

Viral Ocular Diseases in Infants at Ibn_AlhathimAnd Al_hasan care Hospital**mohaemen Samir*¹, Shakir M. Lafta² and Duaa Abdulrida Raheem³**^(1,2,3) Department of Optics Techniques, Dijlah University College, Al-Masafi Street, Al-Dora, Baghdad, 00964, Iraq.Corresponding author E-mail(*) : mohaemen.samir@duc.edu.iq**Abstract**

To determine the prevalence of ocular illnesses in children and infants visiting the ophthalmology clinics at Al-Hasan and Ibn Al-Haitham Teaching Eye Hospitals. The Ibn Al-Haitham Teaching Eye Hospital and Al-Hasan hospital's ophthalmology department conducted this cross-sectional descriptive study from September 2021 to May 2022. 377 newborns, ranging in age from one day to one year, were enrolled in this study. They were chosen using a nonprobability sequential sampling procedure. Following the taking of medical history, a thorough eye examination was performed. Age's mean and standard deviation were determined using descriptive statistics. Frequencies for eye disorders were computed using percentages. Congenital and acquired disorders including congenital cataracts, conjunctivitis, glaucoma, nasolacrimal duct blockage, skin lesions, squint, and trauma are among the outcome variables. The average age of the 377 patients who visited the ophthalmology department was 6.9 months old. There were 202 men (53.6% of the total) and 175 women (46.4%). 347 full-term newborns, or 92.04 percent of the sample, were included. The most prevalent ocular condition was skin lesions, which affected 170 (45.1%) newborns out of the 218 (57.8%) infants with acquired diseases and 159 (42.2%) infants with congenital disorders. Preliminary findings from this study will advance knowledge of prevalent eye illnesses in Iraq. Congenital eye conditions were less common than acquired eye conditions. Skin lesions were the most common viral ocular pathology.

Keywords: *infants; newborn infants; diseases.***أمراض العين الفيروسية عند الرضع في ابن الهيثم ومستشفى رعاية الحسن****م.م. مهيمن سمير عارف¹، م.د. شاكر محمود لفتة² و م.م. دعاء عبدالرضا رحيم³****الخلاصة**

تحديد مدى انتشار أمراض العيون عند الأطفال والرضع الذين يزورون عيادات طب وجراحة العيون بمستشفى الحسن ومستشفى ابن الهيثم التعليمي للعيون. أجرى مستشفى ابن الهيثم التعليمي للعيون وقسم طب العيون بمستشفى الحسن هذه الدراسة المقطعية الوصفية من سبتمبر 2021 إلى مايو 2022. تم تسجيل 377 مولوداً حديثاً تتراوح أعمارهم من يوم إلى عام في هذه الدراسة. تم

اختيارهم باستخدام إجراء أخذ العينات التسلسلي غير الاحتمالي. بعد أخذ التاريخ الطبي ، تم إجراء فحص دقيق للعين. تم تحديد متوسط العمر والانحراف المعياري باستخدام الإحصاء الوصفي. تم حساب ترددات اضطرابات العين باستخدام النسب المئوية. تشمل الاضطرابات الخلقية والمكتسبة إعتام عدسة العين الخلقي ، والتهاب الملتحمة ، والزرق ، وانسداد القناة الأنفية الدمعية ، والآفات الجلدية ، والحوال ، والصدمات من بين متغيرات النتائج. كان متوسط عمر 377 مريضاً ممن زاروا قسم طب العيون 6.9 شهر. كان هناك 202 رجلاً (53.6٪ من المجموع) و 175 امرأة (46.4٪). تم تضمين 347 مولوداً كامل المدة ، أو 92.04 في المائة من العينة. كانت أكثر حالات العين انتشاراً هي الآفات الجلدية ، حيث أثرت على 170 (45.1٪) من حديثي الولادة من أصل 218 (57.8٪) من الأطفال المصابين بأمراض مكتسبة و 159 (42.2٪) من الأطفال المصابين باضطرابات خلقية. النتائج الأولية من هذه الدراسة سوف تعزز المعرفة بأمراض العيون السائدة في العراق. كانت حالات العين الخلقية أقل شيوعاً من حالات العين المكتسبة. كانت الآفات الجلدية هي أكثر أمراض العين الفيروسية شيوعاً.

الكلمات المفتاحية: اطفال , امراض , اطفال حديثي الولادة .

1. Introduction

Globally, a wide variety of stillbirths, infant deaths, and developmental impairments in early childhood are attributed to innate defects [1]. Calculations show that between 15 and 20 percent of children's cases of severe eye abnormalities and visual deformities worldwide are caused by congenital malformations [2]. Neonates need to go through an ocular examination just after delivery. The promotion of medical eye health among pediatricians and parents is aided by this assessment [3]. Early on after birth, the American Academy of Medicine advises red reflex testing [4] Around the age of three is when formal testing for the recognition of visual acuity normally starts. The inability to recognize and treat vision abnormalities in infants will have semi-permanent effects on the child's visual development as well as their sense of self-worth and ability to reach their full potential [5]. Older people and caregivers may not be aware of crucial information affecting visual development, while infants are unable to express their problems. The sensory system develops and binocular vision is developed throughout the first year of life, which could be a vital period. If a noticeable deficit at this age isn't addressed properly, it will lead to amblyopia and permanent visual impairment. As a result, early identification and timely treatment are crucial [6] The most prevalent eye illness affecting newborns worldwide is conjunctivitis [7]. It continues to be a serious drawback in developing nations. The lack of comprehensive prophylactic therapy to stop infections immediately after birth and inadequate maternal care are the main contributing factors in developing nations [8]. Up to 15% of blindness cases in industrialized countries and up to 60% of cases in middle-income countries are caused by retinopathy of prematurity (ROP) [9]. Indeed, there are few research on newborns younger than a year old. It is mostly unknown how often ocular abnormalities, both temporary and permanent, are. The prevalence of various acquired and non-inherited ocular illnesses in this region of the world

must be determined. In order to assess and implement innovative preventive methods of treating viral diseases in Iraq, our study examined the viral ocular diseases in babies scanned from Ibn-Al-Haitham and Alhassan hospitals.

2. Materials and Methods

A. The study

A study was conducted in the department of optical techniques at dijlah university –Baghdad – Dora. The study began in September 2021 and got approved in May 2022 for the scientific research committees of Dijlah University (approval no.139\382) and was completed by May 2022. By experimenting using Rasoft we calculated a sample size of 377 patient with a 95% confidence interval and 5% margin of error [10].

B. Materials and methods

A nonprobability sequential sampling strategy was used to include all newborns between the ages of one day and one year who were seen at a patient department of medicine or who were referred from the pediatrics and ophthalmology department. The study excluded babies who had previously been diagnosed and attended follow-up visits. The presenting complaint, birth history, and case history were all thoroughly recorded in the history. The examination of the youngster included a red reflex examination with a distant direct ophthalmoscope, pupil inquiry with a torch, and visual evaluation by fixating on and following a flashing light external review of the lids, ocular adnexa, and anterior segment. The red reflex of the anatomical structure was used to rule out leukocoria as a second beginning point in addition to nonheritable cataracts, chronically per-plastic primary vitreous, and retinal detachment. Once the pupil was dilated, indirect ophthalmoscopy was used whenever a fundus inspection was required. The designation typically supported clinical justifications. A few infants whose diagnoses couldn't be made by a straightforward torch examination were checked under anesthesia and treated appropriately. These kids were sent to an outpatient eye clinic for observation and treatment, including medicinal and surgical intervention. When necessary, infants were referred to the pediatric medicine department for a general examination. Information was gathered and examined using IBM SPSS Statistics version 21. (IBM Corp., Armonk, NY, USA). Age mean and standard deviation were calculated using descriptive statistics. On the side of per-percentages, frequencies or eye illnesses were evaluated. Different innate and acquired ocular disorders were included as outcome factors. Congenital cataracts, congenital glaucoma, congenital nasolacrimal duct blockage, squint, and primary optic atrophy were examples of inherent illnesses. Various anatomical

anomalies, corneal ulcers, trauma, style, and non-inheritable eye disorders were all considered forms of conjunctivitis.

3. Results

Patient ranged in age from 1 day to 12 months, with a mean of 6.972 months. 218 (57.8%) of the 377 newborns had acquired ocular disorders, whereas 159 had congenital diseases. of the 377 infants, 202 (53.6%) were males and 175 (46.4%) were females (42.2 %). (Ta3ble1)

Table (1): shows the demographics of newborns with eye diseases.

Statistics			
Age			
No.	Valid	377	
	Missing	0	
Mean		6.972	
Median		7.000	
Sum		2628.6	
Gender			
		Frequency	%
Valid	Female	175	46.4
	Male	202	53.6
	Total	377	100.0
Type of Disease			
		Frequency	%
Valid	Acquired	218	57.8
	Congenital	159	42.2
	Total	377	100.0

Results are displayed as the mean, standard deviation, or number (%).

Table (2): Ocular disease prevalence.

Diagnosis		
	Frequency	%
Skin lesion	170	45.1
Blocked nasolacrimal duct	61	16.2
Squint	48	12.7
Miscellaneous	31	8.2
Conjunctivitis	29	7.7
Trauma	15	4.0
Corneal ulcer	7	1.9
Ptosis	7	1.9
Retinopathy prematurity	4	1.1
Glaucoma	3	0.8
Cataract	2	0.5
Total	377	100

Numbers are used to representing values (%).

Skin lesion was the most prevalent eye condition. This happened in 170 (45.1%) infants, followed by 61 (16.2%) infants who had a congenital obstructed nasolacrimal duct. These results were attained by a thorough examination and history gathering from the parents due to a lack of advanced technology. a distinction between making a diagnosis for neonates who have trouble communicating their symptoms and those who can only be evaluated physically. Skin lesion was the most prevalent eye illness, and by collecting 50 samples The most prevalent skin lesion according to Table.3 for a comprehensive diagnosis was presumptive cellulitis 14 (28%) followed by styes 10 (20%) and other lesions including dermo lipoma 3 (6%), capillary hemangioma 3 (6%), and chalazion 3 (6%). (6 %). Present cellulitis is characterized as an inflammation of the tissue anterior to the orbital septum [14]. It is an easy diagnosis for newborns' skin due to various advantages in the dermatologic examination, including the fact that their skin is thinner, and less hair, sweat, and sebaceous gland secretion mostly [13]. Despite the fact that the majority of instances are prevalent during infant age, it is important to diagnose both temporary benign dermatoses and severe diseases in infants, establish early distinctions, and treat congenital skin abnormalities [13]. The red bump known as an eye stye is a localized infection. It is caused by blockage and inflammation of the sebaceous glands, whose

secretions aid in the formation of tears. All age groups are affected by this infection, which manifests in infants as painful eye inflammation and eyelid enlargement as well as redness [15,16]. Al-study Mansour's style was 57 (57%) in this study, compared to 10 (20%) in a study done for 100 patient at a technical medical institute. This difference did not match since most babies are unable to express ocular and visual disorders as adults can, and only after an examination [12,13,14,15,16,17]. Long-term follow-up is indicated for premature infants because they are more likely to develop refractive errors, strabismus, amblyopia, and poor vision [11].

This research has certain drawbacks. (1)-To understand the importance of any similar retinal hemorrhages on future ocular development and growth, an initial eye exam is planned with the need for long-term observation research. (2)-The prevalence of some severe illnesses, such as ROP, was lower than in earlier studies. Early diagnosis during the first year of life is ensured by proper detection techniques, allowing for laser or cryotherapy treatment [18]. (3)-While the financial, logistical, and people difficulties are much outside the purview of this study, they are crucial to the general discussion. The program is self-sustaining thanks to financial contributions from some families. (4)-There was a little amount of sample size.

Ocular disorders in infants and newborns vary depending on location. The demographic distribution of ocular disease occurrence is significantly influenced by climatic factors and a lack of treatment services [19].

Table (3): Skin disease prevalence for 50 samples taken from skin lesions.

Skin disease		Frequency	%
Valid	Preseptal cellulitis	14	28.0
	Styes	10	20.0
	Dermolipoma	3	6.0
	Capillary hemangioma	3	6.0
	Chalazion	3	6.0
	Periorbital abscess	3	6.0
	External angular dermoid cyst	3	6.0
	Port wine stain	3	6.0
	Upper lid coloboma	3	6.0
	Herpes simplex blepharitis	3	6.0
	Dacryocystocele	1	2.0
	Nevus of otta	1	2.0
	Total	50	100.0

Numbers are used to represent values (percent).

4. Conclusion

In a sample of babies from Al-Hasan and Ibn Al-Haitham hospitals, acquired eye disorders were more prevalent than congenital ocular diseases. Skin lesions were the most frequent pathology. Infants had more skin lesions than newborns did. The most frequent pathology in newborns was blocked nasolacrimal ducts.

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