

**PREVALENCE OF DEFECTIVE VISION IN SCHOOL GOING CHILDREN IN NORTH EAST RAJASTHAN (JHUNJHUNU DISTRICT)**Anil Goyal<sup>1</sup>, Chetanya P. Gupta<sup>2</sup>, Dileep Kumar<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT: PURPOSE:** This study was conducted with the objective of estimating the prevalence of defective vision among school children. Children with defective vision refer to nearby eye hospital for further diagnosis and treatment to prevent long term visual disability. **MATERIALS & METHODS:** This study was conducted in school children of class first to tenth of selected private and government schools of Jhunjhunu district from Jan to August 2011. Total 2,490 school children from both private and government schools were included in which 1,430 were boys and 1,060 were girls. To detect the eye diseases following tests were adopted in school premises-- 1) distant vision with the snellen's chart, E chart. 2) Those children who had defective vision (VA<6/9 in either eye) referred to kedia eye hospital Chirawa for further investigation & proper treatment. 3) Eye examination by torch light. **RESULTS:** we found 474[19.03%] prevalence of defective vision in school going children. Bilateral defective vision was found in 402[84.81%] children. Unilateral defective vision was found in 72[15.18%] children. All the children with defective vision referred to eye hospital chirawa. 307 children with bilateral defective vision and 52 children with unilateral defective vision came to eye hospital Chirawa. The causes of B/L DV were refractive errors in 302[98.37%]; corneal opacity and scars 03[00.97%], squint 02[00.65%]. The causes of U/L DV were refractive errors 30[57.69%], corneal opacities & scar 14[26.92%], strabismus 01[01.92%], cataract 02[03.84%], others 05[09.61%]. **INTERPRETATION:** The results of the study show that most common cause of defective vision in school children was refractive errors. So by these school health program we can early detect and treat ocular problems and minimize long-term visual disability.

**KEYWORDS:** Defective vision, refractive errors, corneal opacity & squint.

**INTRODUCTION:** In India one third of blind loss their eye sight before the age of 20 years and many of them are under 5, so early detection and treatment of ocular diseases among children is important.

Children do not complain of defective vision and may not even aware of their problem. They adjust to the poor eye sight by sitting near the black board, holding the books closer to their eyes, squeezing the eyes and even avoiding work requiring visual concentration. This warrants early detection and treatment to prevent permanent disability. By screening school children can detect correctable causes of decreased vision, especially refractive errors and minimize long term visual disability.

The school going children 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 health care programs.

Hence this study was conducted with the objective of estimating the prevalence of defective vision among school children.

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**MATERIALS AND METHODS:** The study was conducted in selected private and government schools children of District Jhunjhunu, class one to tenth (Age 6 to 16 years), from Jan to Aug 2011.

Jhunjhunu is situated in north east Rajasthan popularly known as Shekhawati.

Total 2,490 school children from both private and government schools were included in this study in which 1,430 were boys and 1,060 were girls.

To detect the eyes diseases following tests were adopted in school premises:

1. Distant vision with the snellen's chart, E Chart.
2. Those children who had defective vision ( $VA < 6/9$  in either eye) referred to eye hospital Chirawa for further investigation and proper treatment.
3. Eye examination by torch light.

### OBSERVATIONS:

SL. No.	Name of eye diseases	no. of children having defective vision	Percentages of children having defective vision
1	Defective vision	474	19.03%

**Table 1: Prevalence of defective vision in school going children**

**Table 1:** Shows prevalence of defective vision in school going children. Total 2,490 children were examined in government and private schools in which 474 (19.03%) students having defective vision.

SL. No.	Name of eye diseases	No. of children having defective vision U/L B/L	Percentages of children having defective Vision U/L B/L
1	Defective vision	72 402	15.18% 84.81%

**Table 2: Prevalence of U/L vs. B/L defective vision in Children**

**Table 2:** Shows bilateral vs. unilateral defective vision in children. Out of 474 children 402 had bilateral defective vision while 72 had unilateral defective vision.

SL. No.	Name of eye diseases	No. of children having defective vision U/L B/L	Percentages of children having defective Vision U/L B/L
1	Refractive errors	30 302	57.69% 98.37%
2	Co. Op. & Scars	14 03	26.92% 00.97%
3	Cataract	02 00	03.84% 00.00%
4	Strabismus	01 02	01.92% 00.65%
5	Others	05 00	09.61% 00.00%
	<b>Total</b>	<b>52 307</b>	

**Table 3: Different causes of defective vision in Children**

**Table 3:** Shows different causes of defective vision in children. All 474 children who had defective vision were referred to Eye Hospital Chirawa. Only 359 children came for follow up in which 52 had U/L DV while 307 had B/L DV. Refractive errors were the most common cause of defective vision.

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SL. No.	Name of eye diseases	No. of children having defective vision male female	Percentages of children having defective vision male female
1	Defective vision	301 173	21.04% 16.3%

**Table 4: Prevalence of defective vision in male and female children**

**Table 4:** Shows comparison of defective vision in boys and girls. In 2,490 school children 1,430 were boys and 1060 were girls. Defective vision was found in 301 (21%) boys & in 173 (16.3%) Girls.

SL. No.	Name of eye diseases	no. of children having defective vision govt. private	Percentages of children having defective vision govt. private
1	Defective vision	298 176	27.6% 12.8%

**Table 5: Prevalence of defective vision in Govt. vs. Private Schools Children**

**Table 5:** Shows comparison of defective vision in govt vs private school children. In total 2,490 students, 1,080 children were from govt. Schools while 1,410 were from private Schools.

Defective vision was found in 298 (27.6%) children from govt. Schools while only 176 (12.48%) children from private Schools.

**DISCUSSION:** In our study prevalence of defective vision was 19.03% (474/2490) which is comparable to Gupta & co-workers study (22%) in Shimla (H.P.).<sup>(1)</sup>

Bilateral defective vision was found in 402 while unilateral defective vision was present in 72 children. All the children who had defective vision were referred to nearby eye hospital Chirawa.

Out of 474 children 359 children came for follow up in which 307 had bilateral defective vision and 52 had unilateral defective vision. Most common cause of defective vision was refractive errors.<sup>(2)</sup> 302 children had refractive errors out of 307 children with bilateral defective vision. Other causes of bilateral defective vision were corneal opacities & scars in 03 children, strabismus in 02 children.

52 children with unilateral defective vision came for follow up. Different causes of unilateral defective vision were refractive errors in 30 children, corneal opacities & scars due to old injury and infections in 14 children; cataract in 02 children; strabismus in one child. All the children who had defective vision due to refractive errors were given proper glasses after refraction. Children who had defective vision due to cataract; strabismus & retinal problems were referred to higher center for treatment. 5 children had anisometropic amblyopia were given occlusion therapy but they did not come for the follow up. Prevalence of defective vision was more in boys (21%) than in girls (16.03%)<sup>(4)</sup>

In government school children prevalence of defective vision was more (26.6%) than in private school children (12.48%)<sup>(3)</sup>. It may be due to difference in socio-economic status.

We advised school teachers about common eye problems, ocular hygiene so they can refer children to nearby hospital.

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**INTERPRETATION:** The results of the study strongly suggest that screening of school children for ocular problems should be done at regular intervals and it should be one of the prime components of the school health program.

For this school teachers should be oriented and trained in identifying common eye problems in children so they can be referred for proper treatment.

They should also aware children regarding ocular hygiene.

In this manner the incidence of preventable causes of blindness among school children will be minimized.

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