

Original Research Article

Impact of organized teaching programme on awareness of mothers regarding prevention of eye problems in children at selected rural areas of Kolar district

Harish Kumar A. R.*, Elia Vivek E. P.

Department of Community Health Nursing, ETCM College of Nursing, Kolar, Karnataka, India

Received: 02 July 2022

Revised: 02 August 2022

Accepted: 03 August 2022

*Correspondence:

Dr. Harish Kumar A. R.,

E-mail: kumar123nsg@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Depending on the geographical area and socioeconomic state of the population, numerous diseases can cause visual impairment and blindness in children. Blindness in children in underdeveloped nations is typically caused by illnesses that result in corneal scarring such as vitamin A deficiency, measles infection, neonatal conjunctivitis, and dangerous traditional eye medications. Cataract, retinopathy of prematurity, genetic disorders, and congenital anomalies are the most common causes elsewhere. This issue is complicated by a lack of information about eye care and utilization of eye treatments.

Methods: For this study, an evaluative technique was applied. The data was collected using a one-group pre-test and post-test design. The organized teaching programme on prevention of eye problems in children was the study's independent variable, while the knowledge level of mothers on prevention of eye problems was the dependent variable. A structured interview schedule was utilized to collect data from 100 mothers who were recruited using the purposive sample technique.

Results: In the pre-test, the mean percentage of total knowledge was 56.35, with a standard deviation of 2.37. The mean percentage of total knowledge in the posttest was 75.83, with a standard deviation of 1.37. The obtained t value of 24.70 was larger than the table value of 2.66 and it was judged to be significant at the threshold of 0.01.

Conclusions: Study demonstrated that the organized education programme was successful in raising mothers' awareness about the prevention of eye disorders in children.

Keywords: Impact, Eye problems, Mothers, Knowledge, Organized teaching programme

INTRODUCTION

A child is a wonderful gift with great potential, and if raised and shaped properly, he or she can be the finest resource for the nation. A growing child's health is usually a source of tremendous anxiety for parents.¹ A child's physical health is essential since it is linked to his or her mental and social development. When compared to adults, children's health care has been neglected for many years. Infants initially learn how to interact with people by seeing the expressions on their parents' faces. They

will continue to rely on sensory input for stimulation throughout their lives. Excellent health is an essential component of good eyesight. The healthier the youngster, the greater his chances of avoiding eye damage.²

Children are our future, precious and important; the most valuable gift we can offer them is a healthy existence. However, owing to neglect caused by a lack of understanding about the eyes, our children may develop eye disorders that are becoming increasingly difficult to treat. An eye examination has no age restrictions.

Any anomalies involving the eyes, regardless of age, should be checked.³ Even if a kid has no symptoms, he or she should get at least one eye checkup. Early diagnosis and treatment are critical for a child's eye health. Otherwise, they may be doomed to permanent vision impairment as well as cosmetic issues. Even if the kid has no complaints, the optimal age for the first eye test is two years old. It is important that children who attend school get their eyes examined at least once a year.⁴

Every child is born with the ability to see well; nevertheless, eye injuries can occur on a regular basis and can occur anywhere. Eye injuries in children can occur at home, school, or the playground, as well as at festivals. When witnessing the solar eclipse without eye protection, retinal burns might develop.⁵ They should constantly be informed of the finest strategies to safeguard their vision. Increased exposure to television and computers has resulted in a rise in vision-related issues among youngsters. Often, parents are unaware that their children are suffering from visual issues.⁶

Every kid, including those with no obvious visual issues, should undergo a vision screening and/or eye examination before the age of five. A child's eyesight is critical for appropriate physical growth and scholastic advancement. Early diagnosis of curable eye illness in childhood and adolescence can have far-reaching consequences for vision and, in some circumstances, overall health.⁷

Every person is sensitive to vision, and we cannot fathom our lives without it. In other words, the quality of life is dependent on, and directly impacts, the quality of sight. The eyes are fantastic sensory organs. They assist people in learning about their surroundings. To see correctly, the eyes must work properly in all of their components. Most children's visual problems can be repaired if they are discovered and treated early.⁸ appropriate eye care is critical for preserving healthy vision; certain problems, if left untreated for even a short period of time, can result in irreversible vision loss.⁹

One in every twenty students at a school and one in every four school-age youngsters suffer from vision difficulties. Because vision problems can occur at any age, it is critical that children have adequate eye care. Untreated vision difficulties can develop and lead to more significant issues, as well as impact learning capacity, personality, and school adjustment. Without basic eye care, only those who present to secondary and tertiary care institutions would be identified and treated, with little progress made in terms of prevention.¹⁰

According to the American Public Health Association, around 10% of preschoolers suffer visual or ocular issues. However, children of this age are unlikely to complain about their vision. Sitting too near to the TV or holding a book too close, squinting, tilting their head, covering an eye, often wiping their eyes are all

symptoms of a visual issue. For a youngster of his age, he has a short attention span. Turning one's gaze in or out, light sensitivity, difficulty with eye-hand-body coordination when playing ball or riding a bike, and avoidance of colouring, puzzles and other intricate hobbies.¹¹

Recine et al conducted an ocular emergency in children: demographics, causes, symptoms, and most common diagnosis. The study findings revealed that children with ocular emergencies such as red eyes (61%), traumatism (17%), headache (7%), eyelid issues (7%), and vision loss were referred from the doctor to have the fundus examined (7%). Infectious conjunctivitis (29%) was the most common diagnosis, followed by corneal erosion (17%), normal examination (15%) and allergic conjunctivitis (15%) (13%). Pediatricians recommended the most severe instances (visual loss, acute strabismus and leucocoria), which accounted for 4.65% of all patients. The study found that there was a need for eye injury education for parents, instructors, and coaches. Nurses, health workers and doctors must play an active role in teaching the public about preventive measures for eye injuries in children.¹²

A research was carried out to assess parental awareness of frequent childhood injuries and to focus on preventative measures. Two hundred children's parents were questioned and their replies were evaluated. According to the report, there is a dearth of understanding about frequent childhood injuries and how to prevent them. There was a perceived need for the pediatrician to counsel the parents on this matter.¹³

According to WHO, a child turns blind somewhere in the globe every minute; there are roughly 1.5 million blind children globally. Vitamin A deficiency affects an estimated 127 million pre-school children, and 350,000 youngsters go blind each year. In India, around 1.1 percent of the population suffers from preventable blindness; approximately 12 million people are blind in country.¹⁴ Karnataka State has greatest no. of individuals in the country suffering from preventable blindness. In Kolar District alone, it is projected that 747 children are vitamin A deficient and 979 children have poor vision.¹⁵

Eye impairment is always a danger to proper growth and development since these sensory organs are responsible for so much of what a kid learns about the environment. Infants initially learn how to interact with people by seeing the expressions on their parents' faces. They will continue to rely on sensory input for stimulation throughout their lives.¹⁶ Eye problems might be transient. However, if they permanently impair eyesight, they have potential to become long-term disease. Health promotion, disease prevention, and health rehabilitation are all essential components of nursing care in this field.^{17,18}

In general, the author was enlightened by facts and statistics to carry out a study on the prevention of issues

in children by teaching their mothers, and so produced a problem statement impact of organized teaching programme on awareness of mothers regarding prevention of eye issues in infants at selected rural regions of Kolar district with objectives-To assess knowledge of Mothers regarding prevention of eye problems in children by pre-test score, to determine effectiveness of structured teaching programme by comparing pre and post-test knowledge scores and to determine association between knowledge scores of mothers-children with selected demographic variables.

Hypothesis

H₁: there will be significant difference between pre and post-test knowledge scores and H₂: there will be significant association between pre-test knowledge scores of mothers and selected demographic variables.

METHODS

The present study was evaluative research approach was adopted in ordered to assess the impact of structured teaching programme on knowledge of mothers regarding prevention of eye problems in children at selected rural areas of Kolar district, an one group pre-test post-test (pre-experimental) design had been used to attain the objectives of the present study. Study was conducted at selected rural areas of Kolar district.¹⁹ The independent variable was structured teaching programme on prevention of eye problems in children and dependent variable was knowledge of mothers regarding prevention of eye problems in children. The target population of the present study comprised of mother with children 0-14 years residing in Doddhanalli and Thippasandra selected rural areas of Kolar district. By adopting purposive sampling technique 100 mothers residing in selected rural areas of Kolar district was used to collect data.²⁰ Data collection was carried out for a period of two months from February 2022 to April 2022.

The researcher adhered to several critical ethical considerations regarding obligations and responsibilities in the recruitment of participants and data collection. Approval has obtained from institutional human ethics committee, normal administrative permission was obtained from a school administration, informed printed agreement was taken from the subjects and parents and maintained the confidentiality of data.

Inclusion criteria

Mothers who were willing to participate in the study and available during data collection, mothers with children in the age group of 0-14 years were included in the study.

Exclusion criteria

Mothers whose children had suffered from eye problem were excluded from the study.

Selection and development of the tool

The structured interview schedule was used to obtain data. It is regarded as the most ideal device for eliciting responses from both literates and illiterates. It is divided into two pieces. Section I included demographic characteristics such as age, education, income, employment, number of children, age of children and media exposure. Section II consisted of 40 knowledge topics relevant to the prevention of eye disorders such as by coding the demographic data, a scoring key for section-I is created. Section II scores of '1' and '0' were assigned to correct and incorrect responses. As a result, the highest possible score was 40.²¹

Development of structured teaching programme

The first draft of the structured teaching programme on prevention of eye problem was developed based on the objectives of the study and was given to 13 experts in the field of nursing along with objectives, criteria rating scale based on their suggestions and recommendations (expansions of abbreviations used and correction of certain items), the final draft of structured teaching programme prepared.²² The title of structured teaching programme on prevention of eye problem in children.

Reliability

In order to establish reliability of the tool, the technique called split half method used and reliability co-efficient was calculated by using raw score formula. Calculated $r=0.84$ and developed tool found to be highly reliable.

Method of data collection

After receiving official authorization from the relevant authority, data was gathered from 100 participants, with the mothers chosen using a purposive selection approach. The subject's willingness to engage in the study was determined after the investigator gave a self-introduction and described the objective of the investigation.²³ The individuals have been guaranteed of their anonymity and the confidentiality of the information they have supplied, and signed informed permission has been acquired. The pre-test was administered on the first day, followed by the Structured Interview schedule, followed with STP on eye issue prevention on the seventh day, and the post-test was administered using the same tool on the eighth day, each subject took 30 min to answer interview schedule.²⁴

This data entered into excel sheets and analyzed using SPSS for windows, version 16.0, Chi square test used for evaluation of level of significance.

RESULT

The data were analyzed on the basis of the study objectives, using both descriptive and inferential

statistics. Findings are organized in the following headings.

Table 1: frequency and percentage distribution of demographic profile of mothers.

Variables	N	Percent (%)
Age (years)		
15-25	61	61
26-35	26	26
36-45	13	13
46-55	-	-
Education		
Illiterate	13	13
Primary	32	32
Secondary	24	24
Pre-university	9	9
Diploma	7	7
Graduate	9	9
Post graduate	6	6
Occupation		
Self-employee	14	14
Private employee	30	30
Government employee	5	5
House wife	44	44
Daily wager	7	
Family income (INR)		
Less than 4000	55	55
4000 to 6,000	21	21
6,000 to 10,000	15	15
More than 10,000	9	9
Daily wager	7	7
Number of children		
One	55	55
Two	39	39
Three	6	6
Four and above	-	-
Age of children (years)		
0-1	69	69
1-3	41	41
3-6 s	28	28
6-14	13	13
Sources of information		
Family and relative	29	29
Neighbors	19	19
Friends	22	22
TV/radio	30	30
Total	100	100

The distribution of the subjects by age revealed that the majority of the subjects 61 (61%) were between the ages of 15 and 25. Education revealed that the majority of the subjects 32 (32%) had completed primary education and only 6 (6%) of them post-graduates. Family income revealed that majority of subjects 55 (55%) had less than 4000, age of children revealed that majority of children, 69 (69%), are between ages of 0 and 1 year, while only 13 (13%) between ages of 6 and 14 years. Majority of

subjects received information from TV/radio, 30 (30%), while only 19 (19%) received info from neighbors.

According to the above table, the maximum mean percentage obtained by the subjects is found in the aspect of anatomy and physiology (70.20%), followed by general concept (70%), strabismus (63%), blepharitis (61.33%), xerophthalmia (59.83%), conjunctivitis (54.40%), trachoma (53.20%) foreign body in eye (44.50%), and the least mean knowledge score (25 respondents' total knowledge scores were determined to be 56.35% with a standard deviation of 2.37.

Table 2: Mean, mean percentage and standard deviation for the knowledge of mothers regarding prevention of eye problems in pre-test, (n=100).

Knowledge variables	Mean	Mean percent (%)	S. D.
Anatomy and physiology of eye	3.51	70.20	0.67
General concept	0.70	70.00	0.46
Conjunctivitis	2.72	54.40	1.11
Blepharitis	3.68	61.33	0.64
Trachoma	2.66	53.20	0.96
Strabismus	3.15	63.0	0.64
Xerophthalmia	3.59	59.83	1.11
Eye injuries	0.75	25.0	0.79
Foreign bodies in eye	1.78	44.50	1.06
Overall knowledge	22.54	56.35	2.37

Table 3: Mean, mean percentage and standard deviation for the knowledge of mothers regarding prevention of eye problems in post-test, (n=100).

Knowledge variable	Mean	Mean percent (%)	S. D.
Anatomy and physiology of eye	3.52	70.40	0.70
General concept	0.86	86.00	0.34
Conjunctivitis	3.70	74.00	0.90
Blepharitis	4.83	80.50	0.49
Trachoma	3.69	73.80	0.50
Strabismus	3.74	74.80	0.54
Xerophthalmia	4.95	82.50	0.78
Eye injuries	1.87	62.33	0.73
Foreign bodies in eye	3.17	79.25	0.63
Overall knowledge	30.33	75.83	1.91

According to above table, max mean percentage obtained by subjects is found in aspect of general concept (86%), followed by xerophthalmia (82.5%), blepharitis (80.5%), foreign body in eye (79.25%), strabismus (74.8%), conjunctivitis (74%), trachoma (73.8%), anatomy and physiology (70.4%) and least mean knowledge score

(79.25%) respondents' total knowledge scores 75.83% with a SD=1.91.

According to the preceding table, the derived t value of 24.70 is larger than the table value at the 0.01 level of significance. As a result, the t value is determined to be important. It indicates that moms' knowledge level has increased. This demonstrates that an organized teaching

programme on the prevention of eye disorders in children is helpful in raising mothers' knowledge level.

Furthermore, at both the 0.01 and 0.05 levels of significance, the computed 2 value is smaller than the table value. As a result, the research hypothesis is denied, and there is no significant relationship between information sources and participant knowledge ratings.

Table 4: Comparison of pretest and post-test knowledge scores among mothers regarding prevention of eye problems, (n=100).

Knowledge variable	Pre test		Post test		T value
	Mean	SD	Mean	SD	
Anatomy and physiology of eye	3.51	0.67	3.52	0.7032	0.10
General concept	0.70	0.46	0.86	0.34	2.83
Conjunctivitis	2.72	1.11	3.70	0.90	7.35
Blepharitis	3.68	0.64	4.83	0.49	13.60
Trachoma	2.66	0.96	3.69	0.50	9.32
Strabismus	3.15	0.64	3.74	0.54	6.63
Xerophthalmia	3.59	1.11	4.95	0.78	10.05
Eye injuries	0.75	0.79	1.87	0.73	10.32
Foreign bodies in eye	1.78	1.06	3.17	0.63	11.78
Overall knowledge	22.54	2.37	30.33	1.91	24.70

DISCUSSION

Based on the data analysis, the following findings were reached. The current study sought to determine the impact of an organized teaching programme on mothers' awareness of eye issue prevention in children in chosen rural regions of the Kolar district.

In the pre-test, the mean percentage of total knowledge was 56.35, with a standard deviation of 2.37. The mean percentage of total knowledge in the posttest was 75.83, with a standard deviation of 1.37. This finding of the study was in consistent with study conducted by Sukati et al on knowledge and practices of parents about child eye health care in the public sector in Swaziland.²⁵

The resulting t value of 24.70 was larger than the table value of 2.66 and was determined to be significant at the 0.05 level. As a result, the research hypothesis that there would be a substantial difference in pre and post level knowledge on prevention of eye disorders in children among mothers was accepted. This demonstrated that the organized education programme was successful in raising mothers' awareness about the prevention of eye disorders in children. These findings were in consistent with study conducted by Azza et al on effect of instructional guidelines on mothers of children with conjunctivitis and finding showed there was a positive effect of guidelines on improving knowledge and practices of the studied mothers on conjunctivitis.²⁷

Findings revealed that there was statically no significant association between the knowledge score with

demographic variables like age, education, occupation, family income, age of the child, number of children and sources of information at the level of $p < 0.05$. Hence the research hypothesis stated that there will be significant association between the pretest knowledge score with selected demographic variable was rejected.

Implications of the study

Nurses were crucial members of the health care team who played an important role in health promotion and maintenance. Nursing care was both an art and a science in terms of delivering great care. This study suggested a foundation for creating standards of care in both the hospital and the community.

The nursing curriculum should include material and activities such as the creation of brochures, handouts and pamphlets on the prevention of eye disorders.

The nurse educator should educate moms and family members about the benefits of attending an eye camp, which focuses on early diagnosis and prevention of eye disorders.

The nurse administrator should be interested in offering information on the prevention of children's eye issues. She should be able to develop and arrange programmes while keeping cost effectiveness in mind, and she should be able to carry out the successful educational programmes.

Nurses, as the target group in the health care delivery system and those closest to patients, should take the initiative to do further research on the prevention of eye disorders.

Limitations

Only one domain that was knowledge was considered in the present study. The study was conducted in one area, which restricts the generalization.

CONCLUSION

Organized and implemented teaching programme on awareness of mothers regarding prevention of eye problems in children had beneficial effects for mothers in terms of awareness scores in improving knowledge level on recognizing eye problems and instituting the preventing measure. This study confirmed that teaching programme can lead mothers to be motivated in recognizing eye problems in early stage and educate mothers not to neglect in taking treatment.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

- Chicago. Release National platform to help protect children's vision. Prevent Blindness America. 2008. Available at <http://www.preventblindness.org>. Accessed on 25 Jan, 2021.
- Jose C. Effectiveness of Structured teaching programme on knowledge regarding Pelvic floor muscle exercises in prevention of Urinary incontinence among premenopausal women admitted in selected hospital Bangalore. Asian J Nursing Educ Res. 2021;11(3):307-0.
- DGHS ministry of health and family welfare. For your eyes only. Govt of India. 2014.
- Rajashekar YL. An eye on your child's vision. Deccan Herald. 2008.
- Ben-Joseph EP. Yours Eyes Kids Health. 2006. Available at <http://kidshealth.org>. Accessed on 25 Jan, 2021.
- Gupta MC, Mahajan BK. Text book of preventive and social Medicine. 3rd edition. Jaypee publisher. Newdelhi. 2005.
- Park K. Park's Textbook of Preventive and Social Medicine. 19th edition. M/s Banarsidas Bhanot publishers Jabalpur New Delhi. 2007.
- Mela EK, Georgakopoulos CD, Georgalis A, Koliopoulos JX, Gartaganis SP. Sever ocular injuries in Greek children. Ophthalmic Epidemiol. 2003;10(1):23-9.
- Raiju P. Effectiveness of Structured Teaching Programme on Knowledge regarding modes of Mechanical Ventilator among Staff Nurses at a selected Hospital, Bangalore. Asian J Nur Edu Res. 2015;5(1):98-104.
- Guptha P, Ghaio P. Text book of Community Medicine. 2nd edition. Vorma publication. 2002.
- Renuka R. A Study to Assess the Impact of Physical Activity on Menopausal Symptoms among Women in a Selected Area, Coimbatore. Asian J Nur Edu Res. 2015;5(1):78-81.
- Henríquez-Recine, Noval S, Zafra B, De Manuel S, Contreras I. Ocular Emergencies in Children: Demographics, Origin, Symptoms, and Most Frequent Diagnoses. J Ophthalmol. 2020;6820454.
- Singh S. A Study on Nutrition and Health Education Programme of ICDS Scheme for Nursing Women in Punjab. Asian J Nur Edu Res. 2015;5(2):229-33.
- WHO. Vision 2020 Priority eye disease. Available at: <http://www.who.int/ncdvision2020-actionplan>. Accessed on 25 March, 2021.
- Sasikala T, Jayagowri S. Effectiveness of structured teaching programme on acute respiratory infection. nightingales nursing times. Res Gate. 2008;4(3).
- Sehgal A. Parental awareness regarding childhood injuries. Ind J Pediatr. 2005;71(2):125-8.
- Staff Reporter. Project launched to prevent blindness in children. The Hindu. 2006.
- Patil SB, Udapi G. A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Child Abuse and its Prevention among Primary School Teachers in selected Government Primary Schools of Belgaum City, Karnataka. Asian J Nur Edu Res. 2015;5(1):26-34.
- Mathew TA. A Study on Effectiveness of Structured Teaching program on Road Safety Measures among Primary School Children in Selected School at Bangalore. Asian J Nur Edu Res. 2014;4(2):207-11.
- Chandrasekhar M, Vishakantamurthy DG, Prasannakumar DR, Muruli MA. A study to assess the Knowledge of Adolescent Girls Regarding the Prevention of Iron Deficiency Anemia in Selected Rural Areas of Mysore with a View to Develop an Information Booklet on Prevention and Management of Iron Deficiency Anemia. Asian J Nur Edu Res. 2016;6(1):74-8.
- Acute Respiratory infection. Nightingales Nursing Times. 2008;4(3):12-5.
- Adele pillteri. Child health nursing, care of child and family. Lippincott publishers. 1999.
- Ajaiyeoba A. Childhood eye diseases in Ibadan. Afr J Med Sci. 1994;23(3):227-31.
- Ambica C. A Descriptive Study to Determine the Prevalence of Childhood Obesity and its Influencing Factors among School Children at selected Urban School in Sivagangai District, Tamil Nadu. Asian J Nur Edu Res. 2014;4(4):481-8.
- Sukati VN, Moodley VR, Mashige KP. Knowledge and practices of parents about child eye health care in the public sector in Swaziland. Afr J Prim Health Care Fam Med. 2018;10(1):1808.

26. Azza El-Sayed AH, Abd El-Maksoud MM, Sabea MTM. Effect of instructional guidelines on mothers of children with conjunctivitis. *Egypt Nursing J.* 2018;15(1):50-61.

Cite this article as: Kumar HAR, Vivek EPE. Impact of organized teaching programme on awareness of mothers regarding prevention of eye problems in children at selected rural areas of Kolar district. *Int J Contemp Pediatr* 2022;9:799-805.