

Association between serum bilirubin and oxygen saturation for newborn in Al -Zahra'a Teaching Hospital of Al- Najaf Governorate

Wameedh Hamid Shaker*, Ahmed Burhan Abdulameer**, Mansour Abdullah Falah***

* Lecturer, University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch.

** University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch.

*** Lecturer, University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch.

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Abstract- Objective: To find out Association between serum bilirubin and oxygen saturation for newborn in Al Zahraa teaching Hospital the governorate of Najaf. **Methodology** the study covered convenience sample of (60) newborn in the present study individual in the sample was interviewed using a specific questionnaire form. The present study in order to achieve the early stated objectives for period from February 2017 to March 2017. **Conclusion** The overall of serum bilirubin major under study is reduced. The overall assessment of oxygen saturation is slightly affected, serum bilirubin with oxygen saturation SO₂ non-significant. There is effect of the demographic characteristics on the overall assessment. **Recommendation** the future study association between breast milk and jaundice. The demographics and correlates of serum bilirubin levels. Educational program about breast feeding.

Index Terms- Association, serum, bilirubin, oxygen, saturation,

I. INTRODUCTION

Bilirubin is the major breakdown product of hemoglobin released from senescent erythrocytes Initially it is bound to albumin, transported into the liver, conjugated to a water-soluble form (glucuronide) by glucuronosyl transferase, excreted into the bile, and converted to urobilinogen in the colon.(1)

Urobilinogen is mostly excreted in the stool; a small portion is reabsorbed and excreted by the kidney. Bilirubin can be filtered by the kidney only in its conjugated form measured as the direct fraction thus increased direct serum bilirubin level is associated with bilirubinuria .(2)

The fetal liver is relatively inactive. the placenta and maternal liver metabolize the bilirubin from worn-out red blood cells. The fetus is capable of conjugating bilirubin in small amounts and when haemolysis occurs in utero (as in severe rhesus isoimmunization), bilirubin conjugation increases and high levels may be measured in the umbilical cord blood. (3)

Most of the daily bilirubin production comes from ageing red blood cells. The red cells are destroyed in the reticuloendothelial (RE) system and the haem is converted to unconjugated bilirubin One gram of haemoglobin will produce 600 μ mo(35mg) of unconjugated bilirubin. Twenty-five per cent of the daily

production of bilirubin comes from sources other than the red cells, tissue haem.(4)

The level of bilirubin usually peaks by the second to third day of life (10 to 12 mg) and begins to dissipate when the infant is 5 days old. There are several types of jaundice Physiological jaundice is the transient form that typically occurs after the first 24 to 48 hours of life and becomes visible when the total serum bilirubin level is greater than 5 to 7 mg/dL. Pathological jaundice occurs within the first 24 hours of life. The infant may exhibit a total serum bilirubin concentration (TSB) that increases by 0.5 mg/dL per hour or 5 mg/dL per day. The diagnosis is usually made when TSB concentrations climb to greater than 12.9 mg/dL in a term infant and greater than 15 mg/dL in a preterm infant. (5)

II. STATEMENT OF PROBLEM

Association between serum bilirubin and oxygen saturation for newborn in

Al -Zahra'a Teaching Hospital of Al- Najaf Governorate

The study aims :

1-To find out Association between serum bilirubin and oxygen saturation for newborn in Al -Zahraa teaching hospital governorate

Methodology: The setting of the study, the sample of the study, the study instrument, data collection, statistical data analysis and validity of the questionnaire.

Design of the study:

Setting of the study: The study was carried out in in Al-Zahra teaching Hospital in Al-Najaf al-Ashraf Governorate.

The sample of the study: Sample of study of (60) newborn were taken in Al-Zahra teaching Hospital male and female.

III. RESULTS:

Table (1): Distribution of the Study Sample by Their Socio-Demographic Characteristics

Variable	Items	Frequency	Percent
Day age	<= 7	41	68.3
	8 – 21	18	30.0
	22+	1	1.7
	Total	60	100.0
Gender	Male	33	55.0
	Female	27	45.0
	Total	60	100.0
Residences	Urban	45	75.0
	Rural	15	25.0
	Total	60	100.0
Education mother	Illiterate	8	13.3
	Read & write	13	21.7
	graduate primary school	24	40.0
	secondary school	8	13.3
	post graduate	7	11.7
	Total	60	100.0
Education father	Illiterate	7	11.7
	Read & write	8	13.3
	graduate primary school	17	28.3
	secondary school	16	26.7
	post graduate	12	20.0
	Total	60	100.0
Profession mother	Employee	8	13.3
	private sector	13	21.7
	Hose wife	24	40.0
	retied	8	13.3
	helpless	7	11.7
	Total	60	100.0
Profession father	Employee	15	25.0
	private sector	21	35.0
	helpless	24	40.0
	Total	60	100.0

This table shows that the percentage was for age (68.3%). This table shows that the majority of the study subjects have male (55%). This table shows that the majority of the study subjects haven't urban (75%). This table also reveals that frequency is a highly significant mainly at the fourth level of education (graduate primary school) for father education level (28.3%). whereas the mother education level was graduate primary school (40%), this table show is mother occupation was helpless (40%). While father their occupation was Private sector(40%).

Table2: Distribution of the Study overall assessment of serum bilirubin

Assessment	Items	Frequency	Percent
Overall Assessment	<= 10	15	25.0
	11 – 14	31	51.7
	15 – 18	13	21.7
	19+	1	1.7
	Total	60	100.0

This table shows the overall assessment of serum bilirubin the results have indicated that there have been high level for serum bilirubin (51.7%).

Table 3: Distribution of the Study overall assessment of oxygen saturation (symbol SO2)

Assessment	Items	Frequency	Percent
Overall Assessment	96-100	36	60.0
	91-95	17	28.3
	90 and lowest than	7	11.7
	Total	60	100.0

This table shows the overall assessment of oxygen saturation the results have indicated that there have been (60%).

Table 4 correlation between serum bilirubin with oxygen saturation SO2

Variables	Items	Oxygen saturation SO2			Total	p-value
		96-100	91-95	90 and lowest than		
serum bilirubin	<= 10	7	7	1	15	p-value .596 (NS)
	11 - 14	19	7	5	31	
	15 - 18	9	3	1	13	
	19+	1	0	0	1	
Total		36	17	7	60	

The results have indicated that there have been a non-significant differences at P>0.05.

IV. DISCUSSION

Throughout the course of the present study, the study results show that the mean of the sample gender, this table shows that the percentage was for male 55.0%. The study results indicate that the majority of the study subjects 75% urban Concerning the age, most of the study sample 68.3% under 7days (6).

The frequency is highly significant mainly at the fourth level of education (graduate primary school) for father education level . The mother education level was graduate primary school, no found any support with other studies, because no opportunity to complete study (7).

The overall assessment of oxygen saturation the results have indicated that there have

been (60%), disagree with other studies because is environment change. The results

have indicated that there have been a non-significant differences at $P>0.05$, no found supported with other studies or researcher therefore culture different In this study, the association between was not observed. Cohort studies examining the association of bilirubin with incidence of and mortality from cancer have resulted in conflicting findings(8).

V. CONCLUSIONS

According to the present study findings, the researcher can make the following conclusions:

The overall of serum bilirubin major under study is reduced. The overall assessment of oxygen saturation is slightly affected. The correlation between serum bilirubin with oxygen saturation SO₂ non- significant. There is effect of the demographic characteristics on the overall assessment.

VI. RECOMMENDATIONS

Based on the study conclusion, the study can recommend that:

1. In the future study association between breast milk and jaundice.
2. The demographics and correlates of serum bilirubin levels.

3. educational program about breast feeding.

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AUTHORS

First Author – Wameedh Hamid Shaker, Lecturer, University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch., wamithh.alzubeidi@uokufa.edu.iq

Second Author – Ahmed Burhan Abdulameer, University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch.

Third Author – Mansour Abdullah Falah, Lecturer, University of Kufa / faculty of Nursing / Head of pediatric Nursing Branch., mansura.alfatlawi@uokufa.edu.iq