

Knowledge, Attitude, and Practice Toward Eye Disorders Among Pediatricians in Turkey

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ABSTRACT

Purpose: Eye diseases during childhood may result in serious morbidities like visual impairment and blindness. Therefore, pediatricians' knowledge of childhood eye disorders is crucial for the prevention of irreversible outcomes. This study aims to evaluate the knowledge, attitude, and practice (KAP) of Turkish pediatricians regarding childhood eye diseases.

Materials and Methods: A cross-sectional survey was conducted to evaluate the KAPs of pediatricians about eye disorders. The survey included 56 questions consisting of four sections as follows; socio-demographic findings, knowledge, practice, and attitude of pediatricians, respectively. The open online survey was sent to the participants via a WhatsApp link by mobile smartphones and their responses were entered into SPSS version 20.0 software for analysis.

Results: A total of 362 pediatricians participated in the study. The knowledge levels of 262 responders (72.4%) were categorized as poor, 89 (26.5%) were moderate and 4 (1.1%) were good. Practices of the pediatricians about treatment and referral of eye diseases in children were moderate. The pupillary response was the most commonly performed test. Although their attitudes were positive, their practice was inadequate owing to barriers such as inadequate training, and unavailability of ophthalmic equipment.

Conclusion: This study indicated that most of the pediatricians were interested in improving both their knowledge and their practice in diagnosing and management of ophthalmic problems. The knowledge of pediatricians about eye disease may be strengthened by correct collaborations with an ophthalmologist and improving the pediatric curriculum regarding ophthalmological diseases may be beneficial.

Keywords: Knowledge, Attitude, Practice, Childhood blindness, Pediatrician.

INTRODUCTION

Eye disorders have a negative impact on many areas of children's growth including physical, intellectual, social, and emotional development.¹ In 2015, 1.14 million children worldwide were estimated to be blind and after cataracts, childhood blindness is the second leading cause of blindness worldwide.¹ Therefore, early diagnosis and prompt management of treatable sight or life-threatening ophthalmic disorders in children are crucial to avoid life-long visual impairment.²

The eye exam should be a routine part of the pediatric wellness evaluation, which should begin in the newborn period. Pediatricians have an essential role in the detection of both obvious and insidious eye diseases by routine vision assessment at well-child visits. The American Academy of Ophthalmology recommends starting screening from the

neonatal period by using inspection and red reflex testing to diagnose structural ocular problems, such as cataract, corneal opacity, and ptosis.³ Consequently, the pediatrician's knowledge, attitude, and practice (KAP) on causes of eye disorders play a central role in early diagnosis and proper referral to an ophthalmologist. According to previous studies, pediatricians reported that they omitted the routine eye examination due to insufficient time and knowledge. While several studies were conducted to evaluate KAPs of pediatricians about childhood ocular diseases in different countries⁴⁻⁷ no study has been conducted to date in our country. As Turkey is a country with a large population of children, detection of the inadequacies about eye diseases among pediatricians should provide to correct educational problems. Therefore, the present study aims to evaluate the KAPs of Turkish pediatricians regarding childhood ocular disorders.

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MATERIALS AND METHODS

We designed a cross-sectional survey to evaluate the KAPs of pediatricians about eye disorders. The open online survey was conducted using the Google Forms software (Google Forms, Albuquerque, New Mexico, USA) including anonymous questionnaires and a WhatsApp link was used to send the survey to the participants' mobile smartphones. WhatsApp groups consisting of pediatric residents and pediatricians of university hospitals and education and research hospitals were used. The link was available between 15th and 28th Feb 2022. A pre-test was performed to assess how the questionnaire functioned, how easy it was to understand, and if it could be finished in a reasonable timeframe. It is used on 10 people who are not part of the study. The overview of content and survey form was presented in a supplementary file. The targeted population consisted of pediatric consultants, specialists, and residents practicing in different parts of Turkey. The study protocol was approved by the Ethics Committee at Kocaeli University (GOKAEK-2022/03.13) and adhered to the principles of the Declaration of Helsinki.

The survey included 56 questions and was divided into four sections. The first section included an informed consent form and questions about socio-demographic data. The second and third sections evaluated the knowledge and practice of pediatricians, respectively. Open-ended questions were coded according to the emerging categories. Participants' knowledge and practice were categorized regarding Bloom's cut-off points into 'good' (> 80%), 'moderate' (60-80%), or 'poor' (< 60%).⁸ Finally, the fourth section included fifteen questions evaluating attitudes towards various eye disorders, and the sufficiency of ophthalmology training in medical school.

The sample size was calculated according to the following formula;

$$n = NZ^2P(1-P)/d^2(N-1) + Z^2P(1-P)$$

n = sample size with finite population correction

N = size of population = 5000 (according to Turkish Statistical Institute)

Z = statistic for 95% level of confidence = 1.96

P = 50%

d = margin of error = ± 5%

All statistical analyses were performed using SPSS for Windows v. 20.0 (IBM, Armonk, NY, United States) and Med Calc for Windows, version 19.2.0 (Med Calc Software, Ostend, Belgium). The Kolmogorov-Smirnov, and Shapiro-Wilk tests were used to assess the assumption

of normality. Numeric variables were presented as mean ± standard deviation. Categorical variables were summarized as counts (percentages). Binary logistic regression analysis was used to determine the factors affecting the outcome variable. P-value < 0.05 was considered statistically significant.

RESULTS

Socio-demographic features of participants

A total of 362 pediatricians participated in this study. The socio-demographic data of the participants were shown in Table 1. 76% (n = 275) of pediatricians were female and 24% (n = 87) were male with a mean age of 35.87 ± 7.05 years and the median was 35 (24-55) years. Their mean duration in pediatrics practice was 9.84 ± 7.47 years. Most of the participants were working in a public hospital (n = 339, 93.6%) (Table 1).

Knowledge of pediatricians about eye disorders in children

The knowledge of pediatricians about eye disorders in children was demonstrated in Supplementary Table 1. Most participants (n= 330, 91.2%) knew the signs of poor vision in children. "Refractive error" (n= 260, 71.8%) was the most commonly noted sign of poor vision in children. The large majority (n= 211, 58.3%) of respondents did not know the definition of blindness according to the World Health Organization (WHO).

Concerning causes of leukocoria in children, the majority reported retinoblastoma, also a smaller number of them reported cataract, retinal detachment, and ROP as a cause.

Table 1: Socio-demographic data of participants (n=362).

Data	Variables	n (%)
Sex	Female	275 (76%)
	Male	87 (24%)
Age (years)	25-34	157 (43.4%)
	35-44	159 (43.9%)
	≥45	46 (12.7%)
Duration of practice (years)	1 - 10	238 (65.7%)
	11 - 20	96 (26.5%)
	>21	28 (7.7%)
Type of practice	Government	339 (93.6%)
	Private	23 (6.4%)
Working status	Pediatric resident	149 (41.2%)
	Pediatrician	213 (58.8%)

85.1% (n = 308) of pediatricians knew that refractive error is correctable. Most of them reported that it can be corrected by glasses. Metabolic disorders and TORCH infection in children as causes of cataract-related systemic diseases were well understood.

Except for nine participants, all respondents had knowledge about ROP, the majority of them (n=353, 97.5%) were correct in stating that infants should be screened for ROP at 4-6 weeks of age. Knowledge about signs of congenital glaucoma was not good as other eye disorders. Regarding the causes of tearing in infants, 74.3% of the respondents indicated conjunctivitis, and 40.1% indicated nasolacrimal duct obstruction.

On the subject of retinoblastoma, leukocoria was noted by most of the respondents, while poor vision, squint, and proptosis were reported by a lower percentage (Supplementary Table 1).

Overall, as indicated in Supplementary Table 1, the majority of respondents' knowledge scores were below 60%, showing that the study population's overall level of knowledge was poor. According to bloom's cut off points, the knowledge levels of 262 responders (72.4%) were categorized as poor, 89 (26.5%) were moderate and 4 (1.1%) were good.

Practices of treatment and referral of pediatricians about childhood eye disorders in children

Practices of the pediatricians about treatment and referral of eye disorders in children are indicated in Supplementary Table 2. Of the 312 respondents performing eye examinations on children only 101 mentioned they perform routinely. Most of them evaluate pupillary

response (n=280, 77.3%) and motility (n=276, 76.2%), inadequate training was mentioned as the most common reason by those who do not. Examination findings that more than half of the participants thought to evaluate correctly are squint, ocular motility problems, pupillary reflex abnormalities, abnormal red retinal reflex, and macroscopically seen hypopyon or hyphema. Most of the responders felt inadequate to evaluate papilla, macula, and vascular structures by direct ophthalmoscope.

Concerning the question about children with red eyes, almost half (n=160, 44.2%) said an immediate referral for eye care. All the rest reported that they prescribe eye drops; more than half of them claimed that following eye-drop administration they refer the child immediately. Three (0.8%) mentioned referring to a pediatric rheumatologist. For children with a squint, the vast majority of respondents (n=311, 85.9%) mentioned they would refer immediately, while only 38 (10.5%) mentioned that they would refer if the squint did not improve after follow-up. When it comes to suspected retinoblastoma in children, most respondents (n=296, 81.8%) listed immediate referral, while 49 (13.5%) said they ordered a computerized tomography scan. Almost all of the respondents mentioned referring children with congenital cataracts, suspected congenital glaucoma, risk of ROP, or ophthalmia neonatorum to eye-care workers (Supplementary Table 2).

Attitudes of pediatricians towards eye disorders, and the sufficiency of ophthalmology training in medical school

Supplementary Table 3 shows the attitudes of pediatricians towards eye disorders, and the sufficiency of ophthalmology training in medical school. 70.2 % (n = 254) of pediatricians

Table 2: Univariate logistic regression assessing the association between satisfactory* knowledge on childhood eye diseases and socio-demographic factors.

Data	Variables	Knowledge (N=100)		OR (95% CI)	P
		N	n (%)		
Sex	Female	275	79 (28.7%)	1.00 (Ref)	
	Male	87	21 (24.1%)	0.789 (0.453-1.377)	0.405
Age (years)	≥45	46	13 (26.5%)	1.00 (Ref)	
	25-34	157	44 (28.0%)	0.988 (0.476-2.051)	0.975
	35-44	159	43 (27.0%)	0.941 (0.453-1.955)	0.870
Duration of practice (years)	>21	28	11 (39.2%)	1.00 (Ref)	
	1 - 10	238	67 (28.1%)	0.606 (0.270-1.360)	0.224
	11 - 20	96	22 (22.9%)	0.459 (0.188-1.125)	0.089
Type of practice	Private	23	6 (26.0%)	1.00 (Ref)	
	Government	339	94 (27.7%)	0.920 (0.352-2.204)	0.865
Working status	Pediatrician	213	62 (29.1%)	1.00 (Ref)	
	Pediatric resident	149	38 (25.5%)	0.834 (0.520-1.337)	0.451

*Satisfactory = Good + Moderate knowledge

Table 3: Univariate logistic regression assessing the association between the practice of eye examination and socio-demographic factors.

Data	Variables	Practice (N=312)		OR (95% CI)	p
		N	n (%)		
Sex	Female	275	230 (83.6%)	1.00 (Ref)	
	Male	87	82 (94.2%)	3.209 (1.231-8.361)	0.017
Age (years)	≥45	46	41 (89.1%)	1.00 (Ref)	
	25-34	157	142 (90.4%)	1.154 (0.396-3.366)	0.792
	35-44	159	129 (81.1%)	0.524 (0.191-1.440)	0.210
Duration of practice (years)	>21	28	23 (82.1%)	1.00 (Ref)	
	1 - 10	238	215 (90.3%)	2.032 (0.705-5.856)	0.189
	11 - 20	96	74 (77.0%)	0.731 (0.249-2.149)	0.569
Type of practice	Government	339	289 (85.2%)	N/A	
	Private	23	23 (100.0%)	N/A	
Working status	Pediatrician	213	182 (85.4%)	1.00 (Ref)	
	Pediatric resident	149	130 (87.2%)	1.165 (0.631-2.153)	0.625

mentioned that their training was not adequate to diagnose, manage and refer children with eye disorders. Almost all of the responders indicated that more attention should be given to improving the level of education of pediatricians on eye disorders, the use of ophthalmic medications, and basic diagnostic equipment such as visual acuity charts and fundoscopy (Supplementary Table 3).

According to univariate regression analysis, we could not find any association between the levels of knowledge and demographic features while the practice of eye examination varied according to gender. Males were more likely to perform eye examinations than females (Tables 2-3).

DISCUSSION

It is critical that pediatricians or primary care physicians adequately diagnose and treat common eye disorders in children. Some eye conditions could threaten sight or even life. The present study aimed to evaluate pediatricians' knowledge, attitude, and practice regarding childhood eye disorders in Turkey to better understand their involvement in preventing childhood blindness.

In this study, according to bloom's cut off points, the knowledge levels of 262 responders (72.4%) were categorized as poor similar to other studies.^{4,9} The majority of responders thought to have knowledge about signs of poor vision and ROP. However, in detail, most of them may list only one symptom of poor vision and a risk factor for ROP. Regassa et al.⁹ reported that approximately one-third of responders did not have knowledge about the WHO definition of blindness while in our study it was unknown to the vast majority of respondents. Although almost all respondents agreed to refer a child with leukocoria, immediately, only 27.4% of responders correctly answered

all the causes of leukocoria. Retinoblastoma (94.8%) was the most common response as a cause in concordance with Wanyama et al.⁴ and Regassa et al.⁹ studies. Furthermore, knowledge of systemic diseases associated with congenital cataracts was quite different from other studies. In the other studies, almost all participants noticed TORCH infection as a cause, while only about a quarter noticed metabolic diseases. However, in the present study, three-quarters of the participants mentioned metabolic disease and only half of them mentioned TORCH. Poor knowledge about the presenting signs of congenital glaucoma was indicated by as many as 55.5% of the respondents correspondingly other studies.^{4,9} Many factors may influence the different levels of knowledge. For instance, some symptoms such as red-eye, strabismus, and tearing are more frequently observed in clinical practice. Therefore, pediatricians may have opportunities to improve themselves on these issues. Supporting this hypothesis, the majority of respondents answered at least one correct cause or symptom of red-eye, strabismus, and tearing. Furthermore, the rotation of specific divisions may raise their awareness. According to the pediatric curriculum, a pediatrician may have the opportunity to learn about the specific eye symptoms of many diseases such as retinoblastoma in oncology rotation, cataract in metabolism rotation, ophthalmia neonatorum, or ROP in newborn rotation. The difference in knowledge level between disorders may depend on that the pediatric curriculum does not cover all of the ocular disorders. The sociodemographic features may influence the knowledge level of participants. However, similar to Wanyama et al.⁴ study, we could not find any association between the levels of knowledge and demographic features.

In clinical practice, almost half of responders reported that they perform eye examination when they saw an

eye problem while only a quarter of the responders said that they performed eye examination as a routine part of every child's visit. In contrast to other studies, the most frequently performed test was pupillary response testing. In the other two studies, responders reported that visual acuity was the most commonly performed test.^{4,9} Turkey is a country with a large young population. Therefore, pediatricians are dealing with a huge number of patients. Lack of time or unavailability of visual acuity charts may be the reason. Interestingly, Ababneh et al.⁵ reported 60.4% of the respondents performed a red reflex evaluation. However, in the present study, only 10.2% of respondents mentioned that they performed a red reflex evaluation.

Most causes of childhood blindness may be prevented by timely and accurate diagnosis and management. In the current study, the majority of the pediatricians' attitude towards the management of pediatric eye disorders was positive similar to other studies.^{4,9} Although most of the respondents agreed that childhood blindness is not a public health problem in Turkey, actually 1.4 million blind children are found in the world and most of them live in developing countries.¹ Most of the responders disagreed that eye exams in children should be performed only when the caregiver complains and they agreed that pediatricians could do eye examinations in children. However, they disagreed that their training is sufficient to diagnose, manage and refer children with eye disorders.

In the present study, most of the responders were pediatricians ($n = 213$, 58.8%) and they believed the importance of enhancing the level of education on ophthalmic disorders, the use of ophthalmic medications, and basic diagnostic equipment such as visual acuity charts and fundoscopy. Medical education requires constant self-renewal. However, post-graduate education is personal dependent and may vary for each clinician. Therefore, we believe organizing awareness-raising courses at regular intervals including may help to update the knowledge of health professionals. Continuing medical education and correct collaborations with an ophthalmologist will probably help in improving knowledge.

There are certain limitations of our study. First, closed-ended questions could cause a high rate of false positivity. Second, the obtained data might not include all known answers to open-ended questions due to boredom. Third,

there were very few studies to compare our findings. Despite all limitations, this is the first study based on a KAP survey regarding eye problems among Turkish pediatricians.

In conclusion, the outcomes of this study indicated that most of the pediatricians were interested in improving both their knowledge and their practice in diagnosing and management of ophthalmic problems. Therefore, we believed that it would be beneficial to strengthen the pediatric curriculum in terms of the signs and symptoms of ophthalmological diseases.

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Supplementary Table 1: Knowledge of pediatricians about eye diseases in children.

Knowledge	Variables	n (%)
Do you know any sign of poor vision in a child?	Yes	330 (91.2%)
	No	32 (8.8%)
What are the signs of poor vision in a child?	Poor school performance	35 (9.7%)
	Nystagmus	10 (2.8%)
	Frequent eye rubbing or blinking	260 (71.8%)
	Head tilted to one side	74 (20.4%)
	Red eye	34 (9.4 %)
	Don't know	31 (8.6 %)
Knowledge of WHO definition of blindness	VA < 6/60, but ≥3/60	24 (6.6%)
	VA < 3/60	96 (26.5%)
	If no perception of light (NPL)	31 (8.6%)
	Don't know	211 (58.3%)
Knowledge of causes of leukocoria in children	Retinoblastoma	343 (94.8%)
	Cataract	305 (84.3%)
	Retinopathy of prematurity	163 (45%)
	Retinal detachment	100 (27.6%)
	Don't know	9 (2.5%)
When to refer a child with leukocoria?	Immediately	352 (97.2%)
	Don't know	10 (2.8%)
Is refractive error correctable?	Yes	308 (85.1%)
	No	9 (2.5%)
	Don't know	45 (12.4%)
Ways of refractive error correction	Spectacle	293 (80.9%)
	Contact lens	161 (44.5%)
	Surgery	130 (35.9%)
	Don't know	59 (16.3%)
Systemic diseases in children associated with congenital cataracts	TORCH syndrome	184 (50.8%)
	Metabolic disorders	265 (73.2%)
	Don't know	47 (13.0%)
Do you know about retinopathy of prematurity?	Yes	353 (97.5%)
	No	9 (2.5%)
Knowledge of risk factors for retinopathy of prematurity	Preterm baby	340 (93.9%)
	Sick baby requiring oxygen	44 (12.2%)
	Weight less than 1500gm	8 (2.2%)
	Don't know	4 (1.1%)
What is the age to screen for retinopathy of prematurity?	4-6 weeks of age	353 (97.5%)
	When the caregiver request	5 (1.4%)
	Don't know	4 (1.1%)
Is ROP treatable?	Yes	340 (93.9%)
	No	9 (2.5%)
	Don't know	13 (3.6%)
Knowledge about presenting signs of congenital glaucoma	Buphtalmus	100 (27.6%)
	Photophobia	75 (20.7%)
	Lacration	71 (19.6%)
	Red eye	34 (9.4%)
	Don't know	201 (55.5%)
Is congenital glaucoma treatable?	Yes	260 (71.8%)
	No	10 (2.8%)
	Don't know	92 (25.4%)
Knowledge about definition of Squint/strabismus	Deviated eye/ misdirected eye/cross eyes/strabismus	181 (50%)
	Uncoordinated eye movement	9 (2.5%)
	Amblyopia	17 (4.7%)
	Don't know	155 (42.8%)
Is a squint treatable?	Yes	357 (98.6%)
	Don't know	5 (1.4%)
Knowledge about complication of squint in children	Lazy eye/amblyopia	329 (90.9%)
	Loss of depth perception	333 (92.0%)
	Social stigma	315 (87.0%)
Knowledge about causes of tearing in infant	Conjunctivitis	269 (74.3%)
	Nasolacrimal duct obstruction	145 (40.1%)
	Foreign body	44 (12.2%)
	Congenital glaucoma	67 (18.5%)
	Trauma	5 (1.4%)
	Don't know	43 (11.9%)
Knowledge about painful red eye in children	Trauma	60 (16.6%)
	Infection	242 (66.9%)
	Uveitis/iritis	126 (34.8%)
	Congenital glaucoma	79 (21.8%)
	Foreign body	41 (11.3%)
	Allergy	19 (5.2%)
	Don't know	56 (15.5%)
Knowledge about presenting signs of retinoblastoma	Leukocoria	285 (77.8%)
	Proptosis	22 (6.1%)
	Squint	22 (6.1%)
	Poor vision	32 (8.8%)
	Don't know	64 (17.7%)
Is retinoblastoma curable?	Yes	340 (93.9%)
	No	14 (3.9%)
	Don't know	8 (2.2%)
Knowledge about definition of ophthalmia neonatorum	Ocular infection in neonates	171 (47.2%)
	Eye diseases in neonates	4 (1.1%)
	Don't know	187 (51.7%)
Is ophthalmia neonatorum preventable?	Yes	214 (59.1%)
	No	10 (2.8%)
	Don't know	138 (38.1%)

Supplementary Table 2: Practices of treatment and referral of eye diseases in children.

Practice	Variable	n (%)
Do you do eye examinations on children?	Yes	312 (86.2%)
	No	50 (13.8%)
How frequently do you perform?	At every visit	101 (27.9%)
	When caregiver reports child has an eye problem	29 (8.0%)
	When I see eye problem	165 (45.6%)
	Only in neonates	17 (4.7%)
Which tests do you do usually?	Visual acuity	77 (21.3%)
	Pupillary response	280 (77.3%)
	Fundus examination	38 (10.5%)
	Motility	276 (76.2%)
	Red reflex	37 (10.2%)
What is/are reasons not to do eye examination?	Not adequately trained	47 (13.0%)
	Not my responsibility	13 (3.6%)
Examination findings thought to be evaluated correctly	Low vision signs	119 (32.9%)
	Squint	285 (78.7%)
	Ocular motility problems	317 (87.6%)
	Pupillary reflex abnormalities	302 (83.4%)
	Conjunctival foreign body	131 (36.2%)
	Abnormal red retinal reflex	215 (59.4%)
	Macroscopically seen hypopyon or hyphema	216 (59.7%)
	Evaluation of papilla, macula and vascular structures by direct ophthalmoscope	21 (5.8%)
How do you manage children with red eyes?	Refer immediately to eye-care worker	160 (44.2%)
	Give eye drops	10 (2.8%)
	Give eye drops and refer immediately to eye-care worker	119 (32.9%)
	Give eye drops and refer if no improvement.	65 (18.0%)
	Refer to pediatric rheumatology specialist	3 (0.8%)
	Don't know	5 (1.4%)
What do you do for a child with squints?	Refer immediately to eye-care worker	311 (85.9%)
	Follow up and refer if it doesn't resolve	38 (10.5%)
	Don't know	13 (3.6%)
What do you do for the child you suspect retinoblastoma?	Immediately refer to an ophthalmologist	296 (81.8%)
	Order MRI-scan and refer to pediatric oncology specialist	5 (1.4%)
	Order CT-scan	49 (13.5%)
	Don't know	12 (3.3%)
What do you do for a child with a congenital cataract?	Immediately refer to an ophthalmologist	331 (91.4%)
	Observation	4 (1.1%)
	Immediately refer to an ophthalmologist and simultaneously order metabolic and infectious markers	13 (3.6%)
	Give eye drop and follows	5 (1.4%)
	Don't know	4 (1.1%)
What do you do with the child you might suspect congenital glaucoma?	Refer to eye-care worker immediately	349 (96.4%)
	Give eye drops and follow	5 (1.4%)
	Don't know	8 (2.2%)
What do you do with children who you suspect might be at risk of ROP?	Refer to eye-care worker immediately	355 (98.1%)
	Order ROP examination after 4 weeks	3 (0.8%)
	Observation	4 (1.1%)
What do you do for a child with congenital tearing?	Immediately refer to eye-care worker	216 (59.7%)
	Give eye drop and send home	18 (5.0%)
	Observation	60 (16.6%)
	Reassure the family	28 (7.7%)
	Recommend lacrimal massage and refer if no improvement.	18 (5.0%)
	Recommend lacrimal massage and refer immediately to eye-care worker	13 (3.6%)
	Don't know	9 (2.5%)
How do you manage children with ophthalmia neonatorum?	Refer immediately to eye-care worker	99 (27.3%)
	Give eye drops	34 (9.4%)
	Give eye drops and refer to eye-care worker	78 (21.5%)
	Give eye drops and refer if no improvement.	80 (22.1%)
	Don't know	71 (19.6%)

Supplementary Table 3: Attitudes towards eye diseases, and the adequacy of ophthalmology training in medical school. (agree or disagree)	
Variable	n (%)
Eye exams in children should be done only when the caregiver complains.	
Agree	18 (5.0%)
Disagree	339 (93.6%)
Eye exams in children can only be done by an eye care worker.	
Agree	42 (11.6%)
Disagree	315 (87.0%)
Children with white pupil reflex should be reviewed by an eye care worker.	
Agree	347 (95.9%)
Disagree	10 (2.8%)
You can adequately inform caregivers on the consequences of squints in children.	
Agree	145 (40.1%)
Disagree	212 (58.6%)
Children can use spectacles effectively.	
Agree	271 (74.9%)
Disagree	86 (23.8%)
Congenital glaucoma is an important issue in your pediatric practice.	
Agree	255 (70.4%)
Disagree	93 (25.7%)
Your training adequately equips you to diagnose manage and refer children with eye diseases.	
Agree	103 (28.5%)
Disagree	254 (70.2%)
Children with cataracts require a thorough systemic evaluation by the pediatrician.	
Agree	352 (97.2%)
Disagree	0 (0%)
Routine eye examination by a pediatrician could help in the early detection of retinoblastoma	
Agree	339 (93.6%)
Disagree	13 (3.6%)
Retinopathy of prematurity is a big problem in your practice.	
Agree	299 (82.6%)
Disagree	52 (14.4%)
Good antenatal and immediate postnatal care can help reduce the burden of ophthalmia neonatorum.	
Agree	340 (93.9%)
Disagree	0 (0%)
More attention should be given to improve the level of education of pediatricians on eye diseases, the use of ophthalmic medications, and basic diagnostic equipment such as visual acuity charts and fundoscopy.	
Agree	342 (94.5%)
Disagree	10 (2.8%)
Pediatricians can play a significant role in the prevention of childhood blindness.	
Agree	352 (97.2%)
Disagree	0 (0%)
Childhood blindness is not a public health problem in Turkey.	
Agree	63 (17.4%)
Disagree	285 (78.7%)
All preterm and low birth weight admitted to NICU needs screening for ROP.	
Agree	327 (90.3%)
Disagree	25 (6.9%)