

A Study on Implementation and Results of “Kantivelugu” Phases I & II Program in School Going Children Undertaken By AP State Government in Guntur District

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PURPOSE

This study is a comprehensive review on the implementation of “KANTI VELUGU” Phases I and II in School going children undertaken by AP state government in Guntur District

METHODS

Cross sectional study was conducted at different primary and secondary schools at Guntur District of Andhra Pradesh under ‘YSR KANTI VELUGU’ Project.

RESULTS

As per this study the burden of unrecognized Refractive errors amounts to 37.9% of the total screened population. Among the type of Refractive errors encountered, Myopia amounts to 41.49 % and in Hypermetropia to 0.21% in boys, whereas in girls Myopia amounts to 47.29% and Hypermetropia to 0.27%.

CONCLUSION

This Project has also provided a basis for assessment of prevalence of different ocular diseases in school going children and laid a path for formulation of appropriate Programs required for their Prevention as well as Control in the future.

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I. INTRODUCTION

Visual impairment is a worldwide problem that has significant socioeconomic impact. There are several disorders that cause substantial impairment of vision but are relatively asymptomatic in very small & even in older children & may thus be missed by the parents. Screening for these disorders which are “silent” in manifestation but for which timely intervention is effective should be specifically identified by screening programs.

Children in the school going age group (6-15 years) represent 25% of the population in the developing countries. They offer significantly representative material for this study as they fall best in the preventable blindness age group and are a controlled population, i.e., they belong to a certain age group and are easily accessible and schools are the best forum for imparting health education to the children. Schools are also one of the best centers for effectively implementing the comprehensive eye healthcare program.

There is a distinction between screening and a screening program. Screening is a process of acquiring significant data about a population. A Screening Program is not just a process of diagnosing vision problems, but it uses the collected data to refer children with possible problems for further evaluation and treatment. The distinguishing feature between the two is thus intervention, which is an essential component of a Screening Program. Intervention in the school setting might include adapting the school program to meet the student’s needs if a problem cannot or has not been corrected.

The success of any screening ultimately depends upon securing the cooperation of school personnel, the child, the parents, the Eye Care Practitioner, and others who may be involved.

“YSR KANTI VELUGU” (EYE CARE FOR ALL) scheme is a program to conduct comprehensive eye screening for entire state population, under the financial assistance of government. Free mass eye screening camps for different age groups, followed by provision of appropriate medical attention was taken up by the Andhra Pradesh state government under this scheme.

Aim of this scheme was to provide “Comprehensive and sustainable universal eye care to all the people of the state”, by conducting eye screening camps and provision of appropriate interventions, like distribution of spectacles, surgeries in case of cataract, glaucoma, retinopathy, corneal diseases etc in a phased manner.

Phase I: Primary basic screening of school children

Phase II: Secondary screening and Prescription of Glasses and disbursing Spectacles

Phase III: Primary mass eye screening for the community

Phase IV: Secondary mass eye screening and Prescription of Glasses

Phase V: Surgeries for Cataract cases in Government General Hospitals, and Tertiary Eye Care Hospitals including Regional Eye Hospitals

The strategies of "KANTI VELUGU" program are"

1. Universal eye screening for entire state population & to provide primary, secondary, tertiary eye care services at free of cost.
2. Strengthening of existing health facilities under government sector.
3. Increasing the availability of skilled manpower through capacity building.
4. Inclusion of private health facilities & personnel for training, screening and surgeries.
5. Usage of information and communication technology in every process of program.
6. Interdepartmental co-ordination for active involvement of all stakeholders.
7. Providing the spectacles immediately after identification of refractive errors and providing surgeries for cataract, glaucoma, retinopathy, corneal diseases etc.
8. Ensuring the quality in the services provided through continuous monitoring and evaluation by the external agency if needed.

All the preliminary screening teams were trained for conducting preliminary screening by Ophthalmologists, Medical officers and Optometrists. Preliminary screening team were provided with material for screening and data sheets for noting the results. Each ASHA worker/ Public health staff are provided with a "Vision kit" consisting of a tape and an E- chart for measurement of visual acuity Preliminary screening was carried out from 10-10-2019 to 16-10- 2019. (Total 5 days).

All the school children were screened preliminarily for identification of children with defective vision. Preliminary screening was carried out at schools by the Preliminary screening teams with the help of school teachers. Preliminary screening team consists of one PublicHealth staff (like ANM, Staff nurse, Health supervisor, Nursing students) and one ASHA worker. In case of urban areas preliminary screening team consist of one PHS, one urban ASHA. Each preliminary screening team screened around 200-250 students per day.

Data sheets contain Name of the school and code, Name of the PHC, Name of the student, Aadhar Number and column for noting the screening results. These sheets were supplied by DMHO to the PHCs. Preliminary screening teams, after completion of screening, handed over the data sheets to the respective ANMs. ANMs, upon receipt of these filled in data sheets, uploaded the data through the tablets provided to them or through desktops at PHCs.

In Phase- I "KANTI VELUGU" program visual acuity is tested in all the children, by asking to read the last line on the Snellens chart with each eye separately. A total of 6,29,751 students were screened covering 4,821 schools, out of which 47,692 students were found to have subnormal vision in Phase-1 preliminary screening, and they were referred to Phase-2.

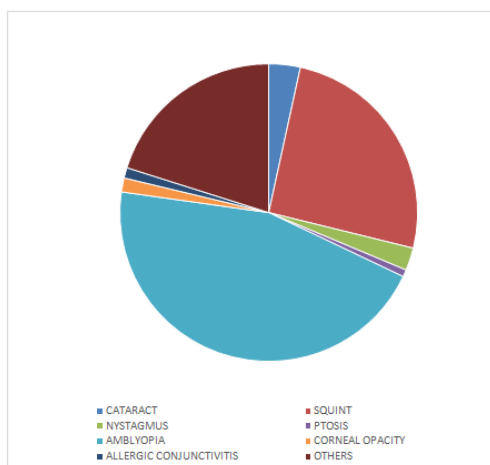
In Phase-2, out of 47,692 children, 47,555 were examined by Paramedical Ophthalmic Officers (PMOOs- Optomterists and Refractionists). A total of 26,171 students were found to be normal and 21,384 were found to have some ocular morbidity, out of which 18,084 students were diagnosed newly on screening with Refractive errors, prescribed spectacle correction and 3,086 students were referred for Specialist examination. 527 students of the ocular morbid population were diagnosed having either cataract, strabismus, Congenital Ptosis, corneal opacity, allergic conjunctivitis, amblyopia, nystagmus. Spectacles are provided as per the prescription and supplied to the children at their respective schools.

II. Methodology

From the data acquired through the Preliminary screening, the prevalence of unrecognized Refractive errors and other Ocular diseases among School going children (6-15 years of age group) is identified. Children with Pediatric Cataracts, Squint, Ptosis, Amblyopia are thoroughly evaluated, appropriately treated and adequately followed.

Children having Anisometropia, High Myopia are given appropriate glasses prescription. Those with Amblyopia are advised patching/ occlusion therapy. Children with Squint are evaluated and thereby, refractive errors are corrected with Spectacles and deviations are corrected with Prisms. Those with Allergic Conjunctivitis are given the required Medical treatment and followed regularly. Those with Corneal Opacities, significant Cataracts, uncorrected Squint, Ptosis, will be considered for Surgical treatment.

Diagnosis	Number of students Identified
Cataract	18
Squint	134
Nystagmus	13
Ptosis	4
Amblyopia	238
Corneal Opacity	8
Allergic Conjunctivitis	6
Others	106



RESULTS: In Phase II, students were categorized into particular diagnosis after Ophthalmologist screening

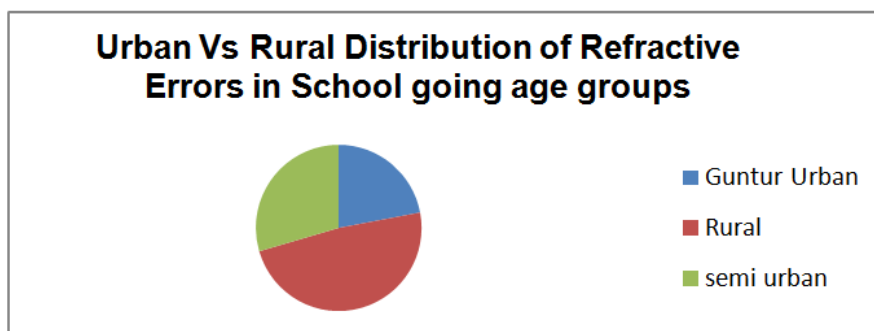
CLASS	NUMBER OF BOYS WITH REFRACTIVE ERRORS	NUMBER OF GIRLS WITH REFRACTIVE ERRORS
1-5	1659	1500
6-10	6618	7639

INCIDENCE OF REFRACTIVE ERRORS IN BOYS AND GIRLS IN PRIMARY/ SECONDARY SCHOOL

REFRACTIVE ERROR	BOYS	GIRLS
MYOPIA <-3D	OD:6387, OS:6815	OD:7384, OS:7310
MYOPIA -3 TO -6 D	OD:916, OS:889	OD:1203, OS:1217
HYPERMETROPIA <+3D	OD:28, OS:43	OD:33, OS:47
HYPERMETROPIA +3 TO +6 D	OD:4, OS: 2	OD:9, OS:9

INCIDENCE OF REFRACTIVE ERRORS IN BOYS AND GIRLS WITH MAGNITUDE AS <3D OR 3 TO 6 D

Region	Number of STUDENTS
Guntur (Urban)	3879
Rural	8531
Semi Urban	5202



PERCENTAGE OF REFRACTIVE ERRORS IN BOYS AND GIRLS

TYPE OF REFRACTIVE ERROR	BOYS	GIRLS
MYOPIA <-3D	36.5%	40.6%
MYOPIA -3 TO -6D	4.99%	6.69%
HYPERMETROPIA <+3D	0.19%	0.22%
HYPERMETROPIA +3 to +6D	0.016%	0.049%

NUMBER OF CHILDREN ABNORMAL IN PHASE I	:	47,692
NUMBER OF CHILDREN SCREENED IN PHASE II	:	47,555
PERCENTAGE OF STUDENTS FOLLOWED FROM PHASE I TO PHASE II	:	99.71 %
NUMBER OF CHILDREN NORMAL	:	26,171
NUMBER OF SPECTACLES PRESCRIBED	:	18,084
NUMBER OF SPECTACLES RECEIVED	:	18,084
NUMBER OF SPECTACLES DISTRIBUTED	:	18,084

III. DISCUSSION

In the present program, of the 47,692 screened children, a total of 18,084 children (37.9%) were newly diagnosed with refractive errors, thus revealing the major cause of ocular morbidity in children of age group 6 to 15 years to be Refractive errors. A similar study done by Dr Amit Mohan and Dr Anita Bisht on Epidemiology of Ocular Morbidity, also showed that refractive errors constitute the major cause of ocular morbidity (32.6%) among a total of 16800 school children of age 6 to 15 years.

A study done by Andhra Pradesh Eye Disease Study (APEDS) on Policy implications for eye-care services, in 2001, on a total of 10,293 participants, with 2861 (27.8%) participants being less than 15 years of age, also showed that the majority of moderate visual impairment in the study population was caused by refractive error (45.8%).

IV. CONCLUSION

“YSR KANTI VELUGU” Project Phase I & II has been successful in not only procuring data regarding the prevalence of Ocular morbidity & Refractive errors in school going children, but also has provided appropriate medical attention for the needful. 18,084 students who were found to have newly diagnosed Refractive errors were provided with spectacles. All the children who were diagnosed with Ocular diseases requiring medical intervention, were referred to Tertiary care Hospitals for their appropriate treatment free of cost.

This Project has also provided a basis for assessment of prevalence of different ocular diseases in school going children and laid a path for formulation of appropriate Programs required for their Prevention as well as Control in the future. Through “KANTI VELUGU” project, the Government has taken a novel initiative in curbing the prevalence of Preventable Blindness, by screening and providing spectacles to the school going age group.

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No conflicts of interest

REFERENCES:

- [1]. R Dandona, L Dandona: Review of findings of Andhra Pradesh Eye Disease Study: Policy implications for eye-care services-2001, Vol49, Issue-4 of IJO.
- [2]. Dr Amit Mohan, Dr Anita Bisht: Epidemiology of Ocular Morbidity among School going children; Proceedings of 75th Annual Conference of AIOS, 2017
- [3]. World Health Organization; Global Initiative for the elimination of avoidable blindness. Geneva: WHO (WHO/PBL/97.61), 1997.
- [4]. Government of India. Survey of blindness in India: Summary and results, In: Present status of National Programme for Control of Blindness (NPCB).

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