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Assessment of the level of awareness about paediatric cataract among the general population of Jeddah, Saudi Arabia in 2018

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RESEARCH

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ABSTRACT

Background
Cataract is an extremely serious cause of visual impairment in paediatric patients worldwide, with untreated cataract being the leading cause of blindness in children.

Aims
The aim of the present study was to assess the level of awareness and knowledge about paediatric cataract among the general population of Jeddah, Saudi Arabia.

Methods
This survey-based cross-sectional study was conducted between June and July 2018 and included a representative sample of the general population of Jeddah, Saudi Arabia. The questionnaire included a set of questions pertaining to paediatric cataract knowledge and awareness. The gathered data were analysed using Statistical Package for Social Sciences (SPSS) version 21, and the results were acquired by Pearson's chi square tests and frequency calculations.

Results
In total, 678 individuals, including 51.6per cent women and 48.4per cent men, participated in the survey. Approximately 39.7per cent participants did not know whether cataract can affect the paediatric population or not. Although the majority could not recognize the risk factors and symptoms of the disease, 75.2per cent realized that it is treatable. Surgical intervention was identified as the main treatment modality by 46.9per cent participants.

Conclusion
Our findings suggest that the general population of Jeddah has limited knowledge about paediatric cataract. Thus, educational campaigns and programs are necessary to increase public awareness. In addition, further studies on awareness about this condition should be considered in order to prevent serious eye complications in children.

Key Words
Paediatrics, cataracts, blindness, Jeddah

What this study adds:

1. What is known about this subject?
A study that aimed to assess the level of awareness about children's eye diseases among parents in Nigeria, 74.3per cent participants were aware of paediatric cataract.

2. What new information is offered in this study?
A small percentage of the participants were aware it can affect children. However, even those who were aware of it had inadequate knowledge about it.

3. What are the implications for research, policy, or practice?
Educational campaigns and programs are necessary to increase public awareness. Also, further studies about this condition should be to prevent serious eye complications in children.

Background

The sense of vision plays a vital role in every individual's life. It allows us to independently perform our daily activities and appreciate the world around us. Many eye disorders can impair vision, but according to the World Health Organization, cataract remains the leading cause of visual impairment, accounting for 47.9per cent cases in developing countries.[1] Cataract is defined as an opacity in the lens of the eye that scatters incoming light and distorts the created image, thus resulting in a decrease in or loss of visual acuity.[2] Although cataract is mostly observed in older adults, children can also be affected.[3] Paediatric cataract can be classified into congenital or acquired, bilateral or unilateral cataract, and it can also be ranked according to its morphology and etiology, which includes idiopathic or hereditary factors, genetic or metabolic diseases, and trauma.[4] A recently published systematic review about childhood cataract in five geographical regions showed that the overall prevalence ranged from 0.32 to 22.9 per 10,000 children.[5] Similarly, a meta-analysis and systemic review about the prevalence and epidemiological characteristics of congenital cataract from 1983 to 2014 estimated a pooled prevalence of 1.91 to 4.24 per 10,000 children.[6] Untreated cataract in children can result in tremendous social, economic, and emotional burdens on the child, family, and society. Approximately 70 million blind person- years are caused by childhood blindness, with childhood cataract accounting for approximately 10 million blind person-years (14per cent).[7] Thus, it is important to raise awareness about this disease in order to minimize the development of serious complications. In a study that aimed to assess the level of awareness and perceptions about children's eye diseases among parents in Nigeria, 74.3per cent participants were aware of paediatric cataract.[8] In Saudi Arabia, studies conducted in different regions have reported poor knowledge about adult cataract. For example, a cross-sectional study conducted in Al-Baha showed that 50.5per cent of the population had poor knowledge about the condition.[9] However, to our knowledge, no study has addressed the level of awareness about paediatric cataract in Saudi Arabia. Therefore, the aim of this study was to assess the level of awareness and knowledge about paediatric cataract among the general population of Jeddah, Saudi Arabia.

Method

This observational, cross-sectional study was approved by the institutional review board (IRB) of King Abdulaziz University (KAUH), Jeddah, Saudi Arabia. A total of 678 individuals who visited KAUH in July 2018 were asked to complete a self-administered questionnaire for assessing their knowledge about paediatric cataract. We included all visitors aged ≥20 years. Medical students and healthcare workers were excluded. The questionnaire was validated by a panel of ophthalmology experts. It included 20 questions divided into two sections. The first one contained questions on the demographic data of the participants, such as age, sex, nationality, marital status, and educational level. The second section evaluated their knowledge about paediatric cataract, including its definition, risk factors, symptoms, complications, and treatment options. All participants provided verbal consent before completing the questionnaire. The collected data were arranged in Google forms and entered through Statistical Package for Social Sciences software, version 21 (IBM Inc., Chicago, IL, USA). Analyses were performed using different statistical tests such as frequency tables and Pearson's chi-square tests for evaluation of the level of awareness about paediatric cataract. A p-value of <0.05 was considered statistically significant.

Results

There were 51.6per cent women and 48.4per cent men among the 678 participants. The most common age groups were 20–29 (28.0per cent) and 30–39 (28.2per cent) years. Most of the participants had acquired a diploma or completed their under- graduation (55.0per cent). Other demographic data for the participants are shown in Table 1.

With regard to cataract awareness, 89.2per cent participants had heard about cataract in general, while 10.8per cent had not heard about the disease at all. The question pertaining to the definition of cataract was correctly answered by 61.2per cent participants; the remaining either mistook cataract as some other disease or did not know the definition (Table 2).

The majority of the participants (39.7per cent) did not know whether cataract can affect children or not. Meanwhile, 35.7per cent participants were aware that it can affect children, while 24.6per cent thought that it only affected the elderly.

Furthermore, the majority of the participants lacked knowledge about the risk factors and symptoms of paediatric cataract. Among the risk factors listed in the questionnaire, the most commonly identified one was chronic diseases such as diabetes mellitus (53.9per cent). The most commonly identified symptom was decreased visual acuity (53.2per cent; Figures 1 and 2). Paediatric cataract was considered treatable by 75.2per cent

participants, and 46.9per cent chose surgical intervention as the main treatment option. Moreover, 63.4per cent were well aware that vision loss is the most serious complication. The most common source of information was family and friends (30.8per cent), followed by ophthalmologists (27.4per cent; Figure 3). The level of education was significantly associated with awareness about cataract occurring in children, the definition of cataract, the risk factors for paediatric cataract, and other variables as demonstrated in Table 3. In addition, positive relationships were established between age and knowledge about cataract as well as the main treatment option (p=0.000).

Discussion

In the present community-level, cross-sectional study, we found that a large proportion of the general population in Jeddah, Saudi Arabia had heard about cataract in general, considering that cataract is the leading cause of visual impairment among adults in Saudi Arabia.[10] A similar result was found in studies conducted in Hong Kong[11] and Ghana,[12] where 92.9per cent and 85.60per cent of the general population, respectively, were familiar with the term. Also, more than half (61.2per cent) the participants in our study correctly defined cataract as an "opacity in the lens." In a study conducted in Makkah, Saudi Arabia, only 27.6per cent participants had identified the correct definition.[13] This can be explained by differences in the education level and ages of participants in both studies, as our study included a larger proportion of younger and thus more educated individuals, In the present study, only 35.7per cent participants were aware that cataract can affect children, whereas in a study conducted in Nigeria, 74.3per cent individuals were aware that cataract can occur as a childhood eye disease.[14]

However, the sample size in the Nigerian study was smaller (n=35) than that in the present study. Moreover, the former study only targets individuals with children.

Therefore, we cannot make direct comparisons between the two studies. We believe that the lack of knowledge among our participants was due to the higher prevalence of adult cataract compared with that of paediatric cataract.

Serious deficiencies were found in the participants' knowledge about the symptoms and risk factors of paediatric cataract, with the majority being unable to identify them. We also included some of the common risk factors for adult cataract in the questionnaire in order to determine whether the general population considered these as precipitating factors for paediatric cataract as well. Although metabolic diseases such as diabetes mellitus are rare causes of paediatric cataract, our participants most commonly identified chronic diseases such as diabetes mellitus as a risk factor. This response seemed to be based on their knowledge about cataract in adults; the high prevalence of diabetes mellitus in the Saudi population, which led to increased awareness about cataract as a possible complication; and the exhaustive governmental and educational efforts implemented in this field. We also found that individuals with a higher level of education had more knowledge about cataract occurring in children, the definition of cataract, the risk factors for paediatric cataract, the main treatment options, and complications. Similar relationships have been established in multiple previous studies, with both Akowuah et al. and Lau et al. reporting a significant association between the level of education and knowledge about cataract.[2,3] In addition, approximately half (47per cent) our participants correctly identified surgery as the standard treatment for cataract. This could have been influenced by the high prevalence of adult cataract in the community as well as the fact that surgery is the standard treatment option for cataract in all age groups.

Although this study was carefully designed, not all limitations were avoidable. The responses to some questions may have been influenced by the way they were interpreted by the participants. For instance, blindness was most commonly identified as the most serious complication of cataract. The way the question was structured may have given a hint about the answer to some participants, while others may have provided the correct answer on the basis of their general knowledge.

Conclusion

In conclusion, the present study focused on evaluating the level of awareness about paediatric cataract among the general population of Jeddah, Saudi Arabia. Although the majority of the participants had heard about cataract in general, only a few recognized that it can affect children. However, even those who were aware of paediatric cataract had inadequate knowledge about it. In addition, most of the participants tended to get medical information about the disease from family and friends. These findings suggest that the general population of Jeddah has limited knowledge about paediatric cataract. Thus, educational campaigns and programs are necessary to increase public awareness. In addition, further studies on awareness about this condition should be considered in order to prevent serious eye complications in children.

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PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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ETHICS COMMITTEE APPROVAL

The institutional review board (IRB) of King Abdulaziz University (KAUH), Jeddah, Saudi Arabia. Reference number 310-18.

Table 1: Demographic data for a representative sample of the general population in Jeddah, Saudi Arabia (2018)

Demographics		Participants [N (%)]
Sex	Male	328 (48.4)
	Female	350 (51.6)
Age (years)	20–29	190 (28.0)
	30–39	191 (28.2)
	40–49	136 (20.1)
	50–59	124 (18.3)
	≥60	37 (5.5)
Level of Education	Elementary school	35 (5.2)
	Secondary school	45 (6.6)
	High school	176 (26.0)
	Diploma or Undergraduation	373 (55.0)
	Postgraduation	49 (7.2)
Job status	Student	84 (12.4)
	Employed	293 (43.2)
	Self-employed	43 (6.3)
	Unemployed	258 (38.1)
Marital status	Married	503 (74.2)
	Divorced	16 (2.4)
	Single	151 (22.3)
	Widow	8 (1.2)
Nationality	Saudi	479 (70.6)
	Non-Saudi	199 (29.4)

Table 2: Distribution of responses to the question about the definition of cataract in a questionnaire used to assess paediatric cataract awareness among the general population of Jeddah, Saudi Arabia (2018)

Definition of cataract	Participants [N (%)]
Lens opacity	415 (61.2)
Don't know	168 (24.8)
Increased intraocular pressure	66 (9.7)
Eye inflammation	29 (4.3)
Total	678 (100)

Table 3: Correlations (Pearson's chi-square) between the level of education and awareness about cataract occurring in children, the definition of cataract, the risk factors for paediatric cataract, the main treatment options, and complications (Jeddah, Saudi Arabia, 2018

Variable		P-value
Definition		0.001
Can affect children		0.003
Risk factors	0.004	0.004
	0.001	0.001
	0.009	0.009
	0	0
	0.012	0.012
	0	0
Main treatment option		0
Complications		0.02

Figure 1: Pie chart showing the proportion of individuals who had heard about cataract (Jeddah, Saudi Arabia, 2018)

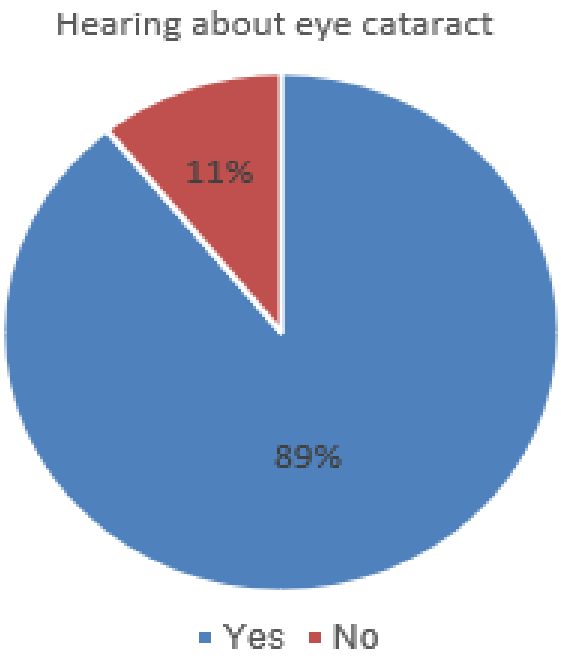

Figure 2: Pie chart showing the distribution of responses to the question pertaining to the definition of cataract in a questionnaire used to assess paediatric cataract awareness among the general population of Jeddah, Saudi Arabia (2018)

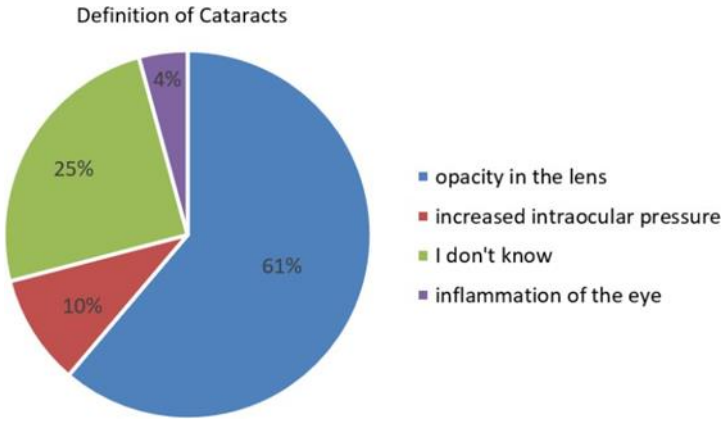

Figure 3: Bar graph showing the sources of information selected by participants in a questionnaire that assesses the level of awareness about paediatric cataract (Jeddah, Saudi Arabia, 2018)