

# Prevalence and Risk Factors of Retinopathy of Prematurity in Neonatal Intensive Care Units at Baghdad Medical City

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## Abstract

**Background:** Retinopathy of Prematurity (ROP) is a preventable cause of childhood blindness. The global incidence of ROP is increasing though the contributing factors differ between developed and developing countries.

**Objectives:** This study aimed to determine the prevalence of ROP and to identify associated risk factors among preterm neonates admitted to the neonatal intensive care units of three hospitals within the Baghdad Medical City complex.

**Methods:** A prospective study was conducted from January first 2019 to January first 2020 in the neonatal intensive care units (NICUs) of Medical City Hospitals in Baghdad: Children Welfare Teaching Hospital, Baghdad Teaching Hospital, and a Private Nursing Home. Inclusion criteria were gestational age (GA) <34 weeks and/or birth weight (BW) <2000g; unstable infants exceeding these criteria were also included. All eligible infants underwent retinal examinations by an ophthalmologist at 4-6 weeks of age using RetCam imaging.

**Results:** Eighty-nine infants were included. The mean GA was 31.1±1.9 weeks and mean BW was 1333.2±254.7 grams. The incidence of ROP was 20 (22.5%). A highly significant association was found between ROP and lower GA, lower BW, blood transfusion, intraventricular hemorrhage, mechanical ventilation, necrotizing enterocolitis, and sepsis. No significant association was found with gender or multiple pregnancy.

**Conclusions:** The prevalence of ROP was significant. Key risk factors were gestational age less than 32 weeks of gestation, birthweight less than 1250g, and clinical complications. The findings underscore the critical need for stringent ROP screening protocols and optimized neonatal care strategies including minimizing transfusions, enhancing infection control, and improving respiratory management, to reduce ROP-related morbidity.

**Keyword:** Retinopathy of Prematurity; ROP; Incidence; Risk factors; Medical City Center; Baghdad.

## Introduction

Retinopathy of Prematurity (ROP) is an important preventable cause of partial or complete loss of vision in prematurely-born infants. It is characterized by abnormal neovascular developments which are fragile and can leak or bleed, scarring the retina and pulling it out of position causing a fractional retinal detachment leading to visual impairment and blindness (1).

The global incidence of ROP is increasing (2), though the contributing factors differ between developed and developing countries. In developing nations, the rise may be attributed to delayed screening and a shortage of specialized ophthalmological centers, leading to cases among larger premature infants (3). Conversely, in developed countries, advances in neonatal care have improved survival rates among extremely low-birth-

weight infants ( $\leq 1000$  grams), subsequently resulting in a higher incidence of ROP within this vulnerable population (3).

Screening guidelines for ROP vary internationally but generally target infants based on gestational age (typically <30-32 weeks) and birth weight (typically <1500g), with initial examinations conducted by 31 weeks postmenstrual age or 4 weeks chronologic age using dilated indirect ophthalmoscopy (4).

In order to maintain the stability of the child, the inspection process necessitates the utilization of specialist technology and support personnel. Additionally, the infant will undergo regular screenings until the ROP regresses or therapy is required (5). The use of digital fundus photography as a screening tool has great utility when it is performed by ophthalmologists with competence. This methodology

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offers advantages in terms of documentation and picture evaluation. On the other hand, its effectiveness is significantly called into doubt when it is utilized by operators who have not received adequate training. This is due to the fact that there is contentious evidence demonstrating that non-ophthalmologists can reach the same diagnostic sensitivity as a competent specialist by utilizing the conventional approach (6, 7).

According to our best knowledge, the amount of research that has been conducted on the incidence and prevalence of ROP in Iraq is minimal. The bulk of the studies that have been conducted on this topic have originated from the ROP Screening Clinic at Al Zahraa Teaching Hospital in Al Najaf (8-10), and there is just one report that has been published recently from a hospital in Baghdad (11).

This prospective study was carried out at three large newborn intensive care units (NICUs) located within the Baghdad Medical City complex. These NICUs include the Children's Welfare Teaching Hospital, the Private Nursing Home, and the Baghdad Teaching Hospital. In order to generate epidemiological data that is both complete and representative for the entire medical city, the purpose of this study was to ascertain the prevalence of the associated risk.

#### Patients and Methods

From the first of January 2019 until the first of January 2020, this prospective descriptive study was carried out in the neonatal ophthalmology consultation clinic of the Children Welfare Teaching Hospital, which is located inside the Medical City Complex in Baghdad, Iraq. Participants in the study were newborns who were admitted to the neonatal intensive care units (NICUs) of the three institutions that took part in the research: Baghdad Teaching Hospital, Private Nursing Home, and Children Welfare Teaching Hospital.

The research was carried out in a manner that was in conformity with the ethical standards of the Children Welfare Teaching Hospital, and it was granted official clearance by the Scientific Council of Pediatrics of the Arab Board. A verbal informed permission was sought from the parent or guardian of each infant prior to enrollment in the program.

**Inclusion Criteria:** Neonates were included if they had a gestational age <34 weeks and/or birth weight <2000 grams. Selected cases that did not meet these criteria (with a duration of at least 34 weeks or a weight of at least 2000 grams) were also included in the study if they had an unstable clinical course that required prolonged respiratory assistance or circumstances that were life-threatening.

**Exclusion Criteria:** The following criteria were used to eliminate neonates from the study: they had congenital cataracts, they had died before adequate eye examinations could be performed, they were lost to follow-up, or they had insufficient clinical data.

**Screening Protocol:** A professional ophthalmologist from Gazi Al-Hariry Teaching Hospital in Baghdad assessed eligible neonates between four and six weeks after delivery as part of the screening protocol. Between the hours of 8:30 AM and 1:30 PM, examinations were carried out on a weekly basis. Phenylephrine 2.5% and tropicamide 0.5% were used to dilate the pupils of the patients, and exams were carried out with an indirect ophthalmoscope or RetCam, together with a speculum and a scleral depressor, in order to visualize the peripheral retina.

**Data Collection and Classification:** The findings were recorded on patient request forms and categorized in accordance with the criteria established by the International Committee for Classification of ROP (12). These criteria included the geographic location of the retina (zone) and the severity of the conditions. The criteria provided by the American Academy of Pediatrics (13), which were used to determine follow-up intervals (weekly or bi-weekly), were utilized. A referral was made to either the Ibn Al-Haitham or Gazi Al-Hariry Teaching Hospital for any infants who need medical attention.

Medical records were reviewed in order to obtain clinical and demographic information. This information included the patient's name, gestational age, gender, birth weight, number of pregnancies, and contact information. In addition, the specifics of the treatment plan were documented, including the type of respiratory support and the length of time it was administered, blood transfusions, intraventricular hemorrhage (which was identified through cranial ultrasound or CT), sepsis (which was proven by blood culture), and necrotizing enterocolitis (which was diagnosed clinically or radiologically).

**Follow-up:** The follow-up was carried either by direct interviews during clinic visits or through telephone consultations for those individuals who had a low attendance rate.

#### Statistical analysis

The Statistical Package for Social Sciences software for Windows, version 25 (IBM, Armonk, New York, United States) was utilized for statistical analysis. Frequencies and percentages were used for observational data presentation. The mean plus or minus the standard deviation (SD) is used to express continuous variables. The Chi-squared test or Fisher's exact test, depending on the indications, was utilized in order to compare the proportions of categorical variables across the various groups. The statistical significance of the results was determined by a *P*-value that was lower than 0.05.

#### Results

Due to inadequate data, loss to follow-up, or death, 67 patients (42.9%) of the total number of patients who were initially recruited for the trial, were not included

in the analysis. The final study consisted of 89 newborns, with a mean gestational age of 31.1 weeks,  $\pm 1.9$  weeks. A total of forty-one of these (46.1%) were delivered at or after the 32nd week of gestation. According to the information presented in Table 1, there was no discernible gender bias found. The average birth weight was  $1333.2 \pm 254.7$  grams, with three newborns (3.4%) weighing less than 1000 grams and twenty-four (27.0%) weighing between twelve hundred and twelve-four hundred and four grams.

It was typical for medical treatments to be administered; 35 infants (39.3%) had at least one blood transfusion,

with eight of these children (22.8%) requiring several transfusions. Sepsis was the most common morbidity, which was present in 45 (50.6%) of the infants; overall morbidity was evident in 52 (58.4%) of the children.

Other complications included intraventricular hemorrhage in 5 (5.6%) and necrotizing enterocolitis 2 (2.2%). Respiratory support was required for most infants, with 68 (76.4%) receiving continuous positive airway pressure (CPAP) and 21 (23.6%) requiring additional mechanical ventilation. These data are summarized in Table 1.

**Table 1. Patients' characteristics**

Variable	No.	%	
Sex	Male	45	50.6
	Female	44	49.4
Gestational age (week)	Mean $\pm$ SD (Range)	31.1 $\pm$ 1.9	(28-34)
	28-29	22	24.7
	30-31	26	29.2
	$\geq 32$	41	46.1
Birth-weight (gm)	Mean $\pm$ SD (Range)	1333.2 $\pm$ 254.7	(800-1950)
	<1000	3	3.4
	1000 -1249	24	27
	1250 -1499	35	39.3
	$\geq 1500$	27	30.3
Type of pregnancy	Single	65	73
	Multiple	24	27
Type of multiple pregnancy	Twin	21	87.5
	Triplet	1	4.2
	Quadruplet	2	8.3
History of blood transfusion	Yes	35	39.3
	No	54	60.7
Frequency of transfusion	1	27	77.1
	2	6	17.1
	4	2	5.7
History of morbidity	Present	52	58.4
	Intraventricular hemorrhage	5	5.6
	Necrotizing enterocolitis	2	2.2
	Sepsis	45	50.6
Bacteria isolated	Staph aureus	6	13.3
	Staph epidermis	2	4.4
	Klebsiella	9	20
	E coli	2	4.4
	Enterococci	2	4.4
	Listeria	1	2.2
	Cons	16	35.6
	Acinetobacter	7	15.6
Respiratory Therapy	CPAP	68	76.4
	Mechanical ventilator & CPAP	21	23.6

Abbreviations: continuous positive airway pressure, CPAP.

All 89 patients underwent ROP screening. Positive findings indicating ROP were present in 20 infants (22.5%), while 69 infants (77.5%) showed no signs of the disease. The specific findings for the 20 affected infants are detailed in Table 2. The most severe case involved one infant with bilateral zone 1, stage 3 ROP with plus disease.

Plus disease was also present in two other cases: one with bilateral zone 2, stage 3 and another with

asymmetric disease (right eye: zone 1, stage 3; left eye: zone 2, stage 2). The most common presentation was bilateral zone 2, stage 2 ROP, which was found in nine infants. Other findings included four infants with bilateral zone 2, stage 1; three infants with bilateral zone 3, stage 1; and one infant with bilateral zone 2, stage 2 with plus disease.

**Table 2. ROP screening and types**

ROP screening	Variable	No.	%
Type	NO	69	77.5
	Yes	20	22.5
	Rt & Lt Zone 1 stage 3+	1	
	Rt & Lt Zone 2 stage 1	4	
	Rt & Lt Zone 2 stage 2	9	
	Rt & Lt Zone 2 stage 2+	1	
	Rt & Lt Zone 2 stage 3+	1	
	Rt & Lt Zone 3 stage 1	3	
	Rt Zone 1 stage 3+ Lt Zone 2 stage 2+	1	

Abbreviations: Retinopathy of prematurity, ROP; Rt, right; Lt, left.

Factors that significantly associated with ROP were lower gestational age ( $P<0.001$ ), very low birth weight ( $P<0.001$ ), receiving blood transfusion ( $P<0.001$ ),

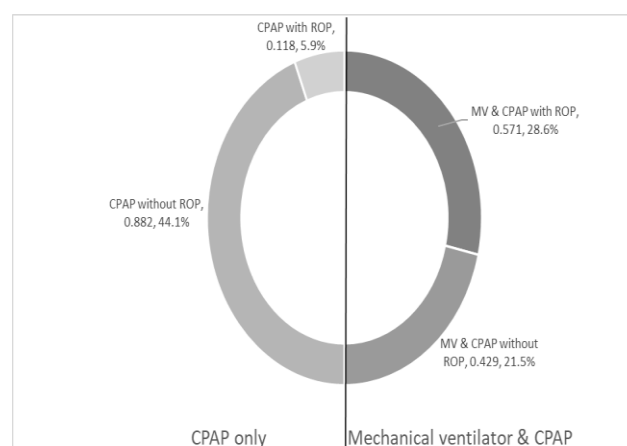
having intraventricular hemorrhage ( $P<0.001$ ), having necrotizing enterocolitis ( $P=0.008$ ), having sepsis ( $P=0.003$ ) (Table 3).

**Table 3. Association of ROP with different factors**

Variable		ROP (n=20)		NO ROP (n=69)		P value
		No	%	No	%	
Gestational age (week)	28-29	13	59.1	9	40.9	0.001*
	30-31	6	23.1	20	76.9	
	$\geq 32$	1	2.4	40	97.6	
Gender	Male	10	22.2	35	77.8	0.954
	Female	10	22.7	34	77.3	
Birthweight (gram)	<1000	3	100	-	-	0.001*
	1000-1249	10	41.7	14	58.3	
	1250-1499	5	14.3	30	85.7	
	$\geq 1500$	2	7.4	25	92.6	
Multiple pregnancy	Single	14	21.5	51	78.5	0.728
	Multiple	6	25	18	75	
Blood transfusion	Yes	15	42.9	20	57.1	0.001*
	No	5	9.3	49	90.7	
Intraventricular hemorrhage	Yes	5	100	-	-	0.001*
	No	15	17.9	69	82.1	
NEC	Yes	2	100	-	-	0.008*
	No	18	20.7	69	79.3	
Sepsis	Yes	16	35.6	29	64.4	0.003*
	No	4	9.1	40	90.9	
Respiratory Therapy	CPAP	8	11.8	60	88.2	0.001*
	Mechanical ventilator & CPAP	12	57.1	9	42.9	

Comparisons of the groups conducted with Chi-Squared or Fissure exact tests as appropriate. Abbreviations: Retinopathy of prematurity, ROP; necrotizing enterocolitis, NEC, continuous positive airway pressure, CPAP.

Respiratory support requirements were strongly correlated with ROP outcomes (Table 3). Mechanical ventilation demonstrated a particularly strong association, with 12 of 21 ventilated infants (57.1%) developing ROP compared to 8 of 68 infants (11.8%) on CPAP alone ( $P=0.001$ ). The odds ratio analysis confirmed that mechanically ventilated infants had ten times higher odds of developing ROP than those on CPAP (OR=10.0, 95% CI=3.2-31.2), as further illustrated in Figure 1.



**Figure 1** Relationship between respiratory support and development of retinopathy of prematurity. Abbreviations: Retinopathy of prematurity, ROP; MV, mechanical ventilator; continuous positive airway pressure, CPAP

## Discussion

According to the findings of this study, ROP continues to be a substantial morbidity of prematurity in the hospitals that were investigated. This is mostly due to factors that are associated with the quality and availability of specialist newborn care.

Among a group of 89 high-risk babies, we found that the incidence of ROP was 22.5%. This data is in line with the rates that have been reported in nearby regions, such as Iran (20.2%), Saudi Arabia (25.7%), and Turkey (19.1%) (14-16). The observed incidence is lower than that in Palestine, which is fifty percent (17), which may be a result of a high rate of preterm, inadequate neonatal critical care facilities, and a failure to screen children at four to six weeks in more sophisticated healthcare systems.

The inversed association between ROP and both gestational age and birth weight is well established, the current study's findings provide further evidence that this relationship exists. ROP was seen in all three infants weighing less than one thousand grams, highlighting the severe sensitivity of this particular group. This underscores the crucial need for improved neonatal intensive care resources (including thermoregulation, respiratory support, and nutrition) in order to boost survival rates and reduce morbidity rates in infants who were born with a very low birth weight. Given that 39.3 percent of newborns received blood transfusions, it was determined that blood transfusions were a significant risk factor. The replacement of fetal hemoglobin with adult hemoglobin, may be responsible for increase in the amount of oxygen that is exposed to the retina, and subsequently promotes vaso-proliferative alterations (18), which is consistent with the findings of earlier investigations.

Similarly, and in agreement with the findings of other studies (19, 20), our findings demonstrated that both necrotizing enterocolitis and intraventricular hemorrhage were significantly associated with ROP. This was a reflection of the systemic instability of premature infants as well as the compounding effects of prolonged respiratory support and surgical interventions.

Sepsis was found to be prevalent in fifty-six percent of the newborns who were examined, which is in line with research conducted in Egypt (21) and Turkey (20). Sepsis was found to be a significant risk factor for ROP in the current study. This is plausible from a biological standpoint since bacteremia can spread a systemic inflammatory response that affects the formation of retinal blood vessels, which in turn raises the risk of severe ROP. Emerging data suggests that infection-induced inflammatory angiogenesis may aggravate the vaso-proliferative phase of ROP (22). A significant contributor to septicemia in premature infants is the lack of proper infection control procedures in NICUs as a recent review has documented (23). The fact that this particular group has a high incidence of septicemia

highlights the importance of implementing tight infection control measures and enhancing the training of caregivers.

It was found that respiratory assistance, and more specifically, mechanical ventilation, had a significant association\_ ROP, which is in line with the findings of a number of worldwide research (14, 15, 20, 21). The fact that the risk is higher in infants who are mechanically ventilated as opposed to those who are on CPAP implies that oxygen delivery systems have a significant role in the etiology of ROP and should be carefully optimized.

## Limitations

The study was limited by sample size, which was mostly attributable to the high mortality rate among extremely preterm newborns (defined as those born with a birth weight of less than 1000 grams or a gestational age of less than 28 weeks) (24, 25). In addition, the absence of follow-up and intermittent attendance at outpatient clinics had an impact on the completeness of the data and may have contributed to the introduction of selection bias.

## Conclusions and Future Directions

The findings highlight the significance of doing targeted ROP screening for high-risk newborns, particularly those who were born before 32 weeks of gestation and weighed less than 1250 grams at birth. In order to decrease the need for transfusions, improve infection control, and maximize respiratory support, it is essential to implement strategies. Building up the infrastructure of neonatal care, which should include specialized units for infants born with exceptionally low birth weights, is essential in order to increase survival rates and reduce morbidity associated with ROP.

In order to validate these findings and investigate the long-term visual consequences, it is necessary to conduct future multicenter studies with greater numbers of participants. In settings with limited resources, quality improvement initiatives that concentrate on staff training, parental education, and evidence-based protocols for transfusion and respiratory treatment may be able to further reduce the incidence of ROP.

## Authors' declaration

We confirm that all the Figures and Tables in the manuscript belong to the current study. Authors sign on ethical consideration's Approval-Ethical Clearance: The project was approved by the local ethical committee in (Scientific Council of Pediatrics of the Arab Board) according to the code number (CTH110) on (8/ 10/ 2025).

**Conflict of Insert:** None

**Funding:** No specific grant from a public, private, or nonprofit funding organization was obtained for this study.

**Data availability:** Upon reasonable request, the corresponding author will make the data sets generated and/or analyzed during the current work available.

#### Authors' contributions

Study conception & design: (Ammar and Manal). Literature search: (Ammar). Data acquisition: (Ammar, Ali and Zaid). Data analysis & interpretation: (Ali and Ammar). Manuscript preparation: (Ammar, Ali, Zaid and Manal). Manuscript editing & review: (Ammar, Ali, Zaid and Manal).

#### References:

- Porteny JR, Scudder P, Darlow BA, et al. A scoping review of adverse visual outcomes among preterm infants without, versus those with, retinopathy of prematurity. *Surv Ophthalmol.* 2025. <https://doi.org/10.1016/j.survophthal.2025.11.009>.
- García H, Villasis-Keever MA, Zavala-Vargas G, et al. Global Prevalence and Severity of Retinopathy of Prematurity over the Last Four Decades (1985–2021): A Systematic Review and Meta-Analysis. *Archives of Medical Research.* 2024;55(2):102967. <https://doi.org/10.1016/j.arcmed.2024.102967>.
- Berrocal AM, Fan KC, Al-Kharsan H, et al. Retinopathy of Prematurity: Advances in the Screening and Treatment of Retinopathy of Prematurity Using a Single Center Approach. *Am J Ophthalmol.* 2022;233:189-215. <https://doi.org/10.1016/j.ajo.2021.07.016>.
- Aulakh S, Houtman AC, Rathod D, et al. The Royal College of Paediatrics and Child Health Retinopathy of Prematurity Screening Guidelines (2022): a series of treated infants falling outside the updated criteria. *Eye.* 2024;38(13):2557-60. <https://doi.org/10.1038/s41433-024-03076-3>
- Royal College of Paediatrics and Child Health. UK Screening of Retinopathy of Prematurity Guideline, March 2022, Revised October 2024. [https://www.rcpch.ac.uk/sites/default/files/2024-10/rop-screening-guideline-full-2022\\_updated-2024.pdf](https://www.rcpch.ac.uk/sites/default/files/2024-10/rop-screening-guideline-full-2022_updated-2024.pdf).
- Biten H, Redd TK, Moleta C, et al. Diagnostic Accuracy of Ophthalmoscopy vs Telemedicine in Examinations for Retinopathy of Prematurity. *JAMA Ophthalmol.* 2018;136(5):498-504. <https://doi.org/10.1001/jamaophthalmol.2018.0649>.
- Azad R, Manjunatha N, Deorari A. Retinopathy of prematurity screening by non-retinologists. *Indian journal of pediatrics.* 2006;73:515-8. <https://doi.org/10.1007/BF02759897>.
- Neamah GT, Al Nwaini MQ, Abd KA, et al. Retinopathy of prematurity, a two-year experience at the ROP screening unit from AL-Zahraa Teaching Hospital, AL-Najaf, Iraq. *J Med Life.* 2022;15(11):1431-6. <https://doi.org/10.25122/jml-2022-0060>.
- Abbas FM, Alnuwaini MQ. Retinopathy of prematurity: prevalence and severity at maternity and children hospital in Najaf province ,Iraq. *Journal of Population Therapeutics and Clinical Pharmacology.* 2023;30(2):91-100. <https://doi.org/10.47750/jptcp.2023.1071>.
- Mahmood NQ, Alameedy H, Almaroof SQ. The Incidence of Retinopathy of Prematurity at Al Zahraa Teaching Hospital at Al Najaf. *Diyala Journal of Medicine.* 2019;17(2):182-8. <https://doi.org/10.26505/DJM.17024960922>
- Abdulsahib AM, Mohammad NK, Aljanabi HA. Presentation of retinopathy of prematurity and associated risk factors in a referral center in Iraq. *Ophthalmology Journal.* 2023;8:107-17. <https://doi.org/10.5603/oj.95081>
- Maleki A, Sargazi M, Yousefian A, et al. Incidence and Risk Factors of Retinopathy of Prematurity in Southeastern Iran: A Retrospective Cohort Study. *Archives of Iranian Medicine.* 2024;27(12):660. <https://doi.org/10.34172/aim.31070>
- Alharbi MT, Almutairi AH, Alsaedi MG, et al. Incidence and risk factors of retinopathy of prematurity in Medina city, Saudi Arabia. *Medical Science.* 2023;27:e266ms3045. <https://doi.org/10.54905/disssi/v27i136/e266ms3045>
- Kizilay O, Karaca S, Oto BB, et al. Incidence of Retinopathy of Prematurity Between 2021 and 2024: Results from a Single Center. *Beyoglu Eye Journal.* 2025;10(3):142-8. <https://doi.org/10.14744/bej.2025.21549>
- Shehadeh W, Milhem F, Hajjeh O, et al. Incidence and risk factors of retinopathy of prematurity in Palestine: a retrospective cohort study, 2024. *BMC ophthalmology.* 2025;25(1):324. <https://doi.org/10.1186/s12886-025-04152-2>
- Prasad N, Dubey A, Kumar K, et al. Role of fetal hemoglobin in the development and progression of retinopathy of prematurity in preterm infants. *Indian J Ophthalmol.* 2023;71(11):3478-83. [https://doi.org/10.4103/ijo.Ijo\\_274\\_23](https://doi.org/10.4103/ijo.Ijo_274_23).
- Fundora JB, Binenbaum G, Tomlinson L, et al. Association of surgical necrotizing enterocolitis and its timing with retinopathy of prematurity. *American journal of perinatology.* 2023;40(11):1178-84. <https://doi.org/10.1055/s-0041-1733785>
- Bas AY, Demirel N, Koc E, et al. Incidence, risk factors and severity of retinopathy of prematurity in Turkey (TR-ROP study): a prospective, multicentre study in 69 neonatal intensive care units. *British journal of ophthalmology.* 2018;102(12):1711-6. <https://doi.org/10.1136/bjophthalmol-2017-311789>
- Savarino G, Carta M, Cimator M, et al. Necrotizing enterocolitis in the preterm: newborns

medical and nutritional Management in a Single-Center Study. *Ital J Pediatr.* 2021;47(1):226. <https://doi.org/10.1186/s13052-021-01180-8>.

20. Gaber R, Sorour OA, Sharaf AF, et al. Incidence and Risk Factors for Retinopathy of Prematurity (ROP) in Biggest Neonatal Intensive Care Unit in Itay Elbaroud City, Behera Province, Egypt. *Clinical Ophthalmology.* 2021;15:3467-71. <https://doi.org/10.2147/OPHTH.S324614>.

21. Feveiro-Martins M, Guimarães H, Marques-Neves C, et al. Retinopathy of prematurity:

contribution of inflammatory and genetic factors. *Molecular and Cellular Biochemistry.* 2022;477(6):1739-63. <https://doi.org/10.1007/s11010-022-04394-4>.

#### How to Cite this Article?

Khaleel AK, Khudhair AA, Jaafar ZM, Baythoon MB. Risk Factors of Retinopathy of Prematurity: A Study in The Hospitals of Medical City, Baghdad. *J Fac Med Baghdad [Internet]. Available from: <https://iqjmc.uobaghdad.edu.iq/index.php/19JFacMedBaghdad36/article/view/3214>*

## عوامل الخطورة لاعتلال الشبكية لدى الخُدج: دراسة في وحدات العناية المركزه لحديثي الولادة مستشفيات مدينة بغداد الطبية

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<sup>3</sup>مستشفى حماية الطفل التعليمي، مدينة الطب، وزارة الصحة، بغداد، العراق.

#### الخلاصة:

**خلفية البحث:** يُعد اعتلال الشبكية لدى الخُدج سبباً يمكن الوقاية منه للعمى في مرحلة الطفولة. الأهداف: هدفت هذه الدراسة إلى تقدير معدل انتشار اعتلال الشبكية لدى الخُدج وتحديد عوامل الخطورة لدى حديثي الولادة الخُدج. **المرضى وطرق العمل:** أجريت هذه الدراسة المستقبلية من كانون الثاني 2019 إلى كانون الثاني 2020 في وحدات العناية المركزه لحديثي الولادة في ثلاث مستشفيات في مدينة الطب ببغداد: مستشفى حماية الأطفال التعليمي، مستشفى بغداد التعليمي، ودار التمريض خاصة. شملت معايير الإدراج عمر الحمل أقل من 34 أسبوعاً و/أو وزن الولادة أقل من 2000 غرام؛ كما تم تضمين الرُضع غير المستقرين الذين تجاوزوا هذه المعايير. خضع جميع الرُضع المؤهلين لفحص شبكية العين في عمر 4-6 أسابيع باستخدام تقنية التصوير رتكام. **النتائج:** تم تضمين 89 رضيعاً. كان متوسط عمر الحمل 1.9±31.1 أسبوعاً، ومتوسط وزن الولادة 254.7±1333.2 غرام. بلغت نسبة الإصابة باعتلال الشبكية لدى الخُدج حوالي 20 (22.5%)، وُجد ارتباط معنوي عالي بين اعتلال الشبكية لدى الخُدج وكل من انخفاض عمر الحمل، انخفاض وزن الولادة، نقل الدم، النزيف داخل البطينات الدماغية، التهوية الميكانيكية، التهاب الأمعاء النخري، والإنتان. لم يُلاحظ ارتباط معنوي مع الجنس أو الحمل المتعدد. **الاستنتاجات:** كان معدل انتشار اعتلال الشبكية لدى الخُدج ملحوظاً. وتضمنت عوامل الخطورة الرئيسية الولادة المبكرة قبل 32 اسبوع، انخفاض وزن الولادة أقل من 1250غم، والمضاعفات السريرية. تؤكد النتائج على الحاجة الملحة إلى بروتوكولات صارمة لفحص اعتلال الشبكية لدى الخُدج واستراتيجيات رعاية حديثي الولادة المحسنة، بما في ذلك تقليل عمليات نقل الدم، تعزيز مكافحة العدوى، وتحسين إدارة الجهاز التنفسي، للحد من المراضة المرتبطة باعتلال الشبكية لدى الخُدج.

**الكلمات المفتاحية:** اعتلال الشبكية لدى الخُدج، معدل الانتشار، عوامل الخطورة، مدينة الطب، بغداد.