

## ROLE OF HEALTH CARE PROFESSIONALS IN NEONATAL JAUNDICE

Ivanichka SERBEZOVA<sup>1</sup>

Daniela KONSTANTINOVA<sup>2</sup>

Tsveta HRISTOVA<sup>3</sup>

<sup>1</sup>Associate Prof. Dr. Ruse University “Angel Kanchev” in Ruse, “Studentska” 8 str., Faculty of public health and health care, department of Health care;

<sup>2</sup>Chief Assist. Prof. Dr. Ruse University “Angel Kanchev” in Ruse, “Studentska” 8 str., Faculty of public health and health care, department of Health care;

<sup>3</sup>Assist. Ruse University “Angel Kanchev” in Ruse, “Studentska” 8 str., Faculty of public health and health care, department of Health care;

**Abstract:** *The article presents results of a copyright study in the Department of Neonatology in the Obstetrics and Gynecology complex of the University Hospital of Ruse 15<sup>th</sup> Oct 2015 till 15<sup>th</sup> Oct 2016. 150 students participated from the 3<sup>rd</sup> and 4<sup>th</sup> course specialty Midwife and Nurse, Bachelor degree from the University of Rousse “Angel Kanchev”. Neonatal jaundice occurs in about two-thirds of all infants during the first postnatal week.*

*The aim of this study is to determine how the knowledge, skills and competencies of student midwives and nurses form clinical thinking and help build a plan of care in a real professional environment in neonatal jaundice.*

**Keywords:** *neonatal jaundice, newborns, midwives, nurses, health care.*

### Introduction

Neonatal jaundice occurs in about two-thirds of all infants during the first postnatal week. According to modern concepts, neonatal jaundice is the appearance of visible yellow colour of the skin, sclera and/or mucous membranes of the infant as a result of increased levels of bilirubin in the blood of newborns.

The frequency of the cases is high and there are racial differences. In the European population neonatal jaundice occurs in about 60% of in-term newborns and up to 80% in premature infants in the first week of life (Hale, T., P.Hartmann, 2007).

In 1724 Juncker, in his *Conspectus Medicinae Theoreticopraticae* distinguishes the difference between “true jaundice” and a “the icteric tinge which may be observed in infants, immediately after birth”. In 1875, Orth noticed during autopsy the presence of bilirubin in the basal ganglia in children with severe jaundice, noted later in 1903 as kernicterus from Shmorl.

In 1958, a nurse working in the nursery of the hospital in Rofford, Essex, UK, reported “seemingly vanishing yellow pigmentation in the skin of babies briefly exposed to sunlight” (Doerr, S., 2014)

Infant jaundice is most often caused by an excess of bilirubin – a waste product resulting from the residual hemoglobin derived from the degradation of red blood cells carrying oxygen in the body.

Hemoglobin levels in the womb are different from hemoglobin after birth. The body of a newborn may not be able to prework perinatal erythrocytes, because at the same time after birth it begins to form new ones very quickly. This leads to an increase in normal levels of bilirubin which are filtered from the bloodstream by the liver and from there to the kidneys by which is discarded out of the body system. The liver can not filter bilirubin with the speed with which it is produced, leading to hyperbilirubinemia.

Possible causes may be – newborns with Rh or AB/O fetal-maternal incompatibility, jaundice from breast milk; breastfeeding and jaundice – if the breastfed newborn does not receive an adequate intake of milk, cephalohematoma; cell enzyme defects of the RBC’s; defects in the cell membrane of red blood cells; premature newborns; liver disease, sepsis, biliary or bowel obstruction; bacterial or viral infections; hypothyroidism; hepatitis; mothers with diabetes; brothers or sisters who had neonatal jaundice;

parents from East Asia or the Mediterranean (Wachter, K., K.Sarkada, 2011).

Symptoms appear about three days after birth – yellowing of the skin, poor sucking or eating, sleepiness, shrill cry, exhaustion (looseness), dark yellow urine, pale stools (NHC Choices)

Phototherapy is one of the most effective and most commonly used methods of treatment for neonatal jaundice – blue light helps and even accelerates the dissolution of the accumulated bilirubin. It reacts with oxygen and forms the colorless oxidation products which are readily excreted from the body (urine). Exposure lasts several days until the livers becomes mature enough to cope with the breakdown of bilirubin. Phototherapy for neonatal jaundice can be conducted 24 hours a day. The baby is with diapers and a soft blindfold.

Midwives and nurses have an important role in the relationship between the mother and the newborn. They find symptoms of neonatal jaundice, implement a plan of care and take care as a team of the baby’s health.

The training of the bachelor’s degree “Midwifery and nurse” at the University of Rousse “A. Kanchev” has advocated the establishing of professional knowledge, skills and competence in caring for newborns in the lectures on special nursing care, practical exercises, clinical practice and internship at the Department of Neonatology at University Hospital Rousse.

**Aim**

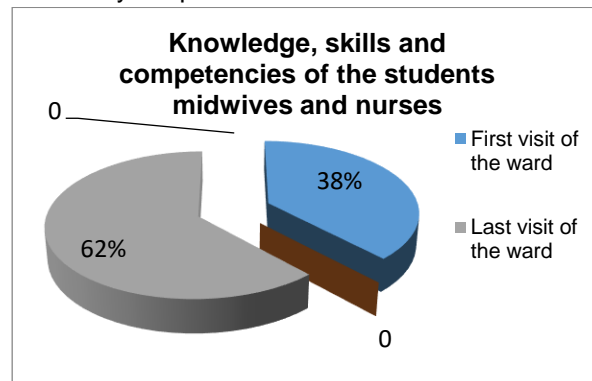
The aim of this study is to determine how the knowledge, skills and competencies of students midwives and nurses form clinical thinking and to make a healthcare plan in a real professional environment with neonatal jaundice in the newborn.

**Methodology**

The study was conducted in the Department of Neonatology of the obstetrician complex of the University hospital in Rousse from 15<sup>th</sup> October 2015 until 15<sup>th</sup> October 2016.136 students were involved from the 3<sup>rd</sup> and 4<sup>th</sup> year of the bachelor’s degree “Midwifery and nursing”. For collecting information were used documentary sociological method (interview) and targeted surveillance. The results are presented in graphic form.

Chart 1 presents the knowledge and skills of students about neonatal jaundice at their first and

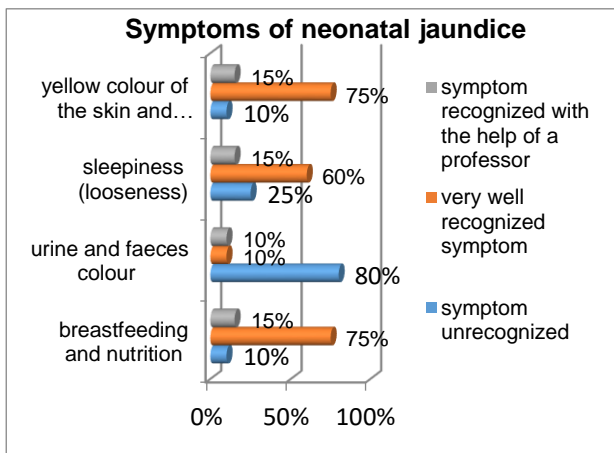
last visit in the Department of Neonatology in University hospital of Rousse.



**Chart 1.** Knowledge, skills and competencies at students midwives and nurses in different stages of education.

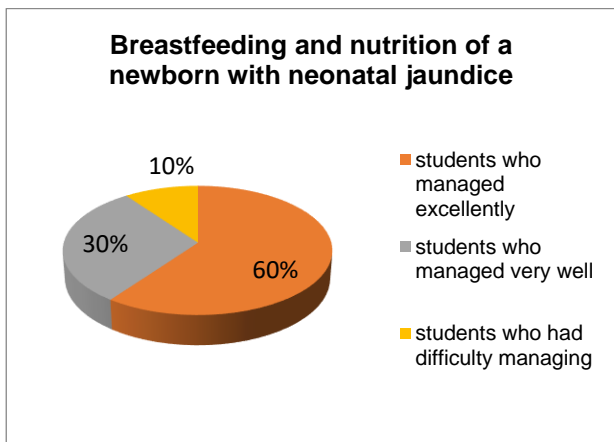
Before meeting the newborn, the students get to know the symptoms of the condition neonatal jaundice from the conducted theoretical lectures. The contact with the baby gives the opportunity to make ‘live’ connection with the acquired knowledge from class and to form clinical thinking which is in the basis of preparing a healthcare plan.

Almost all students, participants in the study (87%) named theoretically correct the symptoms of neonatal jaundice in the newborn: yellow skin and/or eyes, changes in the colour of the urine and faeces, drowsiness and decreased tonus, loose sucking and difficulties in breastfeeding. In the Department of Neonatology, 75% of students establish very well the yellow pigmentation of the skin in newborns as well as the difficulties in breastfeeding, 60% - tonus, drowsiness in infants. Difficulties are encountered in distinguishing the color of urine due to insufficient practical experience. The results are presented in chart 2.



**Chart 2.** Recognizing the symptoms of neonatal jaundice by students observing the newborns.

Students midwives and nurses are involved in the process of breastfeeding and nutrition the newborns with neonatal jaundice. Their practical skills in helping the mothers breastfeed their babies, the positions for breastfeeding, the required dose of milk and milk quality check are represented in chart 3.



**Chart 3.** Involvement of the students in the process of breastfeeding and nutrition.

A small part of surveyed students (10%) manage with the help of a teacher in helping with breastfeeding and nutrition of infants with neonatal jaundice. The difficulty stems from the

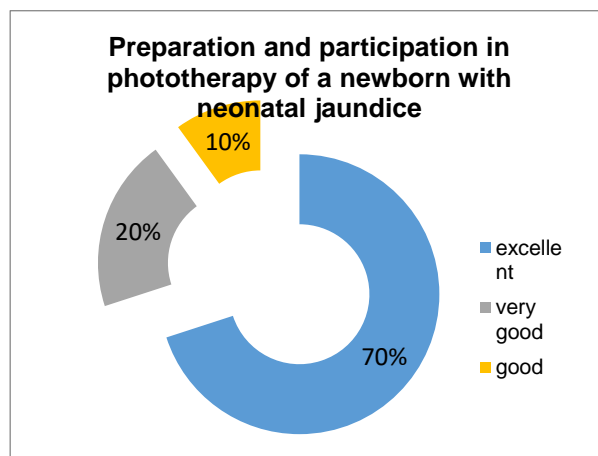
## CONCLUSION

In practical exercises, clinical practice and internship in the Department of Neonatology, students midwives and nurses acquire the knowledge, skills and competencies. That way, they gain professional satisfaction and increase their motivation for education. Health and care for the mother and her newborn is a priority of the health policy of every member state of the European Union.

direct contact and work with mothers. More than half of the participants in the survey (90% of students) manage successfully with the task to assist in the process of breastfeeding newborns with neonatal jaundice.

Participation of student s midwives and nurses in the work of the Department of Neonatology, the relationship with newborn and mother form clinical thinking which is crucial for professional competence for successful future realization.

In preparing the newborn for phototherapy students manages as follows – 70% excellent, 20% very good and 10% good. (chart 4)



**Chart 4.** Participation in phototherapy of a newborn with neonatal jaundice

The students' answers are analyzed. It shows that students put in a real professional environment think critically and clinically and can make a plan for the necessary healthcare. Students midwives and nurses reveal the need and role of the phototherapy method for neonatal jaundice condition. They prepare the infant for the upcoming manipulation and participate in the team of the department.

**BIBLIOGRAPHY:**

[1] Wachter, K.,K.Sarcada, “Everything about child diseases”, KOALA PRESS, 2011r.

[http://www.medicinenet.com/newborn\\_jaundice\\_neonatal\\_jaundice/article.htm](http://www.medicinenet.com/newborn_jaundice_neonatal_jaundice/article.htm)

[2] Doerr,S., 10 Mistakes New Parents Make Slideshow Pictures *Medically Reviewed by a Doctor on*  
*3/24/2014*

[3] Hale,T.,P.Hartmann, Textbook of Human Lactation, ILCA, Hale Publishing, LLP, USA, 2007, p. 660.