

Parents' Perceptions about Amblyopia, its Causes, Symptoms, Risk Factors, Treatment Options, and the Importance of Follow-up, and to Evaluate their Awareness Regarding the Consequences and Critical Complications

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ABSTRACT

Objective: The aim of this study is to assess parents' perceptions about amblyopia, its causes, symptoms, risk factors, treatment options, and the importance of follow-up, and to evaluate their awareness regarding the consequences and critical complications.

Design: Cross sectional

Methods: In this cross - sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to amblyopia. Questionnaire was constructed after the series of discussions between the panel of experts this panel composed of from subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated .The study was conducted in the Aseer region of Saudi Arabia.

Results: Fifty-two (52.0%) have opted that amblyopia is the decreased vision in one eye due to brain ignoring unclear image transmitted by the affected (lazy) eye and favoring the healthy. 19.% opted laser therapy, 17.0% opted cover the health eye and treat the underlying causes while 10.0% believed that surgery are the sources of treatment.

Conclusion: More public campaigns, awareness days, and media commercials could help parents become more aware of the illness. To boost the children's treatment compliance, eye care experts should be more involved, and additional activities should be taken at the family level.

Keywords: Amblyopia, Visual acuity, Hyperopia, Anisometropia

INTRODUCTION

Amblyopia is the unilateral, or rarely bilateral, decrease in best corrected visual acuity (VA) caused by form vision deprivation and/or abnormal binocular interaction, for which there is no identifiable pathology of the eye or visual pathway treatment and prevention of amblyopia is only effective during childhood¹. Amblyopia is a reasonably prevalent condition that affects 1% to 2% of the population in most developed countries. Amblyopia is the loss of eyesight caused by aberrant visual inputs during a vital time of visual development, either unilaterally or bilaterally. Amblyopia is described as unilateral or bilateral visual loss with no ocular pathology, and it is the most common cause of visual impairment in children and adults. Amblyopia is quite frequent in children, with prevalence rates ranging from 0.2 percent to 6.2 percent worldwide²⁻⁵. There are two types of risk factors in amblyopia: ocular and non-ocular risk factors. It's linked to strabismus, anisometropia, and refractive error. In 2020, one-third of the population will suffer from myopia, hyperopia, astigmatism, or amblyopia. Hyperopia affects 5.8-11.6 percent of the population in the United States, Western Europe, and Australia, while myopia affects 16.4-26.6 percent. Amblyopia can develop between the ages of 4 months and 8 years²; if not treated before the development of

central vision, treatment efficacy is limited after that age. Amblyopia is usually a monocular problem, but it can also be a binocular one⁶⁻⁹. Deprivation, anisometropia, and strabismus are the most common causes of monocular amblyopia. A full ophthalmological examination is required to diagnose amblyopia. Medical treatment is difficult to come by in some places of the world¹⁰⁻¹².

In population-based studies conducted in the United States, Australia, Taiwan, and Singapore, the prevalence of amblyopia in preschool children was previously found to range from 0.8 percent to 2.6 percent. In Saudi Arabia, the prevalence of amblyopia varies by region: 2.6 percent in Riyadh, 42.9% in Qassim province, 43.3% in Jeddah², and 1.9 percent in Abha⁹.

Amblyopia is the most common cause of monocular visual loss in children. Also referred to as lazy eye in popular terms. The aim of this study is to assess parents' perceptions about amblyopia, its causes, symptoms, risk factors, treatment options, and the importance of follow-up, and to evaluate their awareness regarding the consequences and critical complications.

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METHODS

In this cross-sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to amblyopia. Questionnaire was constructed after the series of discussions between the panel of experts this panel composed of from subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in the Aseer region of Saudi Arabia.

After collection of data, data was coded and entered in the SPSS version.20 software for analyses descriptive statistics (mean standard deviation, frequencies and percentages were computed), Data was collected from the parents of the school going students. Ethical approval was obtained from King Khalid university, Saudi Arabia. The study duration was from January-2021 to April-2021.

RESULTS

Cronbach alpha was 0.78, the mean (S.D) of the age was 45.2(12.8) 48.0% were male while 52.% were females 62.0% of the respondents have university level of education, 49.0% have government jobs.88.0% were married. 72.0% have chronic diseases. 32.0% have diabetic while 23.0% have HTN. 41.0% have 4 or more siblings (Table 1).

52.0% have opted that amblyopia is the decreased vision in one eye due to brain ignoring unclear image transmitted by the affected (lazy) eye, and favoring the healthy (Figure 1).

(Figure 2) depicted that 16.0% have opinion that squint is a cause of amblyopia while 12.0% considering genetic issues.

(Figure 3) 21.0% believed that 1st degree relative family history is the major risk, while 19.0%believed that it is transmitted from parents.

Figure 4 shows 31% believed that permanent and irreversible vision loss in the effected eyes.

Figure 5 43.0% have believed that poor eye vision while 14.0% believed that eye deviations are the major symptoms.

Figure 6 19.0% opted laser therapy, 17.0% opted cover the health eye and treat the underlying causes while 10.0% believed that surgery are the sources of treatment.

Figure 7 35.0% considered ophthalmologists, 17.0% consider social media while 16.0% consider internet are the major sources of information.

As per (Table 2), 54.0% agreed that child age have effect on treatment, 37.0% consider it as a hereditary diseases, 37.0% opted we should visit ophthalmologist after complain of child.68.0% believed that can be cured child compiles with the treatment. 92% believed that should visit eye clinic.35% once in 3 months should go eye clinic. 75% believed that government should aware the people regarding the Amblyopia.

Table 1: Percentage of Cronbach alpha

Parameter	Category	Frequency	Percentage
Gender	Male	169	48%
	Female	186	52%
Ageinyears	18-25	57	16%
	26-30	42	12%
	31-40	126	35%
	41-50	88	25%
	51 and above	42	12%
Educational level	Middle school and below	37	10%
	High school	72	20%
	University stage	220	62%
	Post graduate stage	26	7%
Employmentstatus	An employee in the government sector	175	49%
	An employee in the private sector	38	11%
	student	13	4%
	retired	54	15%
	Not employed	57	16%
Marital Status	Other	18	5%
	Widow	16	5%
	Married	312	88%
Suffering from chronic diseases	Divorced	27	8%
	No	256	72%
Diseases	Yes	99	28%
	diabetic		32%
	Hypertension		23%
	Chronic diseases of the respiratory system: such as asthma		10%
	Heart disease		6%
	cancer		5%
	Obesity		13%
	Autoimmune diseases		5%
	Other		7%
	Howmanysons/ daughters	1	42
2		87	25%
3		81	23%
4ormore		145	41%

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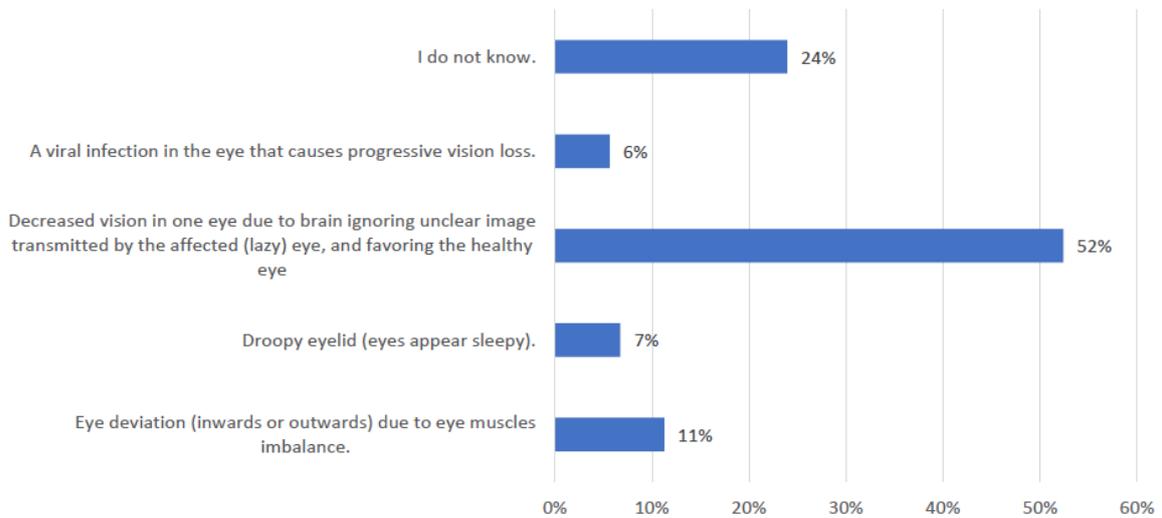


Figure 1: Knowledge and Amblyopia

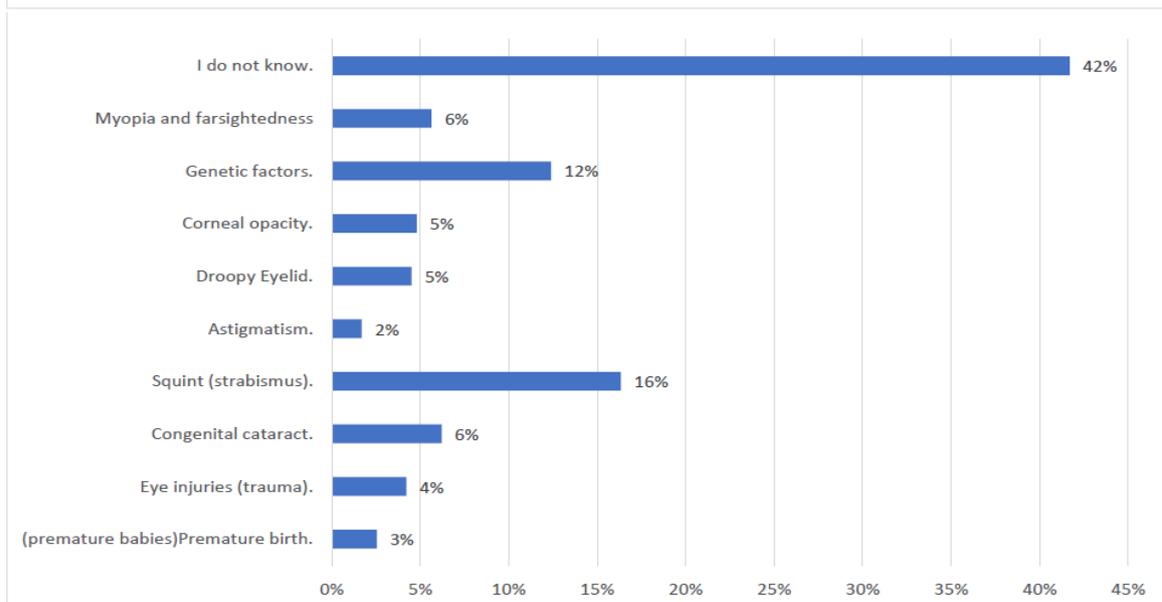
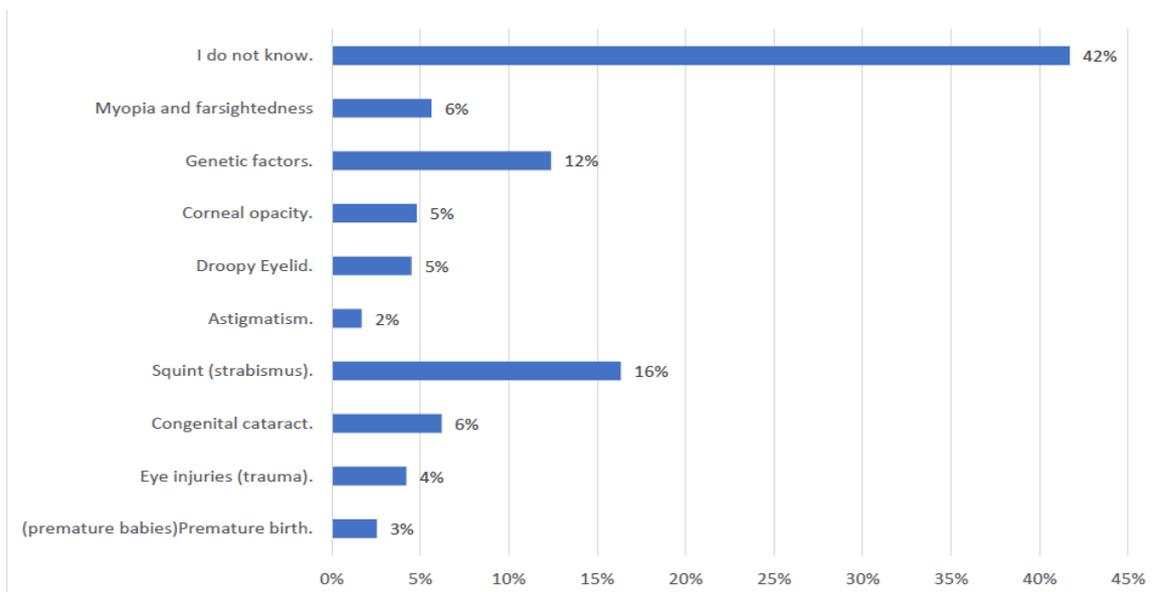


Figure 2: Causes of Amblyopia

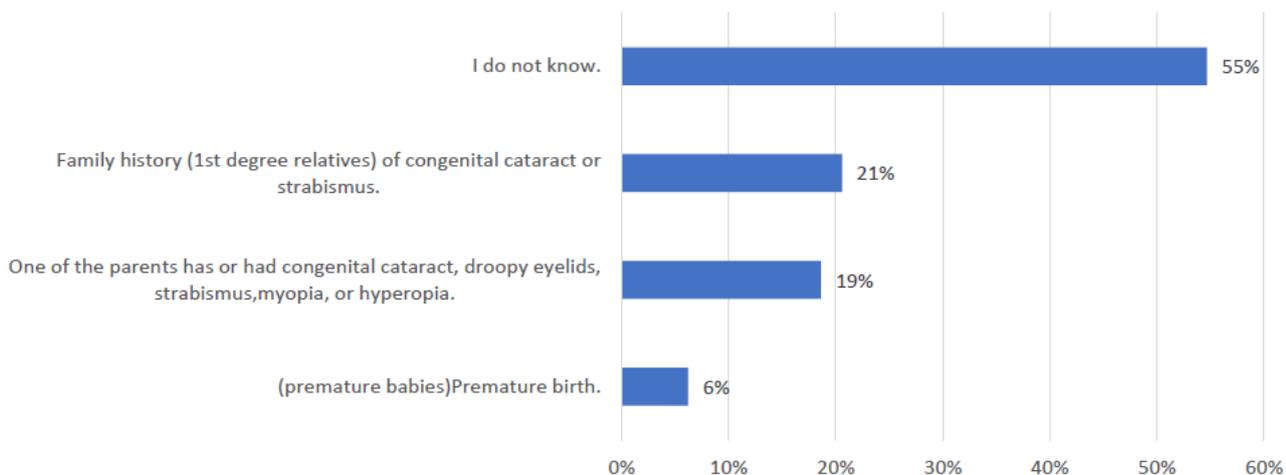


Figure 3: Risk factors for a child to develop amblyopia

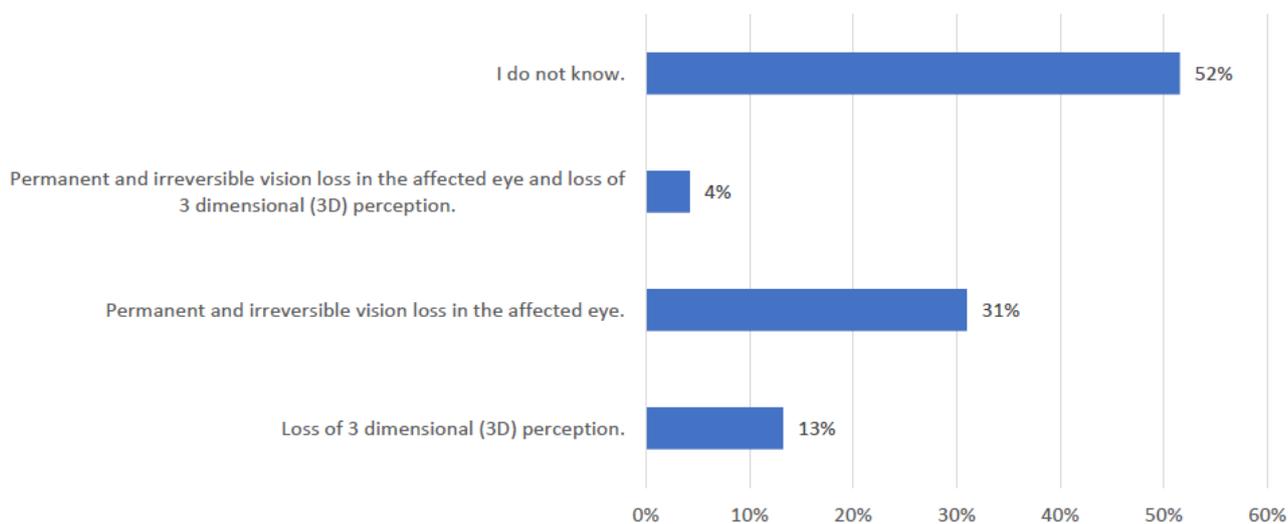


Figure 4: Complications of not treating amblyopia

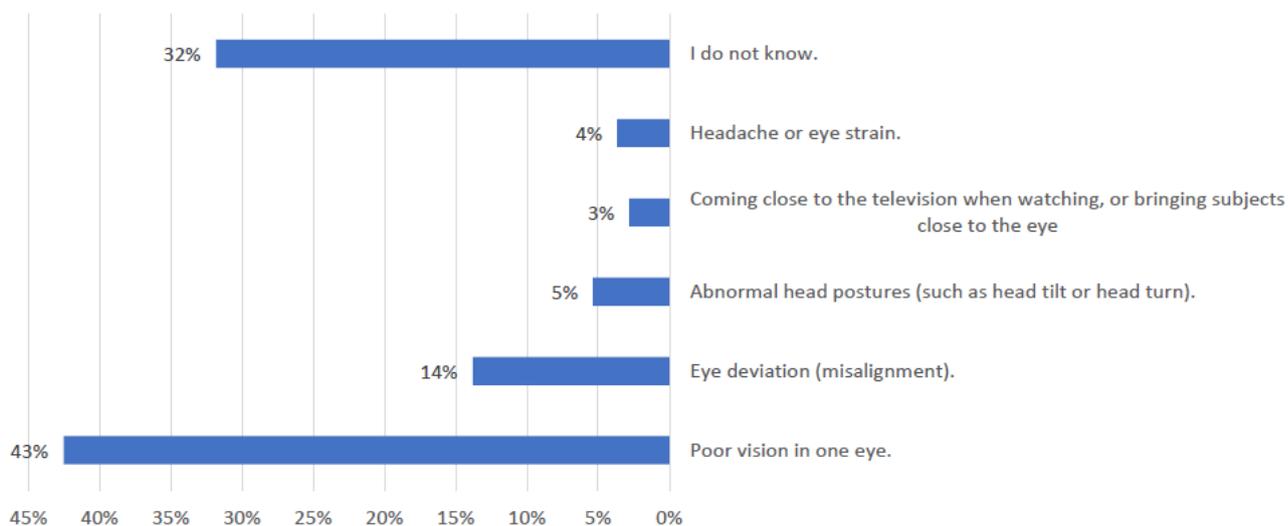


Figure 5: Symptoms of amblyopia

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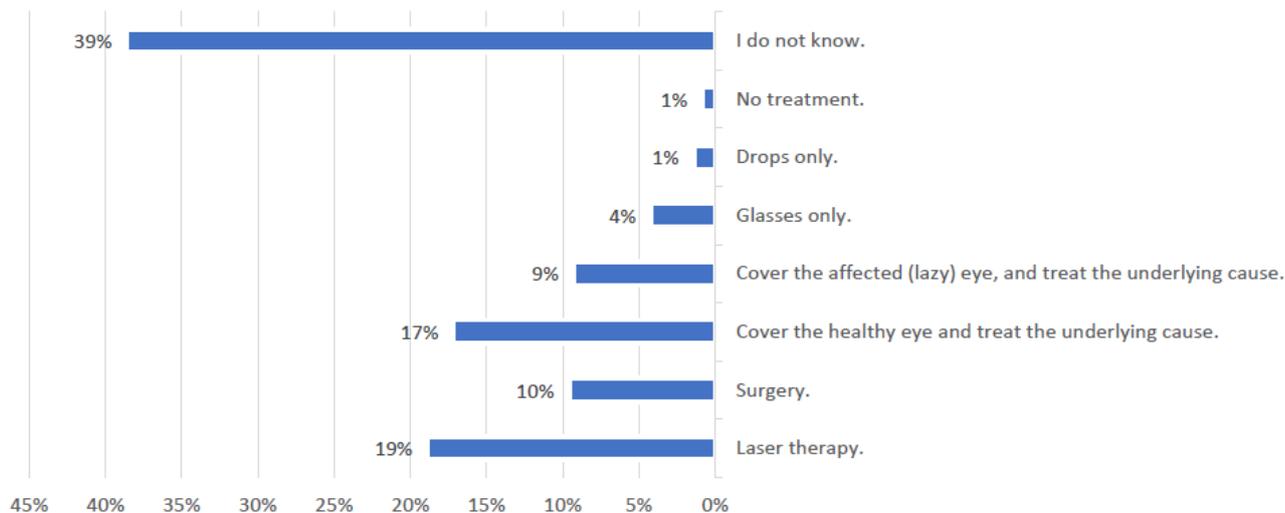


Figure 6: Treatment of Amblyopia

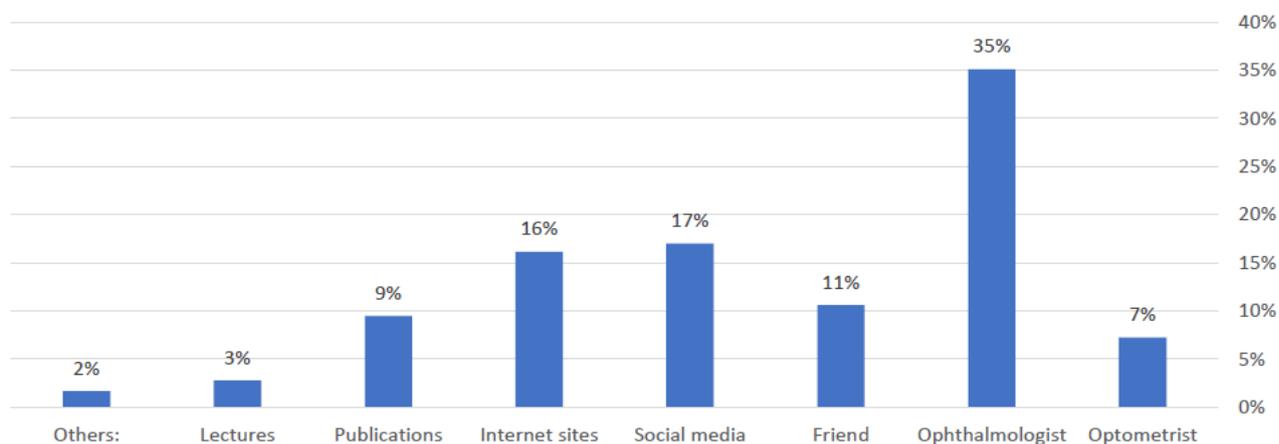


Figure 7: Source of information

DISCUSSION

Although the amount of awareness and understanding about amblyopia in Saudi Arabia is insufficient in our study and other studies, it is significantly greater than in other countries such as India (3 percent) and Nigeria (2.9 percent) Amblyopia is a disorder that affects children's eyesight permanently if not treated early, and it can have a negative influence on their health and quality of life. 1-5 Parents' understanding of amblyopia and associated risk factors could be critical in the disease's early management, which necessitates the engagement of both eye care specialists and the affected children's parents. Because of their critical role in recognizing and controlling amblyopia, this study was done to determine the present awareness of parents across the country¹¹⁻¹⁴.

We found studies on the risk factors for amblyopia in the general population as well as studies on the risk factors for refractive errors in the medical literature. As a result, our findings cannot be¹⁵⁻¹⁶ directly compared to those of earlier studies. One US based study stated that Squint was a major risk factor which is match able with the findings of our study¹⁷⁻¹⁸.

Parents with children were more familiar with amblyopia than parents without children, which was to be expected given that people's interests

change over their lives. As a result, it's understandable that parents with children are more interested in learning about their children's health and the problems that may affect it.

Physicians and the internet were the primary sources of information in this study, which is consistent. Physicians, on the other hand, are instructed to give facts without using medical jargon. Furthermore, it is critical to offer written information rather than vocal information because patients can forget or misunderstand of a physician's key recommendations¹⁹⁻²⁰.

CONCLUSION

This research revealed that there is a dearth of public awareness about amblyopia. As a result, more effort should be put into reaching out to a bigger audience. More public campaigns, awareness days, and media commercials could help parents become more aware of the illness. To boost the children's treatment compliance, eye care experts should be more involved, and additional activities should be taken at the family level. It is necessary to educate the entire community about the benefits of patching and atropine

Table 2: Attitudes regarding Amblyopia.

Parameter	Category	Frequency	%
Effect of child's age on the response to treatment	Yes	190	54%
	No	31	9%
	I don't know.	134	38%
Require lifelong treatment?	Yes	75	21%
	No	96	27%
	I do not know.	184	52%
Hereditary disease?	No	223	63%
	Yes	132	37%
When is it necessary to take your child for an ophthalmology visit?	Periodic routine check-ups.	82	23%
	When there is an abnormal sign (e.g strabismus or coming close to TV).	140	39%
	When the child complains (e.g blurry vision, double vision, eye pain).	133	37%
Can be cured if the child complies with the treatment?	Yes	240	68%
	No	25	7%
	I do not know.	90	25%
Do parents have an essential role in the treatment of amblyopia?	Yes	260	73%
	No	19	5%
	I do not know.	76	21%
Should they visit the eye clinic?	Yes	326	92%
	No	29	8%
How frequent should they visit the eye clinic?	Once a year	95	27%
	Once every 3 months	124	35%
	Once every 6 months	117	33%
	Other	19	5%
Responsible for raising the level of awareness	Ministry of Health.	268	75%
	Hospitals and health institutions.	19	5%
	Social media.	23	6%
	Schools and universities.	17	5%
	Non-profit foundations.	6	2%
	Eye clinics and optometry centers.	22	6%

drops. Screening programs for preschool-aged children could be implemented in order to give early detection and treatment.

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Competing Interest: None.

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