MINISTRY OF HEALTH CARE OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY

Faculty International _____
(title of the faculty)

Department of Pediatrics _____
(title of the department)

APPROVE
Vice-rector for scientific and pedagogical work
_____ Eduard BURIACHKIVSKYI
"__01_"____09____2024

METHODOLOGICAL RECOMMENDATION
FOR THE LECTURE
FROM EDUCATIONAL COMPONENT

Faculty international, course 5

Educational component - "PEDIATRICS"

(title of the educational componente*)*

Topic 1.: «Organization of neonatal care in Ukraine. Medical care for a healthy newborn baby. Premature babies. Features of breastfeeding and nursing of premature babies. Children with intrauterine growth retardation. Emergency care for major emergencies in premature infants: hypothermia, respiratory failure, hypoglycemia. Issues of bioethics in modern neonatology».

Approved:

Meeting of the Department of Pediatrics

Odesa National Medical University

Protocol No. _1__ "_29__" ____08_____ 2024__ y.

Head of the department _____ (Mykola ARYAYEV)

(Signature) *(Name, surname)*

2024

Перезатверджено:
Засідання кафедри педіатрії
Одеський національний медичний університет
Протокол № _1__від__ 26_____08_____2025___р.

Завідувач кафедри_____Микола АРЯЄВ

Developers:

(indicate surnames, scientific degrees, scientific titles and positions of developers; everyone who teaches the specified academic discipline must be among the developers)

professor. Mykola ARYAYEV, PhD, associate professor Larysa KAPLINA, associate professor PhD, Victor BIRYUKOV, PhD, associate professor Liudmyla SENKIVSKA, PhD, associate professor Daria Kolomiiets

Note. In the case of publication of methodological developments as a self-published work, the academic council of the faculty provides a recommendation for publication in the presence of two reviews, one of which is external — from a reviewer of another institution of higher education.

Lecture No.1

Topic: «Organization of neonatal care in Ukraine. Medical care for a healthy newborn baby. Premature babies. Features of breastfeeding and nursing of premature babies. Children with intrauterine growth retardation. Emergency care for major emergencies in premature infants: hypothermia, respiratory failure, hypoglycemia. Issues of bioethics in modern neonatology».

Relevance of the topic: The share of premature babies in the world varies within 3-10%; in Ukraine this indicator is about 5%. According to gestational age premature infants are divided: 34-37 weeks - 60-70%, 32-33 weeks - 20%, 28- 31 weeks - 15%, up to 28 weeks - 5%. About 40% of children are born prematurely as a result of spontaneous births, 25-30% - as a result of premature rupture of fetal bladder, another 30-35% of cases - premature labor induced for medical reasons (infection, preeclampsia, severe illness of the mother, fetal growth retardation, etc.) Percentage of children born with low birth weight reaches 10-12%, 35-40% of which are premature, others are full-term with delayed intrauterine growth retardation.

Purpose:

1. Get acquainted with the principles of the organization of neonatal care in Ukraine.
2. Determine the specifics of medical care for a healthy newborn child.
3. Learn the characteristics of premature babies and children with intrauterine growth retardation.
4. Master the knowledge and features of raising premature babies and children with intrauterine growth retardation
5. Learn information on emergency care for the main emergency conditions in premature newborns.
6. Understand the importance and role of bioethical issues in modern neonatology.

Basic concepts: Premature children, children with intrauterine growth retardation (IUGR), low, very low, extremely low body weight. Causes and risk factors of prematurity and IUGR. Morpho-functional manifestations of immaturity in newborn children. Peculiarities of adaptation and diseases in premature children. Principles of medical management of premature babies. Peculiarities of feeding premature babies.

Plan and organizational structure of the lecture:

1. Criteria for determining prematurity.
2. Etiological factors of prematurity.
3. Anatomical and physiological features. Classification of premature babies according to birth weight and the ratio of physical development and gestational age. Evaluation of morphological and neuro-functional maturity of prematurely born children.

diseases of the bronchopulmonary system and their complications in children. Prevention of chronic diseases of the bronchopulmonary system in children. Dispensary observation.
4. Intrauterine growth retardation: causes, postnatal diagnosis, features of early neonatal adaptation.
5. Emergency care for the main emergency conditions in premature newborns: hypothermia, respiratory failure, hypoglycemia.
6. Principles of raising premature children. Peculiarities of feeding premature babies. Prognosis.
7. Issues of bioethics in modern neonatology.

Content of lecture material (lecture text)

1. Criteria for determining prematurity and IUGR.

Definition. In Ukraine, in 2007, a transition was made to the new definition of "live birth" according to WHO criteria, and official registration of birth and taking into account the results of birth of children with a body weight of 500 g or more and a gestation period of more than 22 weeks is carried out. According to the gestational age, which is calculated from the first day of the last normal menstrual cycle to birth, newborns can be classified as follows: a full-term baby - from the beginning of the 38th week to the 42nd full week; carried baby - after the 42nd week; premature baby - from the 22nd full to the 37th full week. Based on the assessment of body weight according to centile nomograms of anthropometric indicators for age according to physical development, both full-term, premature and premature babies can be classified as follows: a child with an appropriate body weight for the gestation period - from the 10th to the 90th percentile; a child with excessive body weight for gestational age - more than the 90th percentile; a child with insufficient body weight for gestational age or intrauterine growth retardation (IUGR) - less than the 10th percentile. According to WHO recommendations, the body weight at birth of a child (both premature and with IUGR) less than 2500 g can be classified as follows: low body weight (LBW) - less than 2500 g; very low body weight (VLBW) - less than 1500 g; extremely low body weight (ELBW) - less than 1000 g.

2. Etiological factors of prematurity. Epidemiology

About 40% of children are born prematurely as a result of spontaneous births, 25-30% - as a result of premature rupture of the amniotic sac, another 30-35% of cases - premature births induced for medical reasons (infections, pre-eclampsia, severe maternal diseases, delayed fetal development, etc.). The number of children born with LBW reaches 10–12%, of which 35–40% are premature, the rest are full-term with IUGR. If a child with IUGR has a body length greater than the 10th

percentile, this is an asymmetric variant, if the body length is less than the 10th percentile, this is a symmetric variant; if with a symmetrical variant of IUGR, the child has developmental defects or more than 5 stigmas of dysembryogenesis - this is a dysplastic variant.

The most common risk factors for preterm birth are: previous birth of a premature child, multiple pregnancy, isthmic-cervical insufficiency or abnormalities of the development of the uterus, infections, chronic arterial hypertension, diabetes and other serious physical diseases, age up to 18 and after 30 years, bad habits, poor nutrition, lack of or insufficient quality of antenatal care.

3. Anatomical and physiological features. Classification of premature babies according to birth weight and the ratio of physical development and gestational age. Evaluation of morphological and neuro-functional maturity of premature born children. *Clinical manifestations of morpho-functional immaturity.* Signs of prematurity and manifestations of morpho-functional immaturity are more pronounced, the smaller the child's gestational age. Children born at a gestation period of 33–37 weeks are functionally mature, 28–32 weeks. — functionally immature, less than 28 weeks. — extremely functionally immature. The appearance of a premature child is peculiar: disproportionate body structure, lower limbs and neck are short, the head is relatively large, the cerebral skull prevails over the facial skull, the place of attachment of the umbilical cord is shifted to the pubis. The child's posture is flexor or semi-flexor: the head is slightly brought to the chest, the arms are moderately elbows bent, legs moderately bent at knees and hips. The cry is loud or of medium power, emotional. The skin, depending on the gestation period, is pink, smooth, may be covered with thick grease, visible veins. In newborns with a gestational age approaching 37 weeks, superficial peeling and/or rash and few veins may be observed; there is a lot of downy hair (lanugo), it is thin, it covers mostly the back and the extensor surfaces of the limbs; in newborns with a gestational age approaching 37 weeks, areas without lanugo are noted; skin on the soles with faint red lines or only the anterior transverse crease is present; in newborns with a gestational age approaching 37 weeks, folds occupy 2/3 of the surface; thinned or absent subcutaneous fat base. The head is brachiocephalic or dolichocephalic (depending on the position of the fetus during delivery), but is rounder than that of a full-term child; the bones of the skull are thin; seams and crown are open; head circumference from 24 to 32 cm depending on the gestation period. Ears are moderately curled, soft, slowly spread; in newborns with a gestational age approaching 37 weeks, the ears are well curled, soft, and quickly straighten. Breast gland: the areola is flat, the nipple does not protrude above the surface of the skin; in newborns with a gestational age approaching 37 weeks, the areola protrudes above the skin level, the nipple 1–2 mm. The chest is symmetrical, the lower aperture is open, the course of the ribs is oblique; chest circumference ranges from 21 to 30 cm

depending on the gestation period; chest movements are symmetrical. Lungs: respiratory rate – 30–60 per 1 min, during auscultation, breathing may be moderately weakened by degree. Heart: normal heart rate (HR) is 100–160 per 1 min. Neurological status: moderately or significantly reduced muscle tone and spontaneous motor activity; small, sometimes non-constant tremor of the limbs and chin, small and non-constant horizontal nystagmus, moderate reduction of reflexes in the satisfactory general condition of the child are transitory and do not require special therapy. Abdomen of rounded shape, participates in the act of breathing, soft on palpation; the liver protrudes 1–2 cm from the edge of the costal arch; the edge of the spleen is palpated under the costal arch. Genital organs: in boys, the scrotum may be empty or the testicles may be in the upper part of the canal; in newborns with a gestational age approaching 37 weeks, one or both testicles are located in the scrotum, one or both testicles are located in the scrotum, but they can easily hide in the inguinal rings when pressed on them; in girls, the labia major do not completely cover the labia minor , the clitoris protrudes. Newborns with LBW at birth need to determine the gestational age according to the Ballard scale from the 12th to the 36th hour of life. Determination of gestational age is based on the combined consideration of neuromuscular maturity indicators and physical maturity data. To determine the correspondence of body weight, body length, and head circumference to the child's gestational age, anthropometric indicators are evaluated according to centile nomograms. A premature baby can be considered healthy at the time of examination if it has a normal heart rate and respiratory rate, there are no expiratory moans and retractions of the pliable areas of the chest, there is no central cyanosis, moderate hypotension, the period of early adaptation takes place in conditions of early unlimited contact with the mother, there is the possibility of early breastfeeding, there are no congenital malformations or other disorders in the child's condition.

4. Intrauterine growth retardation: causes, postnatal diagnosis, features of early neonatal adaptation.

Symmetric variant of IUGR: is the result of long-term (more than one trimester) exposure to undesirable factors that cause slowed fetal growth. The *dysplastic variant of IUGR* is considered as a manifestation of hereditary diseases or the result of congenital infections transferred in the I-II trimesters of intrauterine development. Subacute effect of undesirable factors (primarily, hypoxia and placental insufficiency) in the last 2–3 months. intrauterine development leads to insufficient nutrition of the fetus, that is, to an asymmetric version of IUGR.

Asymmetric (hypotrophic, disproportionate, prenatal hypotrophy) variant of IUGR is characterized by a deficit of body weight in relation to its length, deterioration of tissue trophicity and turgor. The degree of severity of the asymmetric type of IUGR is determined by the mass deficit for the gestation period: mild - up to

the 10th centile or more than 1.5 sigma, moderate - up to the 5th centile or more than 2 sigma, severe - up to the 1st centile or more than 3 sigma.

The symmetrical (hypoplastic, proportional) variant of IUGR is characterized by a relatively proportional decrease in all somatometric indicators of physical development (mass, body length, head circumference) to the 10th centile relative to the gestation period. The degree of severity of the symmetrical type of IUGR is determined by the deficit of body length and head circumference in relation to the gestation period.

The dysplastic variant of IUGR, which was highlighted earlier, is not considered separately today. However, the presence of stigmas of dysembryogenesis in a child may indicate the effect of harmful factors during pregnancy.

5. Emergency care for the main emergency conditions in premature newborns: hypothermia, respiratory failure, hypoglycemia.

Premature children are prone to impaired thermoregulation and hypothermia. Due to the presence of a large surface area of the body, a high level of the ratio of the body surface to its mass, a decrease in the reserves of brown fat, the absence of keratinization of the skin and a decrease in the reserves of glycogen, profoundly premature babies (with VLBW and ELBW) lose heat quickly immediately after birth. Hypothermia can lead to hypoglycemia, apnea, and metabolic acidosis. Heat loss occurs in four ways: conduction, convection, evaporation, and radiation. In the first day of life, a child's normal body temperature is 36.5–37.5 °C, in the following days – 36.8–37.2 °C. *Hypothermia* is a child's body temperature below 36.5 °C. Severe hypothermia below 35 °C is associated with a high risk of death. It is difficult for profoundly premature babies to maintain a normal level of glucose in the blood, because the maternal source of glucose is lost, glycogen reserves are low, and the ability to absorb a sufficient amount of food is limited. *Hypoglycemia* (glucose level less than 2.6 mmol/L) can result from failure of enteral nutrition in the absence of intravenous glucose solution, hypoxia and hypothermia that increase glucose consumption, or infections. Hypoglycemia occurs more often in children with VLBW. Symptoms of hypoglycemia: convulsions, apnea, poor suction, depression or lethargy, hypotension. It is recommended to measure the level of glucose in the blood with a glucometer. A blood glucose level of 2.7–5.5 mmol/l is considered normal. *Apnea* is the cessation of spontaneous breathing lasting more than 3 seconds. Premature newborns are prone to episodes of apnea. The shorter the gestation period and the child's body weight (less than 32 weeks of gestation and less than 1500 g), the more frequent these episodes are. Rare and short-term spontaneous periods of apnea (lasting up to 20 seconds, no more than two episodes per day) without bradycardia and cyanosis, associated with feeding, sucking and motor activity of the child, are not considered pathological. They do not need treatment, but careful observation. The occurrence of more than two episodes of apnea per day lasting more than 20 seconds

or any apnea with bradycardia and cyanosis is an indication for intensive therapy. The physiological need of a newborn baby in liquid is provided by the volume of milk. Premature babies have proportionally more extracellular fluid than intracellular fluid, as well as a higher water content relative to body weight. In children with ELBW, the physiological need for fluid is higher than in more mature children. Violations of the water-electrolyte balance in premature children occur more often than in full-term children, which is caused by the difficulties of enteral feeding and the severity of diseases. If the premature baby is not fed enterally due to the severity of the condition, then the necessary volume of liquid is provided to him by parenteral administration. The daily fluid requirement of a newborn baby depends on body weight and age. During the first days after birth, the natural weight loss of a profoundly premature baby can amount to about 10-15%; pathogenic causes, such as the action of radiant heat sources, phototherapy, can lead to a loss of 20% of body weight, which is very dangerous. Functionally immature kidneys are less able to excrete potassium and concentrate urine. In the first 48 hours of life, the creatinine level is elevated and does not reflect the real function of the kidneys. During this period, neo-oliguric hyperkalemia may occur with an increase in the level of potassium up to 6.5 mmol/l. The kidneys are capable of complete reabsorption of sodium ions, which leads to hypernatremia, which, together with hypoalbuminemia and low diuresis, causes edema. *Hyperbilirubinemia* with an increase in the level of unconjugated bilirubin is associated with the physiological destruction of erythrocytes and the immaturity of the enzyme systems of the liver, which are responsible for the conjugation of indirect bilirubin, in children with VLBW and ELBW, it is often observed and requires treatment. Contractility of intestinal peristalsis and retention of meconium in the body increase the intrahepatic circulation of conjugated bilirubin. Unlike a full-term baby, the intensity of jaundice in a profoundly premature baby does not always correspond to the level of hyperbilirubinemia, so it always requires a laboratory assessment of the degree of severity and differential diagnosis of its causes, excluding sepsis, hemolytic disease of the newborn, hereditary diseases. In profoundly premature infants, bilirubin encephalopathy may occur with lower bilirubin levels than in more mature infants. *Respiratory distress syndrome* is observed in 35% of children with a gestational age of 31–32 weeks. and less in 65% of children at the gestational age of 29 weeks. And less. In the etiology of the disease, the main role belongs to the morphological and functional immaturity of the lungs, impaired synthesis and increased destruction of surfactant. The clinical picture of RDS in the first days of life is characterized by tachypnea more than 60 in 1 minute, the presence of cyanosis, the participation of auxiliary muscles in the act of breathing, and the involvement of pliable areas of the chest. Manifestations of RDS require differential diagnosis with other causes of both pulmonary (pneumonia, malformations, etc.) and extrapulmonary genesis (birth

trauma, malformations of the heart, gastrointestinal tract, diaphragm, etc.). The severity of the degree of respiratory distress is assessed according to the modified WHO scale, Dovnes or Silverman-Anderson scale. The course and long-term treatment of RDS can be complicated by pneumonia, air leak syndrome, bronchopulmonary dysplasia (BPD), intraventricular hemorrhage (IVH), NEC, and sepsis. *An open ductus arteriosus*, which, unlike full-term babies, does not close in premature babies in the first 48 hours of life and continues to function in the first weeks of life, causes a left-right blood shunt and contributes to the development of congestive heart failure with edematous-hemorrhagic syndrome, brain ischemia, intracranial hemorrhage, complicates the course of pneumonia, BPD. The ductus arteriosus functions in the first weeks of life in almost 80% of children with ELBW. *Neurological disorders* are often present in premature babies during the adaptation period. The development of hypoxic-ischemic encephalopathy (HIE), periventricular leukomalacia is associated with prenatal hypoxia and asphyxia. On the background of RDS, severe premature babies often develop IVH. Intracranial hemorrhages can be the result of asphyxia, birth trauma, hemorrhagic syndrome. Neurological disturbances, including seizures, require the exclusion of meningoencephalitis due to TORCH infections or sepsis. Convulsions can be a manifestation of severe metabolic disorders (such as hypoglycemia, hypocalcemia), hereditary metabolic diseases, bilirubin encephalopathy. Children with ELBW are a risk group for cerebral palsy and sensorineural deafness. *Congenital and nosocomial infections* are frequent causes of morbidity and mortality in premature infants. Infections in children in the first 3–5 days of life are due to viral and bacterial infections of the mother, the course of childbirth. Due to the fact that TORCH infections are one of the leading causes of premature birth, they are more common in premature babies than in full-term babies. Late infections (after 72 hours of life) are usually due to nosocomial flora. Their emergence and development is facilitated by insufficient maturity of humoral and cellular links of immunity, violation of natural barriers (introduction of stomach probe, tracheal intubation, catheterization of central or peripheral veins), parenteral nutrition, stay in the intensive care unit. The frequency of sepsis in premature babies reaches 1%. Diagnosis of TORCH infections and bacterial infections (including sepsis) is complicated by the non-specificity of their clinical picture: hypothermia, hypodynamia, apnea, tachycardia, tachypnea, abdominal distention, intestinal paresis, microcirculation disorders, jaundice, lack of dynamics or negative dynamics of body weight, metabolic violation. Pneumonia as an independent congenital or acquired disease, as a complication of respiratory therapy, a component of TORCH infection or sepsis occurs in 10–15% of premature babies. *Necrotizing enterocolitis* is a disease characteristic of an immature gastrointestinal tract, the development of which is closely related to perinatal hypoxia and asphyxia. The frequency of NEC occurrence and mortality from it are inversely proportional to the gestational age of children.

NEC is detected in 5–10% of children with VLBW and ELBW, the mortality rate reaches 10–50%. Clinical manifestations of NEC include the general symptoms of a severe condition of a newborn (apnea, bradycardia, lethargy, abdominal distention, vomiting, inflow of bile through a nasogastric tube, frequent and rarefied stools, the presence of hidden or unchanged blood in stools) and progress rapidly. An x-ray examination of the abdominal cavity reveals the expansion of the loops of the intestines, thickening of their walls, the presence of effusion in the abdominal cavity, intestinal pneumatosis. *Retinopathy of prematurity* occurs in children who require respiratory therapy for a long period of time, is the result of retinal immaturity and oxygen toxicity, and can lead to blindness. The frequency of occurrence and development of blindness is inversely proportional to the gestational age of the child. *Early anemia of premature infants* develops at the age of 5–10 weeks and is characterized by a decrease in the level of hemoglobin to 80–100 g/l in children with LBW and VLBW, to 65–90 g/l in children with a body weight of less than 1200 g. Development of such anemia are explained by the suboptimality of the erythropoietic response, i.e. inadequate synthesis of erythropoietin in a premature child, as well as the shortening of the life of erythrocytes (up to 40–60 days) in such children, the relatively significant growth rates of premature children compared to full-term children, and the rapid rate of increase in the volume of circulating blood. Frequent drawing of large volumes of blood for research can contribute to the occurrence of anemia. Premature babies in the first half of the year may develop *deficiency anemia*. Premature babies, due to the shortening of intrauterine development, not only do not have time to accumulate sufficient reserves of iron (80 mg/kg of body weight), but also very quickly dispose of it in the process of accelerated production of erythrocytes at relatively high growth rates. Iron-deficiency anemia of premature infants occurs even with a sufficient intake of nutrients, but occurs more often with deficiencies of folic acid, vitamin B_{12}, vitamin E.

6. Principles of raising premature children. Peculiarities of feeding premature babies. Prognosis. *Medical management of premature babies* is carried out in the maternity hospital (stage I), discharge of healthy premature babies and treatment of sick premature babies - in neonatal pathology departments (stage II), dispensary supervision of premature babies - in the conditions of a children's clinic. Children whose body weight on the 7th–10th day of life is less than 2,000 g are transferred to the II stage of weaning. Premature babies who, due to their health condition, require artificial lung ventilation (ALV) or intensive therapy, are hospitalized in the intensive care unit at any age. In the delivery room, a child born at a gestation period of 34–36 weeks, under the conditions of its satisfactory condition, is placed on the mother’s chest or stomach, its head and body are dried with a dry, warm diaper, then covered with another dry, warm diaper, a cap and socks are put on and cover with a blanket shared with the mother for skin-to-skin contact lasting at

least 2 hours. The umbilical cord is cut after its pulsation ends or after 1 minute (but not earlier). At the end of the 1st and 5th minutes of life, the condition of the child is assessed according to the Apgar scale. When searching and sucking reflexes are detected, the child is attached to the mother's breast. If the newborn does not show signs of searching and sucking reflexes, it is necessary to attach it to the mother's breast in order to colonize the child with her flora and stimulate lactation. In premature babies with a gestational age of 32–33 weeks. the question of teaching on the mother's chest or stomach is discussed. Babies with ELBW are usually not put to the mother's breast because of the severity of the condition and the risk of hypothermia. Medical care in the delivery room and operating room for premature newborns with a gestational age of less than 32 weeks provided according to the protocol of primary resuscitation of newborns. No later than the first hour of life, all children are given ophthalmic prophylaxis using 0.5% erythromycin or 1% tetracycline ointment. The choice of *feeding* means depends on the gestational age and the general condition of the child. Children up to 30 weeks of gestation are fed through a tube; 30–33 weeks – through a probe or from a cup; 34–35 weeks - from the breast or from the cup; more than 36 weeks - breasts. The beginning of *feeding children with extremely low body weight.* Minimal enteral nutrition (MEN) - the daily volume does not exceed 24 ml/kg is prescribed to all premature newborns with a gestational age of <32 weeks or a body weight of less than 1500 g in the first 48 hours of life in the absence of contraindications. For MEN, mother's milk [A] is used, if mother's milk is not available - formula for premature babies. They start MEN with 1-2 ml of milk, every 4-6 hours through a tube. Assess tolerance to the prescribed amount of milk. If the MEN is transferred and the child is in a stable condition, the daily amount of food is increased by 5-10 ml/kg/day. The basic principles of breastfeeding a newborn baby with LBW at birth do not differ from the principles of breastfeeding a healthy full-term newborn baby. To provide a premature baby with the necessary number of calories, it is necessary to feed it 8-12 times a day (every 2 or 3 hours), both during the day and at night. One-time or daily volume of milk is calculated based on tables with data on stomach volume and daily need for milk. Sufficient amount of milk is confirmed by a loss of body weight of no more than 10–15% and a further increase in body weight of 15 g/kg per day. *Prognosis.* Mortality of premature babies is inversely proportional to the gestational age at birth and is significantly higher among newborns with VLBW and EVBW at birth: 70% of cases of neonatal death are children with a body weight of less than 1500 g. The main risk factors for premature death: RDS, severe hypothermia, asphyxia, male gender, pelvic presentation during childbirth, uterine bleeding before childbirth, multiple pregnancy. Mortality among premature infants, as well as neonatal mortality of newborns, depends on the effectiveness of medical care, correctly performed resuscitation measures.

7. Issues of bioethics in modern neonatology. Currently, a necessary condition for the treatment of a newborn is the mother's informed consent to the child's therapy or its refusal (Articles 32, 33 of Law No. 323-FZ). But at the same time, any newborn, regardless of the condition, has the right to supportive therapy and resuscitation. Only parents who have received objective information from doctors can refuse to carry them out. If the opinion of parents and doctors on the tactics of managing newborns differ, then further actions regarding the child's health are determined by the higher authorities and the court. The task of the neonatologist in case of a serious condition of the child, detection of pathology, including complications during therapy, is *to tactfully inform the mother*, while the completeness of the information must be correlated with the possibility of its understanding and acceptance *without destructive consequences for the woman herself and her family relationships.* In such a situation, the support of specialists and discussion of development forecasts are necessary, since when faced with an acute, traumatic situation, various reactions are possible, up to the point of abandoning the child. A pediatrician-neonatologist can by establishing contact, trusting relationships with the woman, attempts to awaken a feeling of attachment to the newborn (applying the child to the breast immediately after birth; longer than usual stay with the child in the ward; conversations with the mother about the newborn, feeding and treatment, care for him) to influence her decision. Recently, the number of cases of women abandoning their newborn babies in the maternity hospital has increased dramatically. Typical situations of refusal are: living below the poverty line; alcohol or drug addiction of a woman; the mother is a pupil of an orphanage who has no experience of independent living or housing; young age of the mother; the birth of a sick child. Most often, the motivation for refusal is not so much real difficulties as a woman's feeling of powerlessness, inability to cope with life's difficulties, lack of support from family and friends, ignorance of her legal rights (manuals, benefits, etc.). Diagnosis, prevention and treatment of hereditary diseases poses many deontological problems. When diagnosing hereditary diseases, an important stage is the analysis of the child's pedigree, which requires tact and caution, since even the presence of a suspicion of the hereditary nature of the disease can cause parents and relatives to feel wary, denial and even unfounded suspicions. All newborns undergo screening testing for phenylketonuria, cystic fibrosis, adreno-genital syndrome, hypothyroidism and other diseases, the results may give rise to deontological problems due to the fact that children at this age do not yet have phenotypic manifestations of hereditary or congenital diseases that arise later. It is necessary to inform parents about the detected hereditary disease, but it is also important to report possible errors and the need for further in-depth examination of the child.

8. Materials on the activation of higher education applicants during the lecture: questions, situational tasks, etc. (if necessary).

9.General material and educational and methodological support of the lecture: computer equipment, multimedia presentation, newborn mannequin.

10. Questions for self-control

1. Concepts: premature children, newborn children with IUGR.
2. Classification of premature babies according to gestational age, functional maturity, body weight.
3. Causes and risk factors of prematurity and IUGR.
4. Methods of assessing the morphofunctional maturity of premature children, manifestations of premature children.
6. Principles of medical management of premature babies.
7. Emergency care for extreme conditions in newborn children.
8. Peculiarities of feeding premature babies.
9. Issues of bioethics in neonatology.

11. Basic literature:

1. Nelson Textbook of Pediatrics, 2-Volume Set, 22nd Edition, 2024. Robert M. Kliegman, Joseph W. St. Geme III, Nathan J. Blum, et al.

2. Nelson Textbook of Pediatrics / R. M. Kliegman [et al.]; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.]: Elsevier, 2020. - Vol. 1. – LXXV.Nelson textbook of pediatrics, 2 volume set. Edition: 21st, 2019. PDF format. http://pediacalls.com/e-books/nelson-textbook-of-pediatrics-21st-edition/
3. Nelson Textbook of Pediatrics. Expert Consult Premium Edition. Enhanced Online Features and Print 19th Edition ISBN-13: 978-1437707557 https://www.amazon.com/s?i=stripbooks&rh=p_27%3ARobert+M.+Kliegman+MD&s=relevancerank&text=Robert+M.+Kliegman+MD&ref=dp_byline_sr_book_1

12. Additional literature

1. Arayeyv M., L. I. Senkivska, N. K. Bredeleva, I. V. Talashova. Prophylaxis of acute respiratory infections via improving the immune system in late preterm newborns with E. coli strain Nissle 1917: a controlled pilot trial [Електронний ресурс]. Pilot and Feasibility Studies.2018. №4 (79). (Scopus) DOI: https://pubmed.ncbi.nlm.nih.gov/29713493/

2. Avery's Diseases of the Newborn Book Tenth Edition •2018. Copyright © 2018 Elsevier Inc. All rights reserved. Copyright © 2018 Elsevier Inc. All rights reserved/ No of pages 1656
https://www.sciencedirect.com/book/9781437701340/averys-diseases-of-the-newborn Avery's

13. Electronic information resources

1. http://moz.gov.ua– Міністерство охорони здоров'я України
2. www.ama-assn.org – Американська медична асоціація / American Medical Association
3. www.oapn.od.ua- ГО "Одеська Асоціація лікарів-педіатрів та неонатологів"
4. www.who.int – Всесвітня організація охорони здоров'я
5. www.dec.gov.ua/mtd/home/ - Державний експертний центр МОЗ України
6. http://bma.org.uk– Британська медична асоціація
7. www.gmc-uk.org- *General Medical Council* (*GMC*)
8. www.bundesaerztekammer.de – Німецька медична асоціація
9. https://www.who.int/workforcealliance/members_partners/member_list/ipa/en/ - Міжнародна асоціація педіатрів / International Pediatric Association (IPA).
10. https://ginasthma.org/wp-content/uploads/2024/05/GINA-2024-Strategy-Report-24_05_22_WMS.pdf GINA Global Initiative For Asthma. 2024
11. https://kdigo.org/wp-content/uploads/2017/02/KDIGO-2021-Glomerular-Diseases-Guideline_English_LN-2024-Update.pdf KDIGO 2021 Clinical Practice Guideline for the Management of Glomerular Diseases
12. https://aamsmedacademy.com/ American Academy of Medical Sciences (AAMS)
13. https://nam.edu/ The National Academy of Medicine (NAM)
14. https://cutt.ly/utqqtt7I Підручник Нельсона з педіатрії - електронна книга Elsevier на VitalSource, 21-ше видання
15. https://www.amazon.com/Averys-Neonatology-Pathophysiology-Management-Pathophusiology/dp/1451192681