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Research Paper Education

Prevalance of Strabismic / Squint Eye Among Pre-Primary Children

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ABSTRACT

A study on prevalence of strabismus among preprimary children was carried out at North zone of Coimbatore district among 1,400 anganwadi children. 6 strabismic children were finally identified after the clinical evaluation. Purposive sampling method was used and the results revealed that early clinical and functional identification is the best means to plan for Functional vision training / treatment to cope with the strabismic related vision problems.

KEYWORDS : Children with strabismus – Indigenous Devices – Early Identification – Remedial Measures

INTRODUCTION:

Twenty Four percent of persons at birth go un-noticed for a long time until the person acquires vision problems in one eye than the other. Strabismus affects 2% to 4% of the population and can result in Amblyopia, which is often not discovered in time to initiate effective treatment (National Screening Committee (NSC) -2005). Early detection and prompt treatment of ocular disorders in children is important to avoid lifelong visual impairment.

NEED AND IMPORTANCE OF THE STUDY:

- Nearly 80% of preschool age children never get an eye examination. The prevalence of undetected vision problems among preschool age children is estimated to be 5% to 10%. Failure to detect visual impairment early may have a permanent effect on long term vision outcomes, education achievement, and self esteem reported by The University of Texas, USA, (2006).
- Parents think that nothing can be done to improve vision in the Amblyopic eye, but this can be prevented to a great extent in majority of cases, if it is detected around the age of 3-4 yrs (Maglia and his co-workers, 2008).
- Medline (2009) reported that, the prevalence of strabismus in children of 5 years and younger is between 7% and 8%. Three percent of children have amblyopia. Treating children younger than 8 years who have cataracts or squint may prevent the development of amblyopia.
- The parents of children with late diagnoses expressed less concern over the seriousness of amblyopia but were more likely to report that their children had suffered of some adverse consequences of amblyopia, (Children's National Medical Center, Washington, 2009).

Hence there is a great need for orienting the parents on the following aspects:

- a positive family approach for strabismus,
- greater parental support,
- an increased chance for early and frequent diagnosis,
- Concern to promote education in inclusive schools.

In India, ophthalmologist population ratio counts 1: 25,000. Hence this issue is neglected due to treatment back lock in cataract and major eye diseases. Hence this situation necessitated and urges the education and rehabilitation professionals to identify the children with strabismus and children at risk for strabismus at earlier stage persay. Hence the research study on "Prevalence of Squint eye among Preprimary Children" is planned in the educational setting using indigenous techniques and devices.

Realizing the need for early detection of Strabismus, a study on "Prevalence of Squint eye among Preprimary Children" was undertaken and 1400 preprimary children of North zone from Coimbatore district were screened. The objectives and the methodology followed are presented below:

OBJECTIVES OF THE STUDY:

The objectives of the study are to:

- Survey the existing Anganwadi programme, at North zone of Coimbatore district.
- Screen children with Strabismus in the educational setting using indigenous devices and techniques with the help of teachers, parents and caretakers.
- Detect children with strabismus and atrisk for strabismus.
- Refer children with strabismus and children atrisk for strabismus at risk subjects for comprehensive clinical evaluation.
- Facilitate treatment in terms of surgery and refractive correction thereby preventing strabismus.

METHODOLOGY:

The investigator explored the children enrolled in Anganwadi schools situated at 3 types of corporation schools at North zone of Coimbatore district, hence descriptive survey method is followed.

SAMPLE SELECTED FOR THE STUDY:

The North zone of Coimbatore city was selected for the study. There were about 70 Anganwadi schools with 1,400 children enrolled. The investigator interviewed the teachers, parents and caretakers for identification of children with strabismus and atrisk for strabismus. There were 220 children referred for further detection of vision problems.

VARIABLES:

The independent variables such as Gender, Age group, Parent education, Occupation and Income were selected for the study.

The Dependent variables of the study consisted of intervention approaches to identify strabismic condition with the use of indigenous devices and techniques and remedial measures in terms of training the functional vision skills.

TOOL:

1) Personal Data Bank:

Personal data bank was used to collect personal information such as age, gender, parent occupation, income and locality of the selected sample.

2) Vision Screening Schedule:

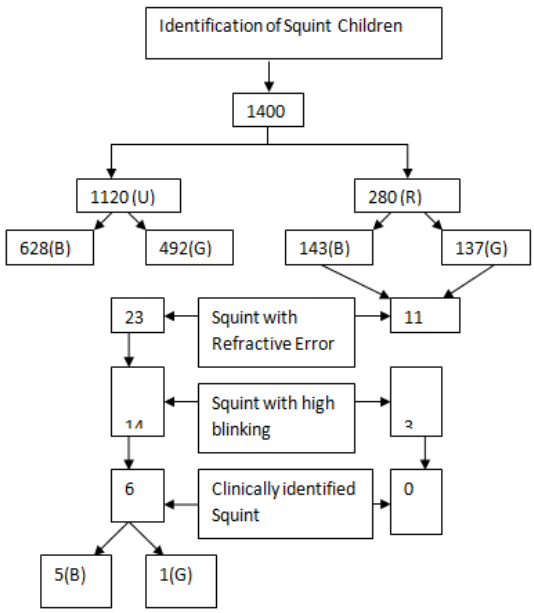
The WHO checklist was adapted (1993) by the investigator. It consisted of three areas such as: i) appearance of the eye, ii) behaviour of the children and iii) complaints due to vision.

Identification of Squint Children:

The investigator used indigenous devices like Ophthalmoscope, Torch light and techniques and out of 220 children 15 children were identified and referred as atrisk for strabismus. Subsequently 15 children were referred to comprehensive eye examination at Aravind Eye hospital - Coimbatore, which is a leading eye hospital in the country. The clinical examination revealed that there were 6 children with strabis-

mus (5 boys and one girl).

The flow chart showing the Identification of Squint Children



U – Urban, R – Rural, B – Boys, G – Girls

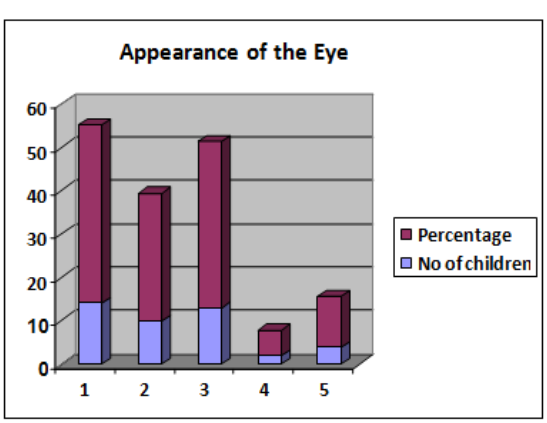
The flowchart present an overview on the strategies adopted to identify Squint. among 1400 children, in each stage, children were eliminated and finally six children were identified with Squint.

The data after collection was processed and analyzed in accordance with the outline laid down for the purpose at the time of developing research plan and depicted as follows:

1. Appearance of the Eye

S. no	Appearance of the eye	No of children	Percentage
1	Redness of the eyes	14	41
2	Watery eyes	10	29
3	Jerky eyes	13	38
4	Have squint in one eye	2	6
5	Have squint in both eyes	4	12

From the table it was found that redness of the eyes was exhibited by 41% of the children, jerky eyes 38%, watery eyes 29%, having squint in both the eyes 12% and having squint in one eye is only 6% respectively.

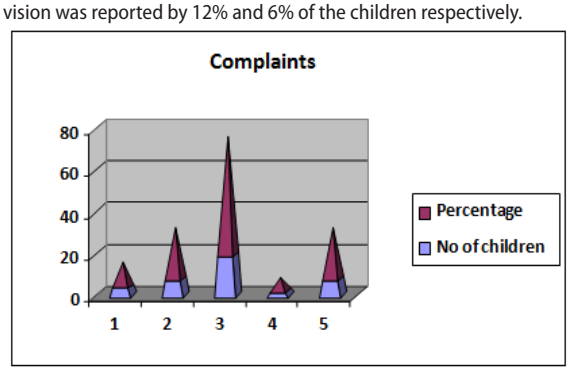


1-Redness of the eye
2- Watery eye
3- Jerky eye
4-Having squint in one eye
5-Having squint in both eyes

2. Complaints reported by the Children

S. no	Complaints	No of children	Percentage
1	Headache	4	12
2	Burning eyes	8	24
3	Rubbing the eyes frequently	19	56
4	Double vision	2	6
5	Sensitivity to light	8	24

It was found that 56% of children exhibited rubbing their eyes frequently. Twenty four percent of students showed sensitivity to light and 24% complained of having burning eyes. Headache and double vision was reported by 12% and 6% of the children respectively.

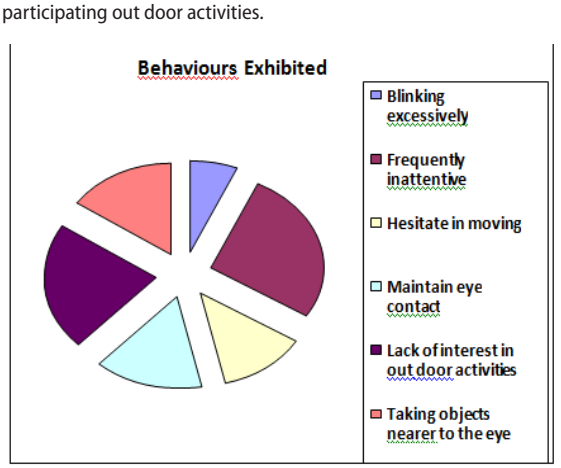


1- Headache
2- Burning eyes
3- Rubbing the eyes frequently
4- Double vision
5- Sensitivity to light

3. Behaviour of the Children

S. No	Behaviour	No of Children	Percentage
1	Blinking excessively	5	15
2	Frequently inattentive	19	56
3	Hesitate in moving	9	26
4	Maintain eye contact	11	32
5	Lack of interest in out door activities	16	47
6	Taking objects nearer to the eye	11	32

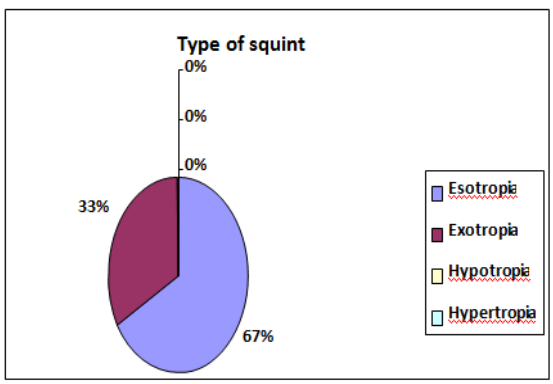
It was found that the highest percent (56%) of children were inattentive in the class due to their eye defect which made them disinterested in participating out door activities.



4. Types of Squint

S. no	Type of squint	No of Children	Percentage
1	Esotropia	4	66.67
2	Exotropia	2	33.33
3	Hypotropia	0	0
4	Hypertropia	0	0

Under the clinical evaluation, it was found that 4 children were Esotropic and 2 children were Exoptropic among the identified squint children.



RESULTS AND DISCUSSION:

1. Among the 1400 children screened 6 children were identified with squint clinically proved.
2. The strategies adopted were found effective for identification of squint in educational setting.
3. The prevalence of Squint among boys is more than girls.
4. The highest percentage of the Squint found in the age group of more than 2 years.
5. It was found that 80% of the children were enrolled in Anganwadi schools of urban area and the remaining 20% of them were enrolled in rural area. The enrolment of children in urban area was more than the children in the rural area.
6. It was found that the highest percentage (41%) of children exhibited redness of the eyes, 11% of the children had squint in both the eyes and where as only 5% of them had squint in one eye only.
7. Rubbing the eyes frequently was found to be the most common complaint encountered by 56% of children.
8. Hereditary was the major cause of squint reported by 50% of the children.
9. It was found that 67% of the children had Exotropic squint out of which 50% is represented by the boys and 17% represented by the girls and 33% of children had Esotropic squint.
10. It was noted that none of the children had Hypotropic and Hypertropic squint.

CONCLUSION:

Early identification is the best means to minimize the effects associated with Amblyopic. Despite enormous challenges this disorder brings, people with squint can achieve a great deal. The early identification and intervention enhance equal opportunity and experience in education and employment in the right time by the persons with eye defect. The researches being carried out currently on various dimensions lead to provide coping skills and education for the children with squint and there is a long way to go….

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