОДОВУВАННЯ
НЕМОВЛЯТ. ХАРЧУВАННЯ ДІТЕЙ СТАРШЕ ОДНОГО
РОКУ**

**З дисципліни «Пропедевтика педіатрії»
*Методичні вказівки
до самостійної роботи студентів 3-го курсу
медичного факультету***

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

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Compiled by: Klymenko V.A.
Sirenko T.V.
Lupaltsova O.S.

Штучне та змішане вигодовування немовлят. Харчування дітей старше одного року: метод. вказ. до самот. роботи студентів 3 курсу медичних факультетів / упор. В.А.Клименко, Т.В. Сіренко, О.С.Лупальцова. – Харків, ХНМУ, 2016. – 16 с.

Упорядники: Клименко В.А.
Сіренко Т.В.
Лупальцова О.С.

Contents

The best food for a newborn and during the first year of child's life is the breastfeeding. Every year, the number of children, not receiving breast milk, is increasing in the most developed countries, including the Ukraine. Despite all the benefits to breastfeeding, it is necessary to transfer the child to a mixed or artificial feeding. The transition of the child to mixed or artificial feeding is a stressful situation, which is accompanied by a change of digestion, metabolism, intestinal microflora. The organisation of a correct mixed or an artificial feeding meets includes the needs of nutrients and energy, depending on the period of children's development. Therefore, it is important to have the knowledge of a mixed or artificial feeding, during first month of life and after the introduction of solid foods.

Specific goals:

- To define the modern aspects of the mixed or artificial feeding infants.
- To organise the daily diet for children with the mixed or artificial feeding.
- To adjust the diet of children with the mixed or artificial feeding after introduction of solid foods.

To know:

1. To define the modern aspects of mixed or artificial feeding.
2. To define the classification and characteristics of milk formulas.
3. To provide the correct technique of mixed or artificial feeding.

4. To define the needs in proteins, fats, carbohydrates and calories in children with mixed or artificial feeding.
5. To demonstrate the scheme of mixed and artificial feeding.

Be able to:

1. To explain the definition of mixed or artificial feeding, the classification and characteristics of milk formulas.
2. To collect anamnesis of children with mixed or artificial feeding and evaluate it.
3. To calculate the amount of food per day for children with mixed and artificial feeding, according to the age.
4. To make a one-day menu for child with mixed and artificial feeding, taking into account the needs in food ingredients.
5. To evaluate the correct techniques and schemes of mixed and artificial feeding.
6. To demonstrate the methods of calculation for child of mixed or artificial feeding with introduction of solid foods, taking into account the needs in food ingredients.

Basic knowledge, abilities, and skills, which are necessary for studying the topic (interdisciplinary integration).

The names of previous disciplines	Skills
1. Bases of psychology.	To analyze the emotions of the patient, interpersonal relationships, and children's behavior.
2. General anatomy	To know the structure of the organs and systems of child's body. Clarifying the meaning of certain anatomical features of
3. Normal physiology	child's organism in the organizing of childcare.
	To know the features of functioning of the

	organs and systems of child's body in dependence of the age of the child.
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Graphical structures of individual issues of the topic.

1. Graphical structure of the topic «The artificial feeding of infants» Appendix 1.
2. Graphical structure of the topic «The artificial feeding» - Appendix 2.
3. Graphical structure of the topic «The mixed feeding» - Appendix 3.

The list of study materials:

Main:

1. Propaedeutics of Paediatrics: Manual for foreign students / V. A. Fjoklin, V. A. Klymenko, O. M. Plakhotna, T. V. Sirenko, A. I. Kojemiaka, O. V. Sharikadze. – Kharkiv: 2010. – 356 p.
2. Kapitan T. Propaedeutics of children's diseases and nursing of the child / T. Kapitan. – The state cartographical factory, 2006. – 734p.

Additional:

1. Nelson textbook of pediatrics.—18th ed./ edited by Robert M. Kliegman. Part V. Nutrition. Chapter 42. The Feeding of Infants and Children.
2. Ghai O.P. Essential pediatrics (fourth edition). – New Delhi, India: Interpint, 1996.–476 p.
3. Gupte S. The short textbook of pediatrics, 8th edition. – New Deli, India.: Iaypee Brthe others. Medical publishers (P) hTD, 1998. – 617 p.
4. Bickley L.S., Hockelman R.A. Physical examination and History Taking. – Philadelphia, New York, Baltimor.: Lippincott, 1999. – 789 p.

Test questions to the class:

1. What is the mean term «artificial feeding »?
2. What is the mean term «mixed feeding »?
3. What is correct technique of mixed and artificial feeding?
4. What are absolute indications for the conversion to mixed and artificial feeding?
5. What types of formulae are used for artificial feeding?
6. What is the difference in content of high adapted, partly adapted and non adapted formulae?
7. What are peculiarities of introduction of solid foods in children with mixed or artificial feeding?
8. What are reasons for mixed feeding?
9. How you can know the quantity of the breastmilk if the child has mixed feeding?
10. What are the methods of calculation for child of mixed or artificial feeding with introduction of solid foods?
11. What are the needs in food ingredients in children with mixed or artificial feeding and after introduction of solid foods in different age period?

Tests for self-control:

1. What is mean the term "artificial feeding"?
 - A. Feeding with expressed breast milk
 - B. The daily diet chart containing less than 20% of breast milk
 - C. Feeding with donor breast milk
 - D. Feeding with breast milk and formula
 - E. Feeding with unadapted infant formula

2. What are fat grams in an adapted infant formula usually?
 - A. 3,5-3,6g
 - B. 1,5-1,8g
 - C. 2,6-3,0g
 - D. 4,0-4,5g
 - E. 5-5,5g

3. What are the values the concentration of protein and casein in highly adapted infant formulas:
 - A. 40:60
 - B. 30:70
 - C. 60:40
 - D. 20:80
 - E. 50:50

4. What is the need of protein (grams per kg of body weight) for feeding children during the first three months of life with feeding of adapted milk formula:
 - A. 2,0-2,2 g / kg
 - B. 1,2-1,5 g / kg
 - C. 2,5-2,8 g / kg
 - D. 3,0-3,2 g / kg
 - E. 4,5-5,0 g / kg

5. What is the need of carbohydrates (grams per kg of body weight) for feeding children during the first three months of life with feeding of adapted milk formula:

- A. 5,0-5,5 g/kg
- B. 4,0-4,5 g/kg
- C. 12,0-14,0 g/kg
- D. 9,0-11,0 g/kg
- E. 15-16 g/kg

6. What is the need of carbohydrates (grams per kg of body weight) for children with feeding of adapted milk formula after introduction of solid foods:

- A. 16-20 g/kg
- B. 12-14 g/kg
- C. 10-11 g/kg
- D. 5,0-5,5 g/kg
- E. 7-8 g/kg

7. What is the temperature level of ready for using formula:

- A. 40-42
- B. 36-37
- C. 34-35
- D. 28-29
- E. 30-32

8. What is the range of proteins in 100 ml of adapted milk formula:

- A. 2,0-2,5 g
- B. 1,0-1,3 g
- C. 2,6-3,0 g
- D. 1,5-1,8 g
- E. 3,5-4,0 g

9. What is the range of carbohydrates in 100 ml of adapted milk formula:

- A. 4,0-4,5 g
- B. 7,0-7,3 g
- C. 5,0-6,0 g
- D. 1,8-2,5 g
- E. 7,5-8,0 g

10. What is the osmolarity of most adapted milk formulas:

- A. 250-280 mOsm/l
- B. 300-320 mOsm/l
- C. 220-240 mOsm/l
- D. 180-200 mOsm/l
- E. 150-160 mOsm/l

11. What is the need of fats (grams per kg of body weight) for children with feeding of adapted milk formula:

- A. 2,0-2,2 g/kg
- B. 3,0-3,5 g/kg
- C. 2,7-2,9 g/kg
- D. 6,0-6,5 g/kg
- E. 4,5-5,0 g/kg

12. What is the need of calories (calories per kg of body weight) for children with feeding of adapted milk formula:

- A. 130 kcal/kg
- B. 120 kcal/kg
- C. 110 kcal/kg
- D. 100 kcal/kg
- E. 95-100 kcal/kg

13. Introduction of solid foods in children with artificial feeding as compared with the breastfeeding should be:

- A. In one week later
- B. In one week earlier
- C. In three weeks earlier

- D. In three weeks later
- E. In one month earlier

14. The child, aged 4 months has feeding 6 times per day, 3 times – breastfeeding, 3 times - formula. What is the type of feeding according to WHO recommendations?

- A. the breastfeeding
- B. the mixed feeding
- C. the artificial feeding
- D. the supplementing while breastfeeding
- E. the symbolic feeding

15. What are the indications for mixed feeding?

- A. a hypogalactia
- B. an inadequate breast milk
- C. subcompensated congenital heart disease in the mother
- D. social conditions
- E. All of the above

16. The child, aged 4 months take at most 120 ml of breast milk during breastfeeding and at most 740 ml of formula during artificial feeding. What is feeding regime should be in this child?

- A. 8 times
- B. 7 times
- C. 6 times
- D. free feeding
- E. 5 times

17. Introduction of solid foods in children with mixed feeding as compared with the breastfeeding should be:

- A. 2-4 weeks earlier
- B. 1 month later
- C. 2 months before
- D. 2-4 weeks later

E. Does not matter

18. The child, aged 2,5 months with the mixed feeding. How many grams of proteins (per 1 kg body weight) should the child receive?

- A. 2,0 g
- B. 2,5 g
- C. 3,5 g
- D. 4,0 g
- E. 1,5 g

19. The child, aged 1 months with the mixed feeding. How many grams of carbohydrates (per 1 kg body weight) should the child receive?

- A. 13,0 g
- B. 10,0 g
- C. 8.0 g
- D. 16,0 g
- E. 20,0 g

20. The child, aged 6,5 months with the mixed feeding. How much a energy (calories per 1 kg body weight) should the child receive?

- A. 130 kcal
- B. 100 kcal
- C. 110 kcal
- D. 140 kcal
- E. 115 kcal

21. The child, aged 4 months with the mixed feeding. How many grams of fats (per 1 kg body weight) should the child receive?

- A. 6,0 g
- D. 2,0 g
- B. 3,0 g
- C. 10 g

E. 8,0 g

22. When should a child with mixed feeding start eating the chicken egg yolk?

A. 6 month

B. 4 month

C. 1 year

D. 5 month

E. 9 month

23. When should a child with mixed feeding start eating meat?

A. 6 month.

D. 1 year

B. 4 month.

E. 9 month.

C. 5 month.

24. When should a child with mixed feeding start eating fish?

A. 5 month.

D. 7 month.

B. 1 year

E. 4 month.

C. 6 month.

25. The child, aged 5 months with the mixed feeding. How many grams of proteins (per 1 kg body weight) should the child receive?

A. 5,0 g

B. 2,0 g

C. 3,5 g

D. 1,5 g

E. 6,0 g

Assignment for individual student work:

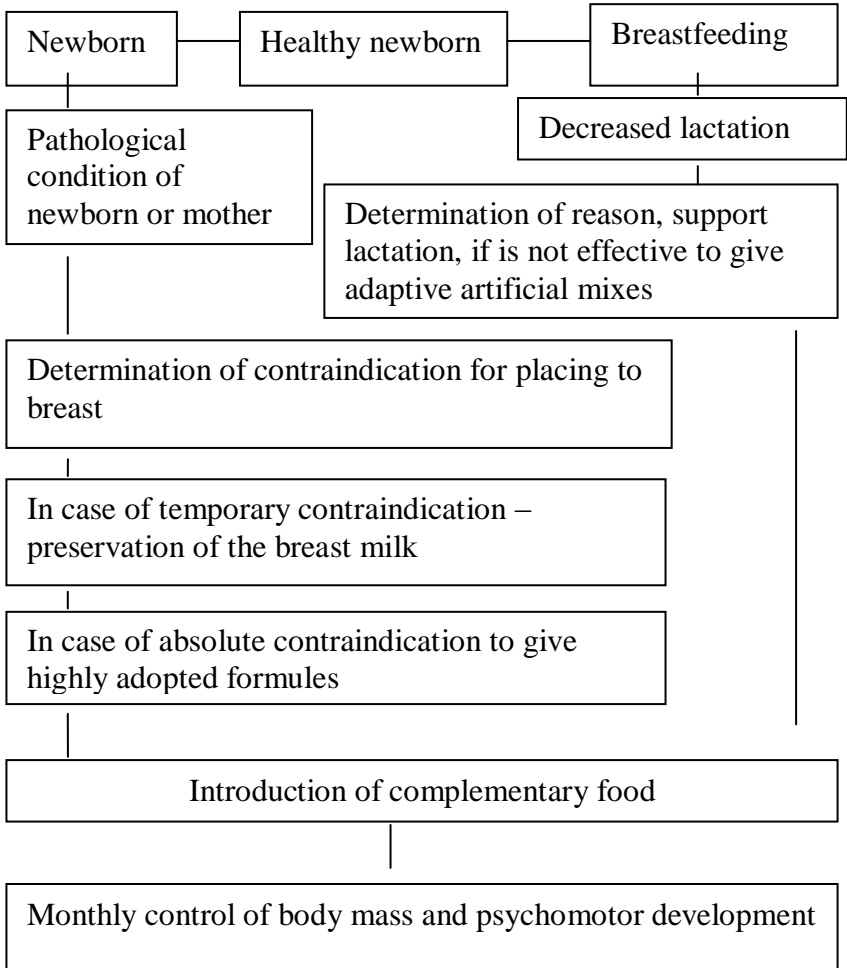
To make a conversation with parents of childrens with breastfeeding and after introduction of solid foods.

The standards of answers to the tests:

1-C; 2-A; 3- C; 4-A; 5-C; 6- B; 7- B; 8- D; 9-B; 10- A, 11-D, 12-B, 13-C, 14- B; 15- E; 16-D; 17-A; 18-B; 19-A; 20-E; 21-A; 22-A; 23-C; 24-D, 25-C.

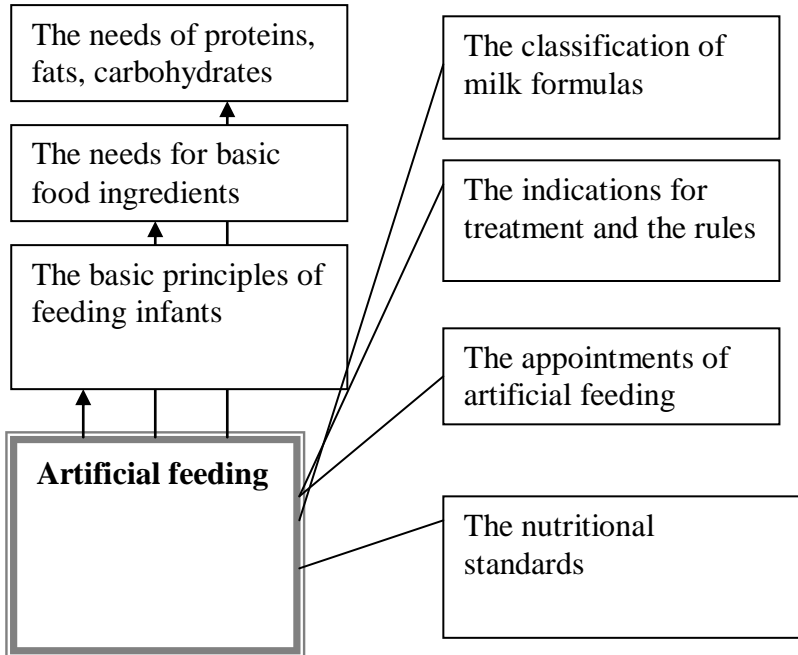
Appendix 1

Graphical structure of the topic «The artificial feeding of infants»



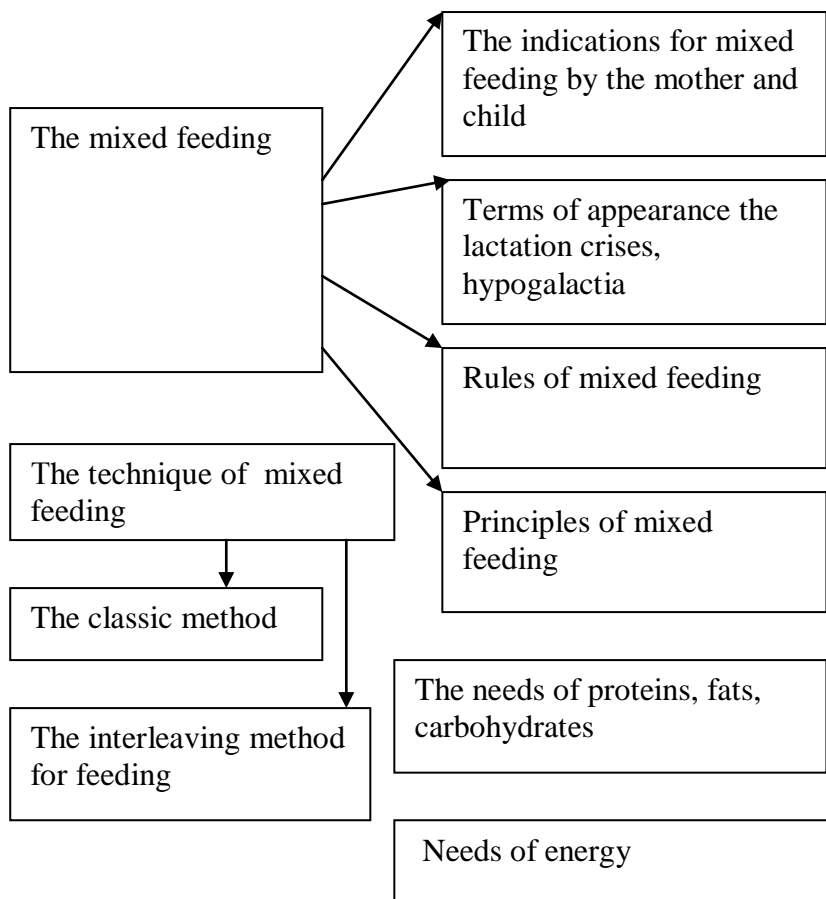
Appendix 2

Graphical structure of the topic «The artificial feeding»



Appendix 3

Graphical structure of the topic «The mixed feeding»



Навчальне видання

**Штучне та змішане вигодовування немовлят. Харчування
дітей старше одного року**

Упорядники: Клименко Вікторія Анатоліївна
Сіренко Тетяна Вадимівна
Лупальцова Ольга Сергіївна

Відповідальний за випуск: Клименко В.А.

Комп'ютерна верстка

Ум. друк. арк. ____. Тираж ____ прим. Зам. № ____.
