FEATURES OF NEONATAL JAUNDICE AMONG NEWBORNS IN THE BUKHARA REGION

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Abstract: This article studies and analyzes the condition of infants admitted to the Neonatology Department of the Bukhara Regional Children's Multidisciplinary Medical Center with a diagnosis of "Neonatal Jaundice" during January-June 2024-2025.

Keywords: neonatal jaundice, hyperbilirubinemia, newborns, risk factors, Bukhara region

Аннотация: В статье изучено и проанализировано состояние детей раннего возраста, поступивших в отделение неонатологии Бухарского областного детского многопрофильного медицинского центра с диагнозом «Желтуха новорожденных» за январь-июнь 2024-2025 гг.

Ключевые слова: новорожденные, неонатальная желтуха, гипербилирубинемия, факторы риска, Бухарская область

Introduction

Neonatal jaundice is a frequently encountered clinical condition characterized by elevated serum bilirubin levels and yellow discoloration of the skin and mucous membranes. Each year, approximately 1.1 million newborns worldwide are affected by hyperbilirubinemia, with over 20 million infants remaining at risk for complications.[1]

Although physiological jaundice accounts for up to 60–70% of neonatal jaundice cases, early identification of pathological forms is crucial due to the risk of bilirubin encephalopathy. Despite modern diagnostic capabilities, cases of

kernicterus still occur, often related to delayed diagnosis or insufficient monitoring after early postnatal discharge.[2,3]

This study aims to assess the epidemiological characteristics, risk factors, and laboratory indicators of neonatal jaundice among newborns in the Bukhara region.

Materials and Methods

A retrospective study was conducted based on the medical records of newborns diagnosed with neonatal jaundice and hospitalized in the Neonatology Department of the Bukhara Regional Multidisciplinary Medical Center from January to June 2024–2025.

A total of **96 newborns** were included and divided into two groups:

- **Group 1 (2024):** 34 newborns
- **Group 2 (2025):** 62 newborns

The analysis included demographic data, place of residence, gestational age, mode of delivery, maternal obstetric history, maternal comorbidities, and biochemical blood parameters (total, conjugated, and unconjugated bilirubin; ALT; AST).

Result: Demographic Characteristics

- **Sex distribution:** Group 1: 64.7% male, 35.3% female Group 2: 58% male, 42% female
- **Residence:** Group 1: 58.8% rural, 41.2% urban Group 2: 64.5% rural, 35.4% urban
- **Gestational age:** Term newborns predominated in both groups (91.1% and 79%, respectively).

Age at Admission : Group 1: mean age 26.6 days (4–61) Group 2: mean age 31.4 days (4–65)
The diseases that the mothers of babies with neonatal jaundice had during pregnancy were also analyzed.

The most common maternal comorbidities were:

Maternal Condition	Group 1 (%)	Group 2 (%)
Anemia	27.9%	42.8%
Acute respiratory infections	27.9%	12.5%
Pre-eclampsia	16.3%	4.5%
Pregnancy toxicosis	16.3%	22.3%
Diffuse goiter	4.6%	14.2%

The results of the analysis showed that anemia, acute respiratory diseases, pregnancy toxicosis and preeclampsia were more common in mothers of babies of group 1, while mothers of babies of group 2 had a higher percentage of diseases such as anemia, toxicosis of pregnancy, diffuse toothache, acute respiratory disease.

A weight category for infants has been developed. When the blood of infants with neonatal jaundice was biochemically collected (total bilirubin, conjugated and unconjugated bilirubin, ALT, AST), the following results were obtained.

Indicator	Group 1 (mean)	Group 2 (mean)
Total bilirubin (mmol/L)	185	187.8
Conjugated bilirubin (mmol/L)	28.5	25.6
Unconjugated bilirubin (mmol/L)	158	162.4
ALT (U/L)	36.2	32.4
AST (U/L)	48.5	48.8

Most infants demonstrated moderate hyperbilirubinemia.

Discussion

The study revealed that neonatal jaundice was more common among male infants, consistent with global data. Rural populations exhibited higher

hospitalization rates, likely related to reduced access to timely outpatient assessment.

Maternal anemia, pregnancy toxicosis, and thyroid disorders were significant risk factors, emphasizing the importance of maternal health optimization during pregnancy. Laboratory indicators showed predominantly moderate hyperbilirubinemia, suggesting that most cases were manageable with timely intervention.

Conclusion

1. Male newborns were more frequently affected by neonatal jaundice in the Bukhara region.
2. Maternal anemia, toxicosis, and diffuse goiter were identified as major contributing factors to neonatal jaundice.
3. Laboratory findings indicated moderate hyperbilirubinemia in the majority of cases.
4. Early diagnosis and appropriate management of perinatal complications are essential to prevent severe neonatal hyperbilirubinemia and neurological complications.

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