Knowledge of Causes and Preventive Patterns of Visual Impairments Among Parents and Teachers of Primary School Aged Children in Bende and Umuahia-North LGA, Abia State, Nigeria

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Abstract- ***Visual impairment (VI) among school children are is worrisome situation that affects their education, phycological and social life when not properly managed. Improved knowledge of the parents or guardians and the primary school teachers concerning visual impairments in children. Important in achieving successes towards prevention and control of visual impairments among school children. Therefore the objective of the present study was to assess the knowledge of the parents and teachers of school aged children on the causes and prevention techniques of visual impairments in children. The study was designed as a descriptive cross-sectional involving primary school pupils in Bende and Umuahia North of Abia State Nigeria. The schools included in the study were randomly selected from the two LGAs. Also, the school pupils were randomly selected and their parents were invited through the help of the school teachers. Included were also the teachers in the selected primary schools who were also selected at random. A random sampling technique was used in selecting the schools and the pupils addition, Descriptive analysis was performed using distribution tables and charts, A total of 700 parents and 24 teachers were included in the study. A questionnaire was administered to the parents and teachers of the pupils to assess their knowledge on likely causes and prevention methods for visual impairments. Chi square test was used to test for significant effects of knowledge. The statistical test shows that knowledge of parents on factors relating to economic, nutrition and environment is significant (X2=85.98; df=3; p<0.001). Also found significant was early preventive knowledge of the parents (X2=463.76; df=4; p<0.001), early reporting of eye abnormalities from the child (X2=468; p<0.001) and hygiene promotion by teachers (X2=9.33; df=3; p<0.025). Knowledge of parents / guidance and also the teachers is an important aspect of prevention for VI in this study but Parents of the pupils and school teachers of primary school aged children do not have good knowledge of the causes of VI among the primary school children studied. Genetic factors, poor hygiene and poor nutrition also contribute to visual impairment. Therefore the study recommended for programs to increase public awareness on causes and prevention of eye problems among parents, guardians and school teachers.***

Indexed Terms- ***Visual Impairment, Parents, Teachers, Knowledge, Cause, Prevention***

I. INTRODUCTION

Visual impairment, is defined as a best corrected visual acuity of worse than either 20/40 or 20/60, which is capable of causing eye issues that cannot be corrected through glass wears. Visual impairment in children places them at the risk of difficulties relating to behavious, emotions, self-esteem and social integration [2] (WHO, 2023). It has also been associated with educational performance and achievements in children (Le Fanu et al., 2022; [2, 3] WHO, 2023). However, school children with visual impairment could still perform better in education and other aspects of life but that may be dependent on good ophthalmic assessment, early detection accurate treatments, as well as proper habilitation and rehabilitation.

To ensure the optimal development of children with visual impairment, it is crucial that children are closely monitored and screened of visual impairments by the parent, teachers, medical professionals and and visual impairment specialist educators [4]. Children with poor visual acuity who are unable to take advantage of ordinary educational methods are entered either in special schools for the blind where emphasis is upon learning by touch or preferably in integrated schools where facilities are available for special training but where the child is not deprived of all contact with normal persons within the same age group [5]. Many of these could require extra involvements of the child's parents and the teachers. Having the basic knowledge of vision impairment issues including causes and preventive techniques by the parents and teachers is an essential step in vision care for school aged pupils [6]. To achieve this, parents are expected to play a leading role together with school teachers through engagement of special needs tutors specializing in visual impairments. That could also strengthen teacher-to-parent communications and discussions making it easier in sharing of observed optical conditions. Such a teacher-to-parent communications on visual conditions of school children has been reported to be association with positive rate of vision care seeking behaviors among parents [7].

In most communities, adequate information about visual impairments and the basic care knowledge of visual impairments on children is primarily not in existence to the parents of school children and their teachers. the consequences are such that many children in such conditions are at the risk of having severe visual impairments and blindness from problems that could been tacked. At least eighty percent of the world's visually impaired children live in low and middle-income countries, where less than ten percent of them have access to education [8]. It is against this background that this study was designed to assess the knowledge of causes and prevention of visual impairments among parents and teachers of primary school pupils in Bende and Umuahia North Local Government Area, Abia State, Nigeria. This is because, active education among visually impaired children calls for extra cost and commitments on human and material resources from parents and teachers. It is important for the teachers and parents and guidance of primary school children to have good knowledge of causes and prevention of visual impairments on school aged children so that they should help in the provision of necessary assistance needed its care and treatments.

II. MATER IALS AND METHODS

Study Design

The study was designed as a survey involving parents or guardians and teachers of school aged pupils in Bend and Umuahia North Local Government Areas of Abia State Nigeria.

Study Area

The study was performed in two Local Government Areas (LGAs) in Abia State Nigeria namely Bende LGA and Umuahia North LGA. Bende LGA has a population of 128,227 inhabitants, and contained more of rural settlement pattern. The residents are predominantly of Igbo tribe. The major practices in the area are farming and other agricultural activities. Common agricultural products in the LGA include cassava, yam, coco yam and palm oil. They also practice petty trading where most of the agricultural products produced from the area are being sold. Popular communities within the LGA include: Uzakoli, Agbaiyi, Alayi, Eziukwu, Ugwueke, Ozuitem and others.

Umuahia North LGA is more of urban settlement and parts of the LGA fall within the capital territory of Abia State, Nigeria. The LGA lies between Port Harcourt and Enugu Road and has a population of 159,230. Just like Bende, the residents of the area are predominately of Igbo tribe, but some reasonable number of people from other tribes such as Hausa, Ibibio and others also live in the area; many of which are involved in commercial businesses in the LGA. The LGA is popular for marketing of agricultural products, and contained railway station which is a linkway to marketing of products to other neighboring states in Nigeria. Both LGA have many primary schools including public and private primary schools, containing a total of 22,879 pupils. Notable towns and villages in the area include Umuahia, Umukabia, Umuawa-Alaocha, Amaogwugwu, Umuagu, Umuekwule, Ofeme, and Amafo-Isingwu.

Study Population and sample size

The study population comprised of parents / guardians of school aged children in the selected schools from the two study LGAs. It also included the teachers from the study selected primary schools. The schools comprised of 26 public and19 private primary schools in the study LGAs. The sample size of 700 parents/ guardians was established using fishers method.

Sampling Technique

The study was grouped into two clusters namely Bende and Umuahia North, representing a dominant rural settlement and a dominant urban settlement patterns. Five primary schools were randomly selected in each LGA comprising of four public schools and one private school in Bende LGA. The schools were Okwu Community Primary school Olokoro, Umuosu Community School, Mbom central school, Central Primary school and Hilltop Nursery and Primary school. In Umuahia North, the selected schools include Amaohoro Primary school, Ibeku primary school and Igbere primary school, Brighter day academy and Wesley primary school.

Systematic sampling was used to sample the pupils from the selected schools. The class teachers were identified and the parents or guardians of the pupils were contacted through the help of the class teachers. Some of the parents that were not able to attend were contacted in a telephone for the interview. Only parents that agreed to take part in the study were included

Instrument for Data Collection

A closed and open-ended Questionnaire was used for data collection, The questionnaire was classified into sections, with section A focusing mainly on the demographic characteristics of the respondents and other sections were on knowledge and preventive techniques for VI.

Method of data collection

Data was obtained through the help of trained research assistants. The respondents were given the option of filling the questionnaire themselves or being helped by the research assistants. The questionnaire was constructed in English Language so it was translated to non-literate respondents and their responses were recorded. Only the respondents that heeded to oral informed consent were included in the study.

Method of data analysis

Data analysis was performed using IBM-SPSS Statistics version 25. Data was first analysed descriptively using frequency distribution table (expressed as percentage of the distribution). Chi-Square test was used to test for association between variables in the data. Probability value (p) was used to interpret significance. A p-value of equal or less 0.05 was considered significant.

III. RESULT

Sociodemographic Characteristics of Study Respondents

Table 1 contained the social demographic characteristics of the study respondents, comprising of 700 parents or guardians and 24 teachers. The age that contained the largest number of parents is the 32 – 40 years, with a total of 310 (44.3%). More than half of the teachers were between 31 – 40 years of age (54.2%). The females were of majority both among the parents (448: 64%) and the teachers (66.7%).

Many of the parents/ guardians were farmers (43%) or traders (10.1%), and only about one quarter among them earn above #100,000 in a month, while 256 (37.9%) earn between 51,000 – 100,000 naira in a month. Half of the teachers responded that they earn between 51,000 – 100,000 naira monthly.

Table 1: Sociodemographic Characteristics of Study Respondents

Sociodemographic Characteristics	Parents/ Guardians		Teachers	
	Freq	Percent (%)	Freq	Percent (%)
Age (years)				
18 -30	84	12.0	7	29.2
31- 40	310	44.3	13	54.2

40 -50	260	37.1	3	12.5
51 and above	46	6.6	1	4.2
Total	700	100.0	24	100.0
Gender				
Male	252	36.0	8	33.3
Female	448	64.0	16	66.7
Total	700	100.0	24	100.0
Occupation				
Civil / public servants	71	10.1	24	100.0
Trading	230	32.9	-	-
Farming	301	43.0	-	-
Artisan	71	10.1	-	-
Others	27	3.9	-	-
Total	700	100.0	24	100.0
Income in Naira				
< 30,000	57	8.1	2	8.3
31,000- 50,000	199	28.4	7	29.2
51,000 -100,000	265	37.9	12	50.0
Above 100,000	179	25.6	3	12.5
Total	700	100.0	24	100.0

Knowledge of Pupils' Parents or guidance on Causes and Prevention of VI among school Children.

On Table 2, majority 230(33%) of the parents reported genetic factor as the main cause of visual impairment, 201(29%) cited economic factors, 198(28%) said nutritional factors while only 71(10.1%) said environmental factors (poor hygiene). The statistical test shows that knowledge of parents on factors relating to economic, nutrition and environment is significant (χ^2=85.98; df=3; p<0.001).

On Parents or guardian's knowledge on prevention of VI; majority 270(38.6%) said early treatment followed by 201(30%) that reported regular screening while least was on those that reported dust free environment with 15(2.1%). The statistical test indicates that early preventive knowledge of the parents is significant (χ^2=463.76; df=4; p<0.001). The largest number of pupils 640(91.4%) do informed their parents or teachers of any eye ailments and statistical test indicates that informing the parents of any eye abnormality is significant (χ^2=468.6; df=1; p<0.001).

Table 2: Knowledge by Parents on Causes of Visual Impairments

Causes of VI and blindness	Frequency	Percent	Chi-sq (χ2)	P
Factors that affect visual impairment and blindness				
Economic factors	201	29.0		
Genetic factors	230	33.0		
Nutritional factors	198	28.0		
Environmental factors	71	10.1		
Total	700	100	85.98	0.001

knowledge on prevention of Visual Impairments				
Early treatment	270	38.6		
Use of spectacles	85	12.1		
Dust free environment	15	2.1		
Good personal hygiene	20	2.8		
Good nutrition	75	10.7		
Good lighting	25	3.5		
Regular screening	210	30.0		
Total	700	100.0	463.76	0.000
When the pupils have eye ailments				
Informed their parents or teachers	640	91.4		
Do not informed their parents or teachers	60	8.6		
Total	700	100.0	468.6	0.001
Knowledge of the causes of Visual Impairments				
Genetic causes	230	33		
Poor nutrition	198	28.0		
Poor hygiene	71	10.1		
Others	201	29.0		
Total	700	100.0	85.98	0.001

Knowledge of Teachers on Causes and Prevention of VI

In assessment of teachers' knowledge on causes of visual impairment as Table 3 presented; majority 12(50%) of the teachers reported genetic factors with 201(29%) and the least number of the teachers cited economic factors 4(17%). The statistical test showed no significant association (X^2=3.14; df=3; p<0.370). On aspect of prevention; most of the teachers said it can be prevented with use of spectacles 6(25%) and equal number 4(17%) of them reported good nutrition and regular screening. The statistical test using chi square showed no significant association (X^2=3.42; df=6; p<0.755). Good personal hygiene (50%) was reported by teachers as the common practices on eye health hygiene promotion and the statistical test was not significant (X^2=9.33; df=3; p<0.025).

Table 3: Knowledge of Teachers on Causes of VI

Causes of VI and blindness	Frequency	Percentage	X^2	P-value
Factors that affect visual impairment and blindness				
Economic factors	4	17.0		
Genetic factors	12	50.0		
Nutritional factors	2	8.3		
Environmental factors	6	25	3.14	0.370
Total	24	100		
Teachers' knowledge on prevention of VI and blindness				
Early treatment	2	8.3		
Use of spectacles	6	25		
Dust free environment	2	8.3		
Good personal hygiene	3	12.5		
Good nutrition	4	17.0		
Good lighting	3	12.5		
Regular screening	4	17.0	3.42	0.755
Total	24	100		
Teachers' practices on eye health promotion				
Good personal hygiene	12	50.0		
Good nutrition	6	25.0		

Care of the VI and blind	2	8.0		
Emphasis on early treatment	4	17.0		
Total	24	100	9.33	0.025

IV. DISCUSSION

The knowledge of the causes and prevention of VI among the study group centered on genetic factors but many did not have an idea on how these problems come about. Other identified factors likely to cause visual impairment were poor nutrition and hygiene. In another Nigerian study, diet, hygiene, were among the causes parents responded that with believe that it could be responsible to eye disease in children [9], Knowledge of parents or guardians was poor in a South Indian study, where only 9% showed good knowledge of visual issues in their children [10].

On prevention, early treatment and routine screening were the most preventive measures the study group showed knowledge of. Early treatment is essential in averting disease conditions that could worsen over time and cause irreversible damages. This is called primary prevention since it prevents diseases from occurring by promoting eye health and preventing eye disease. It may therefore imply that many will likely seek for eye examinations for their children. This finding contrasted with a report from a study in Benin Nigeria, which reported that majority of parents would only seek eye examination for their children based on child's complain for eye problem [11]. Poor responses were recorded against other preventive measures such as use of spectacles and having dust free environment. In Ebeigbe & Emedike study [9], up to half of the parents studied associated non good performance in school to eye problems that might require the wearing of glasses, yet not many parents were aware of preventive measures for eye problems as some of the think that engagement in exercise is a solution to eye problems in children. Another study identified the level of parents literacy level as a as a major factor affecting their knowledge on child eye problems [12].

CONCLUSION

Knowledge and awareness of parents / guidance and also the teachers is an important aspect of prevention for VI in this study. This has also been reported in earlier study. Parents of the pupils and school teachers do not have good knowledge of the causes of VI among the primary school children studied. Genetic factors, poor hygiene and poor nutrition also contribute to visual impairment. Therefore the study recommended for programs to increase public awareness of causes and prevention of eye problems among parents, guardians and school teachers.

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