Original Article

Awareness of Parents Regarding Eye Diseases and Eye Care Needs among Children of Tehsil Babuzai, District Swat

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ABSTRACT

Purpose: To find out level of awareness of parents regarding eye diseases, eye care needs and eye care practices among children of district Swat.

Study Design: Descriptive Cross-sectional study.

Place and Duration of Study: Hospitals of Tehsil Babuzai, District Swat, Pakistan from 15th March to 15th August 2022.

Methods: This cross-sectional study was carried out on 200 parents of Tehsil Babuzai, District Swat, Pakistan. Data was collected through an interview-based questionnaire which was divided into four main parts; socio-demographic data, knowledge about eye care, knowledge about eye diseases and eye care practices. Chi-square test was used to find out association among categorical variables. Data was analyzed using SPSS version 26.

Results: Knowledge about eye care was good in 112 parents (56.0%) and poor in 88 parents (44.0%). Knowledge was good regarding amblyopia in 82 (41.0%) parents, for childhood cataract in 63 (31.5%), and for congenital glaucoma in 56 (28.0%) parents. Attitude regarding children wearing spectacles and allowing ophthalmic surgery was positive in 179 (89.5%) and 165 (82.5%) parents, respectively. Most common eye diseases identified were refractive error (50.9%), followed by amblyopia (23.6%). Participants with higher education level and those having child with existing eye problems had significantly higher knowledge and practices scores ($p < 0.05$).

Conclusion: A considerable heterogeneity was observed between different social groups regarding children's ocular problems and practices. Health care communities must play their role in communicating health information to illiterate parents in order to improve their knowledge and practices regarding ocular issues of their children.

Key Words: Amblyopia, Children, Congenital cataract, Congenital glaucoma, Refractive errors.

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INTRODUCTION

Globally, it has been estimated that approximately 19 million children are either visually impaired or blind. Among them, 12 million children are visually impaired due to refractive errors although it can be easily prevented and treated by the use of spectacles. Child's eye health is a growing public health issue and age group from 0 to 12 years is critical period for visual development as it can ultimately have an impact on child's learning ability.[1,2] Child's eye health is crucial for successful life as ocular morbidities at early stage can have a tremendous impact on child's life

span, in dependency and life satisfaction. As parents are primary care givers therefore determining their level of awareness for eye care seeking behavior is necessary.[3] Awareness and knowledge regarding common eye diseases among people can help them seek early eye care services. Poor health literacy has been identified as one of major factors leading to delayed seeking of early eye care services. Thus, losing the opportunity of timely intrusion and prevention.[4,5]

In developing countries, the cause of visual impairment and blindness among children are often treatable and avoidable. Therefore, parental concern has been recommended as an important part in whether parents seek eye care for their children or not.[6,7] According to recent data, there are 285 million visually impaired people representing 80% of total health burden.[8-10] Another major public health problem is amblyopia, affecting 5% of population. It can be either monocular or binocular and if left untreated can lead to amblyopia. However, early diagnosis and treatment can result in better outcomes.

Childhood ocular morbidities can be critical which can result in permanent vision loss. As mothers are primary care givers therefore educating mothers can affect the health consequences of children and can result in better utilization of health care services and good hygiene practices. It is seen that the pattern of ocular morbidities varies from country to country.[11,12]

Children spend most of time at homes and can be more keenly observed by parents therefore parents' awareness of eye diseases and eye care services should be addressed. Studies about public health awareness for eye-related diseases and eye health education in Pakistan are scarce. This study aims at exploring awareness of parents for pediatric eye diseases and their needs. Identifying the contributing factors, it may lead to overall better outcomes for the affected children. This will eventually help to reduce burden on the healthcare system by minimizing the number of patients and will also help to improve health status of the future workforce.

METHODS

A descriptive cross-sectional study was carried out at public and private hospitals of Tehsil Babuzai, District Swat, Pakistan. Sample size was calculated using proportion formula for sample size calculation through Open Epi Menu software, Version 3.01. Previous prevalence of blurry vision was taken as 85.7% as reported by a study conducted at remote area of Baluchistan, Pakistan in 2018.[11] Calculated sample size was 189 with 95% confidence interval (C.I.) and 5% margin of error. After adding5% non-response rate, final sample size came out tobe200 parents.

Parents refusing to participate or having children above 15 years were excluded from the study. Data was obtained from parents visiting Pediatric outdoor patient department through an interview-based questionnaire. The questionnaire comprised of four parts; Socio-demographic, parental eye care knowledge, parental eye disease knowledge and eye care practices. The questionnaire was also translated into Urdu Version. It was adapted from a study conducted at Saudi Arabia.[13]

For each section of the questionnaire (knowledge related to eye care, eye diseases and eye care practices) total score of above 50% was considered good and those below 50% were considered poor. Answerforeachcorrectquestionwasscoredonepointand withincorrectanswerwasgivenascoreof zero. Coding was done as 0and 1 for all variables.

Chi-Square test was run for association of categorical variables and data was analyzed using SPSS version 20. Before data collection, parents were explained the purpose of the research and oral consent was taken from each participant. Participants were assured of confidentiality of their data.

RESULTS

A total of 200 respondents were included in the study. Majority of the respondents were females (71.5%). Most of the participants were illiterate (45.0%), those having primary education were (23.0%) and those with intermediate were (20.0%). Overall, 35.0% of participants reported an existing eye problem in their child. Demographic characteristics of respondents are given in Table 1.

Refractive errors were the commonest eye problem (42.9%). The detailed summary is illustrated in Figure 1.

Parent's knowledge about eye care was good in 56.0% and about eye care practices was good in 70.0%. Our study showed that eye care knowledge was significantly higher in respondents with higher education ($p = 0.016$), monthly income of family ($p = 0.030$) and parents with child having an existing eye

Table1: *Parents demographic Characteristics (n = 200).*

S. No.	Variable	Frequency(n)	Percentage(%)
	Age of Respondent		
1.	20 – 35years	113	56.5
	36 – 50years	87	43.5
	Gender		
2.	Male	57	28.5
	Female	143	71.5
	Education level of Respondent		
	Illiterate	109	54.5
3.	Primary Education	37	18.5
	Intermediate	30	15.0
	Bachelors or above	24	12.0
	Number of Children		
4.	1 – 2 Children	47	23.5
	3 – 4 Children	90	45.0
	Above4children	63	31.5
	Monthly Income of family		
5.	Less than 30,000	121	60.5
	31,000-50,000	58	29.0
	Above50,000	21	10.5
	Place of Residence		
6.	Urban	58	29.0
	Rural	142	71.0
	Child with eye problem		
7.	Yes	70	35.0
	No	130	65.0

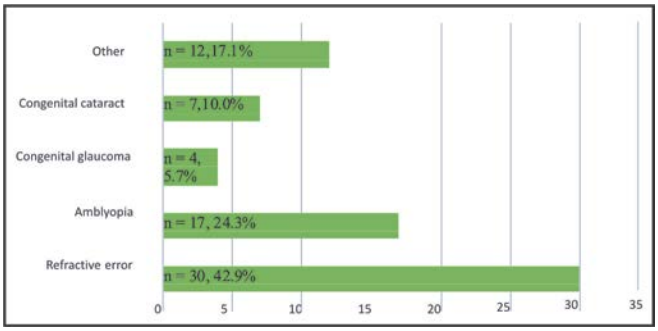

Fig. 1: (Khan, Nabeel, Muhammad, Batool, Javed) Prevalence of different eye disease among children as informed by parents.

problem (p = 0.042). While, eye care practices were good in males (p = 0.015), respondents with higher education (p = 0.001), respondents with higher monthly income (p = 0.002) and child having existing eye problem (p = 0.001). The eye care knowledge and practices score are correlated with a number of determinants shown in Table 2.

Eye disease knowledge was good in 64.0%. However, eye disease knowledge was significantly higher in males (p = 0.005), parents from urban area (p = 0.026), respondents with higher education (p = 0.001), education level of spouse (p = 0.006), job nature (p = 0.026) and child having existing eye problem (p = 0.026). The eye care and eye diseases knowledge score were correlated with a number of determinants shown in Table3.

Results indicated that 38.5% of parents had an eye test of their child done and the most common age at which child was taken for eye examination was 6 – 10 years (37.3%); other ages are summarized in Figure 2.

DISCUSSION

The current study revealed the level of knowledge, attitude and practices of parents regarding eye diseases of children at Tehsil Babuzai, District Swat, Pakistan. Parents with higher education level and those with children having existing eye diseases had good knowledge and practices as compared to those with no education or no existing child's ocular issues. The most common source of information regarding eye diseases among parents was doctors and nurses.

Good eye care knowledge was observed in parents with higher education level and age group varying from 20 – 35, with monthly income above 50,000 and those who had child with existing ocular issue. Results are similar to a study conducted in Saudi Arabia where younger parents and with university level education had better knowledge towards eye care.[14] Good

knowledge about eye diseases was observed in (64.0%) of parents and the results are associated with a study carried out at Arar city where 56.7% parents had sufficient eye knowledge.[15] Similarly, another study from Ethiopia showed that respondents had good knowledge of trachoma (81.7%).[16]

Table 2: *Association of parental eye care and eye diseases knowledge with Socio-demographic characters*

S. No.	Variables	Poor Parental Eye Care Knowledge n (%)	Good parental Eye Care Knowledge n (%)	P-value	Poor Parental Eye Care Practices n (%)	Good Parental Eye Care Practices n (%)	P-value
	Gender						
1.	Male	23 (40.4)	34 (59.6)	0.512	10 (17.5)	47 (82.5)	0.015
	Female	65 (45.5)	78 (54.5)		50 (35.5)	93 (65.0)	
	Education level of Respondent						
2.	Illiterate	56 (54.1)	53 (48.6)	0.016	46 (42.2)	63 (57.8)	0.001
	Primary	18 (48.6)	19 (51.4)		10 (27.0)	27 (73.0)	
	Intermediate	9 (30.0)	21 (70.0)		3 (10.0)	27 (90.0)	
	Bachelor's or above	5 (20.0)	19 (79.2)		1 (4.2)	23 (95.8)	
	Monthly income of family						
3.	Lessthan30,000	60 (49.6)	61 (50.4)	0.030	47 (38.8)	74 (61.2)	0.002
	31,000-50,000	24 (41.4)	34 (58.6)		11 (19.0)	47 (81.0)	
	Above50,000	4 (19.0)	17 (81.0)		2 (9.5)	19 (90.0)	
	Child having an existing eye problem						
4.	Yes	24 (34.3)	46 (65.7)	0.042	10 (14.3)	60 (85.7)	0.001
	No	64 (49.2)	66 (50.8)		50 (38.5)	80 (61.5)	

Table 3: *Association of parental eye disease knowledge with socio-demographic characters.*

S. No.	Variables	Poor Eye Disease Knowledge n (%)	Good Eye Disease Knowledge n (%)	P-value
	Gender			
1.	Male	12 (21.1)	45 (78.9)	0.005
	Female	60 (42.0)	83 (58.0)	
	Place of Residence			
2.	Urban	14 (24.1)	44 (75.9)	0.026
	Rural	58 (40.8)	84 (59.2)	
	Education level of Respondent			
3.	Illiterate	55 (50.5)	54 (49.5)	0.001
	Primary	14 (37.8)	23 (62.2)	
	Intermediate	2 (6.7)	28 (93.3)	
	Bachelor's or above	1 (4.2)	23 (95.8)	
	Education level of Spouse			
	Illiterate	41 (45.6)	49 (54.4)	
4.	Primary	19 (41.3)	27 (58.7)	0.006
	Intermediate	8 (20.0)	32 (80.0)	
	Bachelor's or above	4 (16.7)	20 (83.3)	
	Job Nature			
5.	Public	3 (13.6)	19 (86.4)	0.026
	Private	15 (30.6)	34 (69.4)	
	Own-business	54 (41.9)	75 (58.1)	
	Child having an existing eye problem			
6.	Yes	18 (25.7)	52 (74.3)	0.026
	No	54 (41.5	76 (58.5)	

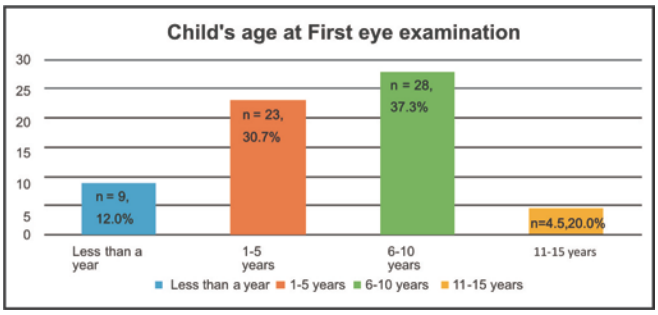

Figure2: Child age at first eye exam.

The highest frequency of visual problem was refractive error (42.9%) followed by amblyopia (24.3%). Other ocular problems were allergies and injuries (17.1%) and rarely congenital cataract and congenital glaucoma. The results are consistent with a study conducted in China reporting blurred vision as the most reported visual problem and major sign and symptoms prompting child for eye examination was rubbing of eye.[17]

In previous studies, refractive errors were most common eye disease, followed by strabismus and amblyopia.[15] Study conducted in Muzaffarabad Pakistan also revealed refractive errors (89.31%) as the major cause of visual impairment. Other causes were cataract, corneal diseases, amblyopia, strabismus and rarelynystagmus.[18]

It was observed in the current study that most common source of information regarding eye diseases was doctors, nurses and friends. The results are consistent with a study conducted in Arar city where friends and family were the most common source of information. Majority of the parents (85%) believed that pediatric visual problem was a critical issue and should be treated in time to avoid any future consequences.[15] Another study revealed that the source of information regarding strabismus was internet (81.3%) as compared to the illiterate population whose major source of information was relativesandpeers.[19]

Moreover, in this study, majority of the children did not have any eye examination. The results are correlated to a study conducted in Bangladesh where (96%) of population never had any previous eye examination.[20] This study also revealed that 71.5% of mothers brought their children to OPD. Another study from India also showed that most of the times mothers accompanied their children for examination and majority of them were housewives (41.5%). Educating mothers is very crucial to bring about a change in early detection of visual problems in children.[21]

This study showed no significant association of parental eye care knowledge, eye disease knowledge and eye care practices with number of children ($p > 0.05$). In Nigeria similar results were seen where there was no significant association of good eye care practices with numberofchildren.[22]

Absence of any signs of ocular disease was the main cause of not taking children for eye examination (81.5%). A Nigerian study also revealed that parents were more likely to take their child for examination only in cases of visible ocular issue.[7]

The current study included a diverse sample comprising parents from different socioeconomic groups, educational background and ethnic groups. Findings of the current study can be generalized to the similar population from other parts of Pakistan due to similar contextual factors.

The limitations of this study include its cross-sectional design without any causal relationship. Secondly, it was conducted only at Tehsil level. Budget and time duration were also less. Issues related to nutrition, lack of antenatal care and infections were not included in the study.

CONCLUSION

This study demonstrates that males had better knowledge and practices than female respondents. Better knowledge and practices were also associated with higher education level. It also revealed that parental knowledge was good in those whose child had an existing eye problem. The study emphasizes a need to improve the knowledge of illiterate parents and especially mothers as they are primary care givers and can help in early detection of ocular morbidities. Camps and screening programs should also be held in different areas in order to detect visual problems at early stages.

Conflict of Interest: Authors declared no conflict of interest.

Ethical Approval

The study was approved by the Institutional review board/Ethical review board **(MSPH-IRB/13-08).**

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Khizar Nabeel; Senior Lecturer: *Concepts, Design.*

Idrees Muhammad; Resident Surgeon: *Statistical Analysis.*

Siddiqa Batool; MSPH Student: *Data Analysis and Interpretation of Data.*

Sadaf Javed; MSPH Student: *Collection of Data.*