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Knowledge, Attitude, and Practice of Parents Regarding Children's Eye Care: A Cross-Sectional Study from Southwestern Saudi Arabia

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Knowledge, Attitude, and Practice of Parents Regarding Children's Eye Care: A Cross-Sectional Study from South-western Saudi Arabia

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Abstract—Introduction: **Eye care in children is of critical importance, as numerous pathologies can arise during childhood with the risk of serious consequences, including blindness. Parents' knowledge, attitudes, and practices in this regard are therefore crucial, as they significantly influence their children's eye health. This study aimed to assess the knowledge, attitudes, and practices (KAP) of parents regarding children's eye care in the Jazan region of southwestern Saudi Arabia.**

Materials and Methods: **A cross-sectional study was conducted using a validated questionnaire comprising 29 questions, divided into four sections: sociodemographic data, parents' practices regarding their children's eye care, parents' knowledge of eye problems, and parents' attitudes towards their children's eye examinations.**

Results: **The study included 782 participants, most of whom were aged between 36 and 45 years (41.8%). The majority were Saudi nationals (95.9%) and married (94.2%). Regarding children's eye care, 61.1% of parents reported taking their child for an eye examination primarily in response to an eye illness. Awareness of specific eye conditions varied, with 57% aware of refractive errors, 71% of amblyopia, and 85% of cataracts. Logistic regression analysis identified participants' area of residence and educational level as significant predictors of good knowledge and positive attitudes towards child eye care, while factors such as age and nationality had variable effects.**

Conclusion: **The findings indicate that the majority of parents in Jazan are well-informed about children's eye care and recognise the importance of early eye examinations. However, there remains a need for targeted educational campaigns addressing the importance of regular eye checks, concerns regarding the psychological and educational impact of eyeglasses, and increased awareness of the preventability and treatability of childhood eye conditions.**

***Indexing Terms*— Attitudes; Child; Eye Diseases; Health Knowledge; Parents; Practice; Vision Screening.**

I. INTRODUCTION

Eye pathology in children is a significant cause of medical consultations [1]. It is estimated that 19 million children worldwide are visually impaired [2]. In Saudi Arabia, regional studies have reported varying prevalence of eye pathologies among children; one conducted in the Dammam region found that 9.1% of children suffer from amblyopia [3], while another study from the Jazan region identified strabismus and refractive errors as the most common ocular pathologies, affecting 36.9% and 26.5% of children, respectively [4]. It is estimated that 80% of childhood vision problems are treatable if detected at an early stage. Delayed treatment can adversely affect children's development, learning, communication, health, performance, and overall quality of life; thus, early detection and intervention are essential [5].

Many factors influence the prevalence and causes of childhood visual impairment, including the degree of socioeconomic development, accessibility and availability of ophthalmic care facilities, and societal norms regarding health-seeking behaviour. The estimated global prevalence of childhood blindness is 0.75 per 1,000 children, with the highest rates observed in low-income countries (0.9 per 1,000), followed by middle-income (0.7 per 1,000)

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and high-income countries (0.4 per 1,000) [6]. In the Eastern Mediterranean region, a study by Alrasheed et al. reported a pooled prevalence of uncorrected visual impairment among children of 11.57%. Furthermore, refractive errors (51.89%), amblyopia (11.15%), retinal disorders (3.90%), corneal opacity (3.0%), and cataract (1.88%) were identified as the most common paediatric eye pathologies [7]. Among the Gulf countries, a study by Kandi et al. involving schoolchildren from the Hatta region of the United Arab Emirates found that 20.9% of pupils suffered from refractive errors [8]. In Saudi Arabia, the prevalence of amblyopia and refractive errors has been estimated at 2.3% and 17.5%, respectively [9,10].

Early management is essential to preserve good eyesight [11]. The World Health Organization (WHO) has introduced the "Integrated People-Centred Eye Care (IPEC)" initiative, which aims to eradicate and control juvenile blindness. The WHO estimates that therapeutic and preventive approaches can avert 75% of cases of blindness, regardless of age [12,13]. Various vision-threatening eye conditions in children, such as amblyopia, cataracts, and refractive errors, are treatable if detected early; parents must be well-informed about these conditions, as a lack of awareness can contribute to visual impairment. Multiple factors can impede early eye care in children, including financial constraints, time limitations, limited access to healthcare services, lack of trust in general practitioners and paediatricians, and the availability of traditional medicine as a less expensive alternative. All of these factors are directly related to parents' practices and attitudes, and should be promptly identified and addressed [6].

The risk factors associated with parents' inadequate knowledge, attitudes, and practices regarding this crucial issue, as well as the relationship between these factors and specific parental characteristics, have not yet been investigated in the Jazan region. Therefore, the aim of this study was to assess the knowledge, attitudes, and practices (KAP) of parents regarding children's eye care in the Jazan region of Saudi Arabia. By addressing the question, "What is the level of knowledge, attitudes, and practices regarding children's eye care among parents in Jazan?", the findings of this study will help guide educational campaigns to focus on areas of deficiency and support policymakers in developing appropriate protocols to address this issue.

II. METHODS

Study Design and Target Population

This cross-sectional descriptive study assessed the knowledge, attitudes, and practices related to children's eye care among the population of the Jazan region. Jazan, situated on the Red Sea coast, is one of the fastest-growing cities in Saudi Arabia. According to the 2017 Census, the city has a population of 1,567,547 and covers an area of 11,671 km². The target participants were Saudi and non-Saudi parents, aged 18 years and above, who spoke Arabic and resided in the Jazan region. Participants from other regions were included for comparative purposes. Adults without children and those who declined to participate were excluded from the study.

Convenience (non-random) sampling was utilised in this study. The sample size was determined using the Raosoft software, with calculations based on a 95% confidence level, an assumed 50% response rate, and a margin of error of ±5%. The minimum required sample size was initially set at 385, but this was adjusted to 424 to accommodate a 10% allowance for non-responses. The final target sample size was increased to 782 participants to enhance precision and improve the reliability of the results.

Data Collection Tool

Data were collected using a straightforward, validated questionnaire in the Arabic language, which was distributed conveniently to residents of the Jazan region. The questionnaire was previously adopted and validated by another study, with the permission of the original authors [14]. A pretested, online version of the questionnaire ensured participants' anonymity. The questionnaire was divided into four sections: The first consisted of nine items related to social and demographic data, such as participants' age, level of education, occupation, marital status, and number of children. The second section comprised four questions about parental practices concerning their children's eye care, including whether their children had undergone an eye examination, as well as the indications for, and reasons for refusing, such examination. The third section contained ten questions addressing parents' knowledge of eye problems; this included their understanding of refractive errors, their prevention and complications, and their knowledge of amblyopia and cataracts. Finally, the fourth section assessed parents' attitudes towards their children's eye

examinations through six items. These covered perceptions of their child wearing glasses, whether glasses were regarded as an educational opportunity, and concerns regarding the potential deterioration of visual acuity or negative psychological effects.

Data were collected via social media platforms including WhatsApp, Telegram, X (formerly Twitter), and Snapchat. The researchers and data collectors distributed the online questionnaire through group chats and personal networks, and also encouraged participants to share the survey further on a voluntary basis. Upon completion of data collection, responses were manually verified and then coded using Microsoft Excel.

Scoring System

To evaluate knowledge levels regarding eye problems and screening, a scoring system was applied to ten knowledge-related items, all of which were simple-choice (yes or no) questions. Correct answers received a score of 1, while incorrect answers or "I do not know" responses were scored as 0, resulting in a total knowledge score ranging from 0 to 10. Knowledge levels were categorised as follows: poor (0–4), fair (5–7), and good (8–10). A similar approach was used for the attitude-related items (six questions), with scores ranging from 0 to 6, categorised as poor (0–2), fair (3–4), and good (5–6). Knowledge and attitude scores above 75% were considered indicative of good knowledge and positive attitudes, respectively. Scores between 50–75% indicated fair knowledge and neutral attitudes, while scores below 50% represented poor knowledge and negative attitudes towards children's eye care.

Statistical Analysis

Data were analysed using IBM SPSS Statistics for Windows, Version 26.0. Qualitative variables were expressed as numbers and percentages, and the Chi-squared test (χ^2) was employed to assess relationships. Quantitative data were presented as means and standard deviations (mean ± SD), and multivariate logistic regression analysis was used to identify significant predictors of knowledge and attitudes. Odds ratios (OR) with 95% confidence intervals (CI) were reported. A *p-value* lower than 0.05 was considered statistically significant.

Ethical Approval

This study received approval from the institutional review board (HAPO-10-z-001) at Jazan University. All participants were informed that the study would maintain complete privacy and confidentiality; they were also advised of their right to withdraw from participation at any time. The survey did not include any identifying questions or personal information, and only the study investigators had access to the collected data.

III. RESULTS

Sociodemographic Characteristics

A total of 782 parents from the Jazan region participated in this study. The majority were in the 36–45-year age group (41.8%; n = 327), while those aged over 60 years constituted the smallest proportion (0.4%; n = 3). Most participants were female (54.0%; n = 422) and Saudi nationals (95.9%; n = 750). The majority were married (94.2%; n = 737), with 4.2% (n = 33) divorced and 1.5% (n = 12) widowed. Nearly two-thirds were employed (63.4%; n = 496), and most held a diploma or bachelor's degree (69.8%; n = 546). Further sociodemographic data are presented in Table 1.

Knowledge of Child Eye Care and Sociodemographic Characteristics

The study also explored the relationship between participants' knowledge of child eye care and their demographic characteristics. Among the 782 participants, age showed a trend towards significance ($p = 0.076$), with the 36–45-year age group demonstrating the highest proportion of good knowledge (46.8%). Gender was not significantly associated with knowledge levels ($p = 0.506$). Nationality also showed no significant relationship, with Saudis predominant across all knowledge categories ($p = 0.176$). Marital status was not significant, with married participants comprising the majority in each group ($p = 0.737$). The participants' area of residence was significantly associated with knowledge; those from Jazan and its governorates exhibited higher knowledge levels compared with those from outside the region ($p < 0.0001$). Occupational status was also significant ($p = 0.033$), with employees having a higher proportion of good knowledge (71.3%) compared with other groups. Educational level was significant ($p = 0.001$); participants with a diploma or bachelor's degree had the highest proportion of good knowledge (77.1%), while those with secondary education or less had the highest proportion of poor knowledge (30.5%). These findings are further detailed in Table 2.

Attitudes Towards Child Eye Care and Sociodemographic Characteristics

The relationship between the participants' demographic characteristics and their attitudes towards children's eye care is presented in Table 3. Age was found to be significantly related to attitude (p = 0.038), with the 36–45-year age group displaying the highest proportion of positive attitudes (51.0%). Gender did not significantly influence attitudes (p = 0.759), but nationality was significant (p = 0.003), with Saudi nationals more likely than non-Saudis to exhibit a positive attitude (91.5%), in univariate analysis. Marital status was not significant, with married participants forming the majority across all attitude categories (p = 0.401). Area of residence was likewise not statistically significant (p = 0.086). While occupational status was not significantly associated with attitude (p = 0.166), employees exhibited the highest proportion of positive attitudes (73.2%). Educational level also did not have a significant effect on attitudes (p = 0.638), with most participants across all categories holding a diploma or bachelor's degree.

Sociodemographic Factors Associated with a Good Knowledge Level

As shown in Table 4, a multivariate logistic regression analysis identified residence in Jazan (adjusted odds ratio [aOR] = 2.298, p = 0.003), employment status (aOR = 1.810, p = 0.036), and educational level (aOR = 0.446, p = 0.050) as significant factors associated with good knowledge of child eye care.

Sociodemographic Factors Associated with Positive Attitudes

The multivariate logistic regression analysis revealed that nationality and area of residence significantly influenced attitudes towards child eye care (Table 5). Both Saudi nationals (aOR = 0.166, p = 0.007), and residents of Jazan and its governorates (aOR = 0.420, p = 0.018) were less likely than other groups to hold positive attitudes, after adjusting for other variables.

Parental Attitudes Towards Child Eye Care

The distribution of parental attitudes towards child eye care is illustrated in Figure 1. The results show that 52.6% of participants held a neutral attitude, neither strongly supporting nor opposing child eye care practices. In contrast, 27.9% displayed a positive attitude, endorsing the importance of eye care for children, while 19.6% held a negative attitude, indicating disapproval or a lack of support for child eye care initiatives.

Parents' Knowledge and Understanding of Child Eye Care

Figure 2 presents the percentage distribution of participants according to their level of knowledge regarding child eye care. According to the data, 39.6% of participants demonstrated good knowledge of child eye care, reflecting a comprehensive understanding of the topic. A further 31.8% demonstrated fair knowledge, denoting a moderate level of understanding that could be enhanced through targeted educational programmes. In contrast, 28.5% of participants exhibited poor knowledge, representing a substantial proportion of the sample with insufficient information on child eye care.

Influence of Parental Knowledge on Attitudes Towards Child Eye Care

Figure 3 explores the association between participants' attitudes towards child eye care and their knowledge levels, revealing a statistically significant correlation (p = 0.002). Among those with a positive attitude, 71 participants had good knowledge, 44 had fair knowledge, and 38 had poor knowledge. Of those with a neutral attitude, 174 had good knowledge, 134 fair, and 103 poor. Among participants with a negative attitude, 65 had good knowledge, 71 fair, and 82 poor. These findings suggest that higher levels of knowledge about child eye care are associated with more positive or neutral attitudes, whereas lower levels of knowledge are linked to more negative attitudes.

IV. DISCUSSION

This cross-sectional study aimed to evaluate parents' knowledge, attitudes, and practices regarding children's eye care in the Jazan region, Saudi Arabia. In the present study, 57% of participants reported having heard about refractive errors. By comparison, a study conducted in Riyadh in 2021 found that only 26.2% of parents were aware of refractive errors [11]. Similarly, parental knowledge of amblyopia in our study was 71%, whereas a 2022 study in Madinah reported a knowledge level of 58.5% [15]. This variation in knowledge could be attributed to differences in participants' backgrounds and educational level, both of which substantially influence parental understanding of such conditions. The most commonly recognised eye disease among parents was cataracts, with an awareness level of 85%. It is believed that this high

percentage is due to the early and noticeable manifestation of symptoms, such as white pupils, which alert parents, as well as the fact that cataracts are highly prevalent and frequently discussed within the community.

In the current study, 39.6% of participants demonstrated good knowledge of child eye care, whereas 28.5% exhibited poor knowledge. A 2019 study in Arar reported that 56.7% of respondents had adequate knowledge of common eye diseases, with refractive errors being the most recognised [16]. In contrast, a 2021 study conducted in Jeddah found low knowledge levels, with just 25.9% of participants scoring adequately on the amblyopia knowledge scale and only 20% self-reporting sufficient knowledge [17]. In Al-Qunfudah in 2023, only 16.6% of participants demonstrated good knowledge, while 60% had low knowledge levels [14]. Research indicates that variations in public health strategies and the utilisation of different assessment tools can significantly impact reported outcomes. These discrepancies underscore the need for a comprehensive national study undertaken by an official body.

Under-utilisation of preventive care has significant consequences. Proper prenatal care, the use of corrective eyewear, and timely treatment can prevent up to half of childhood blindness cases, while many paediatric eye conditions could be detected and managed early through appropriate care and education [18]. In this study, 45.3% of parents recognised refractive errors as both preventable and treatable, 51.4% agreed that amblyopia is treatable and preventable, and 71.6% were aware that cataracts can be treated and prevented. By contrast, the 2023 study in Al-Qunfudah reported that only 32.5% of parents were aware that cataracts are manageable, and 39.2% recognised the treatability of refractive errors [14]. These findings suggest a higher level of awareness among parents in Jazan compared with those in Al-Qunfudah; however, significant gaps remain in both regions, particularly concerning refractive errors and amblyopia, highlighting the need for enhanced public health campaigns.

Our findings showed that parents with a bachelor's degree or diploma demonstrated greater awareness of the importance of caring for their children's eyes than those with lower levels of education. Higher educational attainment provides access to reliable information and improves understanding of the potential risks and consequences associated with neglecting eye health. Moreover, higher education is linked to better financial opportunities and a greater understanding of public health, both of which can increase access to healthcare services. In addition, a more educated social and academic environment fosters the exchange of health-related information and deepens appreciation for the significance of paediatric eye care. In contrast to our findings, however, a study conducted in Benin found that uneducated and poorly educated individuals possessed more information about child eye care than parents with higher education [19]. Our results also indicate a significant association between employment status and knowledge levels, with employed parents demonstrating greater awareness, as observed in another study [14]. Those with higher levels of education were also more likely to be well-informed about eye health issues and to hold favourable views regarding children wearing glasses. Local factors, such as health programmes, education, and cultural attitudes in Jazan, may further enhance parents' understanding of child eye care. Interestingly, our study found that Saudi parents exhibited a more negative attitude specifically towards vision correction options, compared to non-Saudi parents, a finding that may be attributable to cultural norms and traditional beliefs.

In contrast to other participants, parents aged between 36 and 45 years demonstrated better knowledge and attitudes regarding their children's eye care. These findings are consistent with a local study conducted in Al-Qunfudah [14]. However, a different study, carried out in Medina, revealed a variation in knowledge and attitudes across age categories, with parents aged 50 years and above exhibiting the highest levels of knowledge and positive attitudes among all the age groups [15]. One possible explanation for the disparity in knowledge and attitudes between the southern and western regions of the Kingdom is the age of marriage; recent statistics indicate that residents of the southern region tend to marry at a younger age than those in the western region. This earlier age of marriage increases the likelihood that parents will encounter eye problems in their children earlier in life, thereby raising awareness and fostering more positive attitudes towards child eye care [20].

In the present study, 80.3% of participants reported no objection to their children wearing glasses. This finding is in line with a 2023 local study, where 85.1% of parents reported a willingness for their children to wear glasses [14]. By contrast, a 2013

study conducted in China found that 49% of parents expressed concerns about their child's need for vision correction [21]. These differences suggest that parental perceptions of eyewear are strongly influenced by societal and cultural beliefs, with stigma and aesthetic considerations potentially playing a significant role in regions where acceptance is lower.

With regard to parents' practices towards children's eye examinations, our study found that over half of parents (61.1%) had taken their children for an eye examination. Among those who had not, the most common reason cited was the absence of any signs or symptoms prompting a visit to the eye doctor (63.8%). This finding is comparable to a 2022 study conducted in the Aseer region of Saudi Arabia, which found that 48.5% of participants had taken their children for an eye examination; the variation observed could be attributed to differing levels of regional awareness [22]. Our study also aligns with the results of the 2023 study in Al-Qunfudah, where the main reason cited by parents for not seeking an eye examination was the absence of symptoms warranting a doctor's visit [14]. Internationally, our results are considerably higher than those of a 2015 cross-sectional study involving 514 participants from Ghana, Honduras, and India, where the vast majority (67%) had never taken their children for an eye examination. This difference may be due to the low socioeconomic status and economic barriers—such as high medical costs and limited availability of services—shared by these countries [18].

A notable strength of our study is the use of a well-structured, validated questionnaire to assess parents' knowledge, attitudes, and practices regarding children's eye care. This approach ensures that the data collected are both relevant and reliable. With a sample size of 782 participants, the study benefits from a robust dataset, enhancing the generalisability of the findings within the Jazan region and improving the statistical power of the analysis. The research provides a comprehensive analysis of demographic factors and their association with knowledge and attitudes towards eye care, thus identifying specific areas where educational and public health interventions may be required. Importantly, our questionnaire was pre-tested and validated, further ensuring the accuracy and reliability of the results.

However, the study's cross-sectional design captures data at a single point in time, limiting the ability to assess changes in knowledge, attitudes, and practices over time. Longitudinal studies would provide valuable insights into how these factors evolve and the impact of educational interventions. Additionally, data collection via social media platforms may have introduced selection bias, as not all demographic groups are equally represented online. The study also relies on self-reported data, which may be subject to recall bias or social desirability bias; participants might under- or over-report their knowledge and practices based on perceived social expectations. Furthermore, while the findings are applicable to the Jazan region, they may not be generalisable to other regions of Saudi Arabia or to countries with different cultural or socioeconomic contexts.

V. CONCLUSION

A considerable majority of parents in Jazan are aware of childhood eye diseases; however, there remains a notable gap in knowledge regarding the preventability and treatability of these conditions. In terms of attitudes, the study found that most parents hold positive views towards their children's eye care, with 80.3% (628 participants) expressing no concerns about their children wearing eyeglasses. Nevertheless, some parents continue to harbour concerns about the psychological and educational implications of wearing eyeglasses. This suggests that, while general acceptance is high, targeted educational initiatives are still required to address residual concerns.

The primary reasons cited for not seeking eye examinations were the absence of visible symptoms and the belief that the child was too young—findings consistent with studies from other regions. This underscores the need for further educational programmes that emphasise the importance of routine eye examinations, even in the absence of obvious symptoms. In conclusion, we recommend the implementation of comprehensive public health programmes aimed at increasing parental knowledge and improving practices around children's eye care.

VI. FUNDING SOURCES

This study received no specific funding from outside sources. All authors volunteered their time and resources.

VII. CONFLICT OF INTEREST

The authors declare no conflicts of interest.

VIII. AVAILABILITY OF DATA

The datasets generated and/or analysed during this study are available from the corresponding author upon reasonable request.

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Table 1. Demographic distribution of participants (n = 782).

Variables		n	%
Age group	18-25 years	52	6.6%
	26-35 years	211	27.0%
	36-45 years	327	41.8%
	46-60 years	189	24.2%
	>60 years	3	0.4%
Gender	Male	360	46.0%
	Female	422	54.0%
Nationality	Saudi	750	95.9%
	Non-Saudi	32	4.1%
Marital status	Married	737	94.2%
	Divorced	33	4.2%
	Widowed	12	1.5%
Area of residence	Jazan and its governorates	693	88.6%
	Outside Jazan	89	11.4%
Occupational status	Student	36	4.6%
	Employee	496	63.4%
	Retired	42	5.4%
	Self-employed	53	6.8%
	Unemployed	155	19.8%
Educational level	Secondary school or lower	180	23.0%
	Diploma or bachelor's degree	546	69.8%
	Master's or PhD	56	7.2%

Table 2. Relationship between demographic characteristics and knowledge of child eye care (n = 782).

Variables		Knowledge level						*p-value*
		Good knowledge		Fair knowledge		Poor knowledge		
		n	%	n	%	n	%	
Age group	**18-25 years**	16	5.2%	20	8.0%	16	7.2%	
	26-35 years	66	21.3%	71	28.5%	74	33.2%	
	36-45 years	145	46.8%	95	38.2%	87	39.0%	0.076
	46-60 years	82	26.5%	62	24.9%	45	20.2%	
	>60 years	1	0.3%	1	0.4%	1	0.4%	
Gender	**Male**	139	44.8%	111	44.6%	110	49.3%	0.506
	Female	171	55.2%	138	55.4%	113	50.7%	
Nationality	**Saudi**	293	94.5%	239	96.0%	218	97.8%	0.176
	Non-Saudi	17	5.5%	10	4.0%	5	2.2%	
Marital status	**Married**	294	94.8%	231	92.8%	212	95.1%	
	Divorced	11	3.5%	13	5.2%	9	4.0%	0.737
	Widowed	5	1.6%	5	2.0%	2	0.9%	

Area of residence	**Jazan and its governorates**	285	91.9%	226	90.8%	182	81.6%	**<0.0001**
	Outside Jazan	25	8.1%	23	9.2%	41	18.4%	
Occupational status	**Student**	14	4.5%	10	4.0%	12	5.4%	
	Employee	221	71.3%	150	60.2%	125	56.1%	
	Retired	13	4.2%	16	6.4%	13	5.8%	**0.033**
	Self-employed	18	5.8%	18	7.2%	17	7.6%	
	Unemployed	44	14.2%	55	22.1%	56	25.1%	
Educational level	**Secondary school or lower**	48	15.5%	64	25.7%	68	30.5%	
	Diploma or bachelor's degree	239	77.1%	166	66.7%	141	63.2%	**0.001**
	Master's or PhD	23	7.4%	19	7.6%	14	6.3%	

Table 3. Relationship Between Participants' Demographic Characteristics and Attitude Toward Their Children's Eye Care (N = 782).

Variables		**Attitude level**						***p*-value**
		Positive attitude		**Neutral attitude**		**Negative attitude**		
		n	**%**	**n**	**%**	**n**	**%**	
Age group	**18-25 years**	6	3.9%	27	6.6%	19	8.7%	
	26-35 years	32	20.9%	105	25.5%	74	33.9%	
	36-45 years	78	51.0%	172	41.8%	77	35.3%	0.038
	46-60 years	36	23.5%	106	25.8%	47	21.6%	
	>60 years	1	0.7%	1	0.2%	1	0.5%	
Gender	**Male**	69	45.1%	186	45.3%	105	48.2%	0.759
	Female	84	54.9%	225	54.7%	113	51.8%	
Nationality	**Saudi**	140	91.5%	395	96.1%	215	98.6%	0.003
	Non-Saudi	13	8.5%	16	3.9%	3	1.4%	
Marital status	**Married**	143	93.5%	391	95.1%	203	93.1%	
	Divorced	6	3.9%	14	3.4%	13	6.0%	0.401
	Widow	4	2.6%	6	1.5%	2	0.9%	
Area of residence	**Jazan and its governorates**	133	86.9%	358	87.1%	202	92.7%	0.086
	Outside Jazan	20	13.1%	53	12.9%	16	7.3%	
Occupational status	**Student**	3	2.0%	22	5.4%	11	5.0%	
	Employee	112	73.2%	256	62.3%	128	58.7%	
	Retired	4	2.6%	24	5.8%	14	6.4%	0.166
	Self-employed	11	7.2%	26	6.3%	16	7.3%	
	Unemployed	23	15.0%	83	20.2%	49	22.5%	

Educational level	**Secondary school or lower**	28	18.3%	98	23.8%	54	24.8%	
	Diploma or bache-lor's degree	114	74.5%	284	69.1%	148	67.9%	0.638
	Master's or PhD	11	7.2%	29	7.1%	16	7.3%	

Table 4. Multivariate logistic regression analysis of demographic factors associated with a good level of knowledge of child eye care.

Knowledge level		***p*-value**	**Exp(B)**	**95% confidence interval for Exp(B)**	
				Lower bound	**Upper bound**
Good knowledge	**Intercept**	0.507			
	18-25 years	0.650	0.499	0.025	10.000
	26-35 years	0.623	0.484	0.027	8.701
	36-45 years	0.924	0.869	0.049	15.540
	46-60 years	0.954	0.919	0.052	16.252
	>60 years	0	0	0	0
	Male	0.068	0.681	0.450	1.029
	Female	0	0	0	0
	Saudi	0.088	0.397	0.137	1.148
	Non-Saudi	0	0	0	0
	Married	0.593	0.624	0.111	3.516
	Divorced	0.501	0.513	0.074	3.579
	Widowed	0	0	0	0
	Jazan and its governorates	0.003	2.298	1.325	3.985
	Outside Jazan	0	0	0	0
	Student	0.215	1.877	0.693	5.085
	Employee	0.036	1.810	1.041	3.148
	Retired	0.684	1.224	0.461	3.249
	Self-employed	0.369	1.460	0.639	3.333
	Unemployed	0	0	0	0
	Secondary school or lower	0.050	0.446	0.198	1.001
	Diploma or bachelor's degree	0.908	0.958	0.467	1.967
	Master's or PhD	0	0	0	0

Table 5. Multivariate logistic regression analysis of demographic factors associated with a positive attitude toward child eye care.

Attitude level		***p*-value**	**Exp(B)**	**95% confidence Interval for Exp(B)**	
				Lower bound	**Upper bound**
Positive attitude	**Intercept**	0.029			
	18-25 years	0.231	0.149	0.007	3.367
	26-35 years	0.192	0.140	0.007	2.693
	36-45 years	0.446	0.318	0.017	6.062

46-60 years	0.387	0.273	0.014	5.151
>60 years	0	0	0	0
Male	0.267	0.759	0.466	1.235
Female	0	0	0	0
Saudi	0.007	0.166	0.045	0.613
Non-Saudi	0	0	0	0
Married	0.254	0.347	0.057	2.133
Divorced	0.096	0.176	0.023	1.361
Widow	0	0	0	0
Jazan and its governorates	0.018	0.420	0.205	0.861
Outside Jazan	0	0	0	0
Student	0.744	0.779	0.173	3.502
Employee	0.103	1.756	0.892	3.455
Retired	0.366	0.540	0.142	2.056
Self-employed	0.728	1.192	0.444	3.204
Unemployed	0	0	0	0
Secondary school or lower	0.828	0.899	0.344	2.351
Diploma or bachelor's degree	0.676	1.195	0.519	2.753
Master's or PhD	0	0	0	0

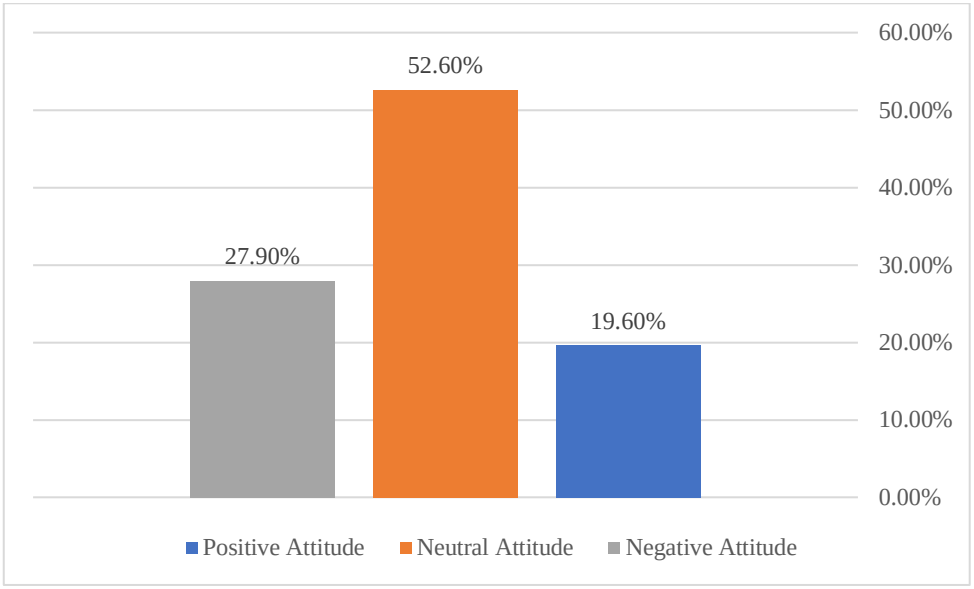

Figure 1. Percentage distribution of participants according to their attitude towards child eye care.

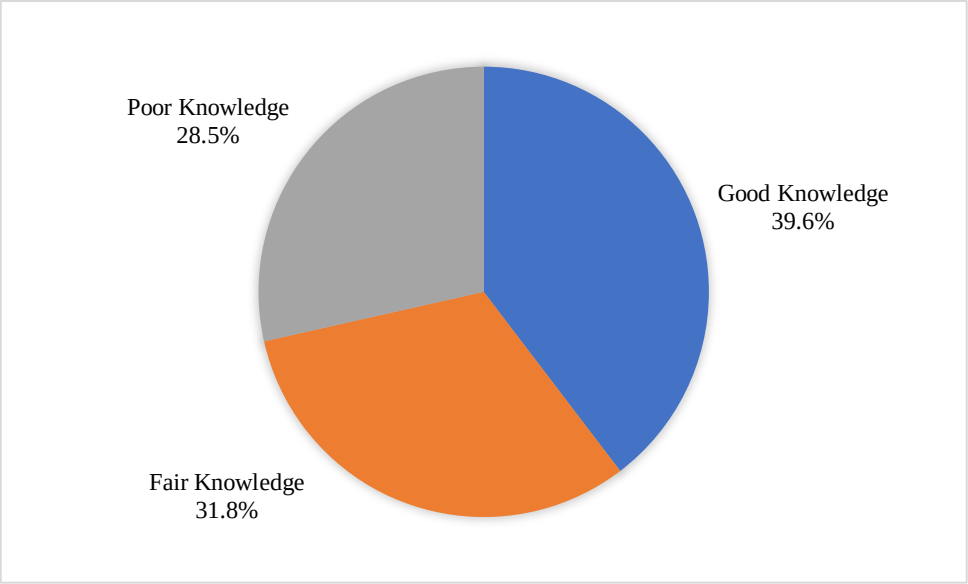

Figure 2. Percentage distribution of participants according to their knowledge of child eye care.

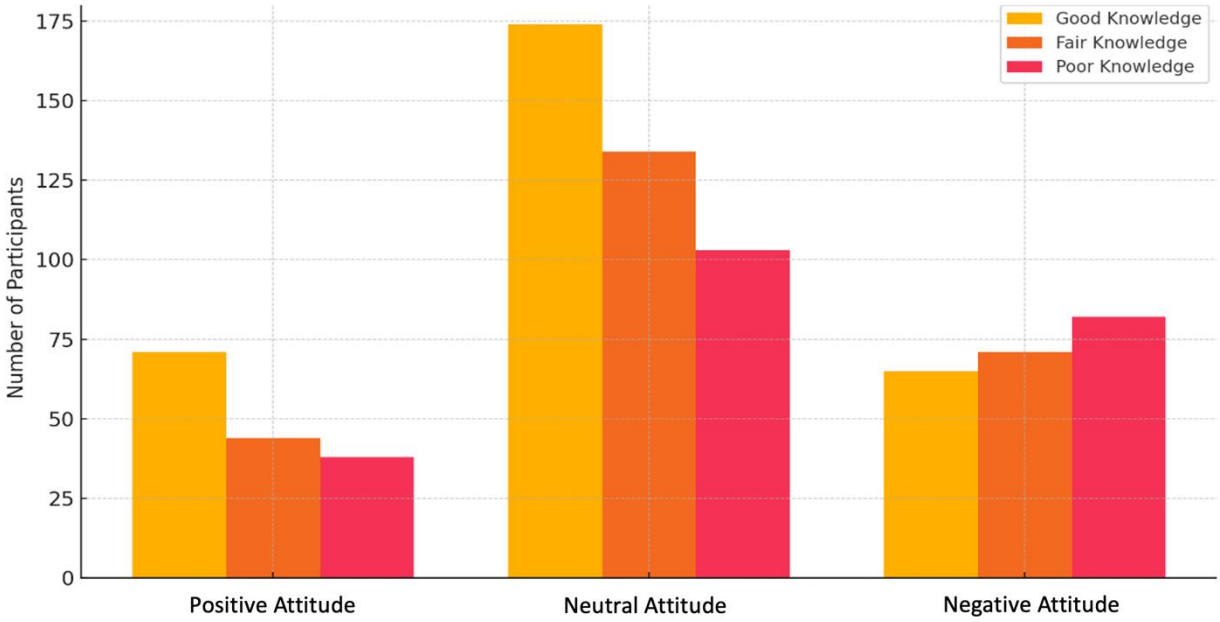

Figure 3. Relationship between participants' attitude and their knowledge level