

# PREVALENCE OF SQUINTS AND VISUAL DEFECTS IN MALAYSIAN PRIMARY ONE SCHOOL CHILDREN

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## SUMMARY

*Six hundred and fifty standard one school children in 3 Petaling Jaya schools were examined. 7.1 percent were found to have significant refractive errors and fourteen cases of squints were detected giving a prevalence of 2.2 percent. The majority of squints were of the divergent type. The prevalence and different patterns among the Malaysian and Caucasian populations are discussed.*

## INTRODUCTION

Strabismus or squint is less common in Asians as compared to Caucasians. However, apart from mere clinical impressions, no actual study of the problem has been carried out before in Malaysia. This study attempts to define the prevalence of strabismus in Malaysian children.

## MATERIALS AND METHODS

A total of 650 children studying in Standard One from three Primary Schools in Petaling Jaya were examined. These 3 schools were the Assunta Primary School (Girls' School), La Salle School (Boys' School) and Sri Petaling School (Co-educational).

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The visual acuity was checked by the Snellen Chart at 6 meters and the Sheridan Gardner test was used in those who could not read or recognise the alphabet. A pin hole test was carried out on those with acuity of 6/12 or worse.

A cover test for near and distance was performed on all these children.

Those with poor vision of 6/12 or worse (even after correction with the pinhole), and those with abnormal cover tests were called to the Eye Clinic, University Hospital, for further assessment.

## RESULTS

The 650 children screened, comprised 316 boys and 324 girls. These children were all born in the year 1974. The racial distribution of these children were, Chinese 314, Malays 228, Indians 89 and other races 19.

Six hundred and four of these children (92.9 percent) could see 6/9 or better unaided. Forty-six children (7.1 percent) had visual acuity of 6/12 or worse unaided, i.e. they had significant refractive errors. Of these 46 children with refractive errors 28 were already wearing myopic corrections whilst the other 18 children were not wearing glasses. Of these 18 children only 11 came to the Eye Clinic for further assessment and 10 of them were found to be myopic with only one case of hypermetropic astigmatism.

There were 7 children who could not read or

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identify letters from the Standard Snellen Chart (H, A, L, T, N, C, O, L, H, A, E, C, T, N, O) but had visual acuity of 6/9 or better with the Sheridan Gardner Chart.

Only 14 cases of squints were detected giving a prevalence of 2.2 percent. The majority of the squinters were of the divergent type (12 cases), with only 1 case of alternating convergent squint and 1 case of hypertropia.

Of the divergent squinters, 8 cases were divergent intermittently and the rest (4 cases) were manifest alternating squints.

No amblyopia was detected in these squinters.

## DISCUSSION

Strabismus gives rise to two major problems if untreated, firstly the problem of amblyopia or lazy eye and secondly it is cosmetically unacceptable.

All the 28 children who were already wearing glasses were myopic. Ten other children with poor visual acuity in the school were found to be myopic in follow-up with 1 case of hypermetropic astigmatism. This high myopic bias in Malaysian population has been noted by Chandran previously.<sup>1</sup>

The prevalence of manifest squints of 2.2 per thousand in this country is much lower than that of Western Caucasian series, (Frandsen in Copenhagen found an incidence of 6 percent and P. Graham 5.3 percent in Cardiff, U.K.).

The majority of our squints were of the divergent type (86 percent) while in the Cardiff study by P. Graham<sup>2</sup> (and Caucasian population) the majority

of the squints were of the convergent type (68 percent). The higher incidence of divergent squint in this country correlates well with the high incidence of myopia found. Interestingly Peter Eustace in a study of West Indian children in the Birmingham and Midland area in the United Kingdom found a higher incidence of myopia and divergent squints as compared with Caucasian children attending the same hospital.<sup>3</sup>

No case of amblyopia was detected in our squinting patients. This does not mean that amblyopia does not exist in this country. The squinters studied were all either alternating or intermittently manifest squints and therefore did not develop amblyopia.

We were surprised there were 7 children who at their third term of Standard One could not read or identify letters from the Standard Snellen Chart.

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## REFERENCES

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- <sup>3</sup> Peter Eustace (1972) Myopia and Divergent Squint in West Indian Children, *B.J.O.*, 56, 559.