



Original Article

Prevalence of latent squint with its clinical features

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Purpose: The objective of the study was to find the prevalence of latent squint in apparently normal people and the major clinical symptoms experienced by them.

Material and Methods: In this descriptive cross-sectional study we studied 75 Students of a public sector medical college coming to the Ophthalmology ward of Services Hospital Lahore for a duration of 3 months. We examined and interviewed the subjects after taking verbal consent using questionnaire method. SPSS was used to analyze the data. We designed the study to see if screening of phoria by the ophthalmologists should be made mandatory for all the patients visiting for refraction especially children under 10 years of age.

Results: Total of 75 students was examined and interviewed. 40% of students were diagnosed to have latent squint. Students having phoria presented mainly with complaints of sleepiness during study (76.6%), sensitivity to light (53.3%), Headache and eyestrain (43.3%), difficulty in accommodation (33.3%), omission of words (23.3%). Minor ratio presented with the symptoms of double vision (26.6%), avoidance to reading reaction (26.6%), blurring of vision (16%), and difficulty in depth perception (10%).

Conclusion: Significant number of medical students were found to have latent squint which was undiagnosed previously. Majority of such students had no previous knowledge about it.

Keywords: Squint, phoria, hetrophoria, latent squint, exophoria, esophoria.



Introduction

Squint is a condition in which the eyes are misaligned. In latent Squint / phoria, the appearance is normal most of the time. The squint only appears under certain conditions usually when the fusion of both the eyes is broken. Common causes for squint are unknown / idiopathic, certain conditions of eyes (myopia, hypermetropia, and astigmatism), neural conditions and abnormal development of accessory eye muscles. In latent squint the symptoms are headache, aching eyes, intermittent blurring of print while reading, difficulty in changing focus & tendency to occasional double vision. Children with this problem are usually poor in their academics. In a child with exophoria, during reading, each time fixation is broken, the eyes will tend to deviate outwards and they must be brought back into regain fixation. He must use excess effort to maintain fixation. Therefore, he has an avoidance reaction to the reading task. Such children commonly omit small words. They are often labeled as having dyslexia, minimal brain dysfunction, learning disability, etc.

The educational implication of esophoria, is that such child sees things smaller than what they actually are. Eventually, he is observed with his head buried in a book and still not perceiving. People with this problem are at increased risk of roadside accidents due to headache. Such citizens cannot serve in highly sensitive defense departments like Air Force. Latent squint if not corrected in early life may progress to apparent squint that has further complications like double vision.

Unfortunately, documented researches specifically related to the latent squint have not been done in our country so far, and little knowledge about the difficulties faced by these people in our circumstances is reported. Our main aim of doing this research is to make people aware of latent squint and provide a health promotion package to public. Screening and management of this problem in public is necessary especially in childhood. Otherwise, the child will not develop to his maximum potential of vision later on. Its management is necessary in adults to avoid the complications.

Purpose of The Study

Objectives of the study were to find the prevalence of latent squint in apparently normal people, to determine the major symptoms experienced by subjects with phorias, and to find level of awareness about latent squint among subjects with phoria.

Materials and Methods

It was a descriptive cross sectional study, carried out in the Out-patient department of Services Institute of Medical Sciences (SIMS) /Services Hospital Lahore on Students of SIMS. All students willing to participate in the research were

included in the study. Those who were known cases of squint and those not willing to participate were excluded. All subjects were explained the procedure and purpose of the study and an informed consent was taken. A detailed structured questionnaire was formulated and used. Maddox rod (a ribbed red plastic disc) was placed in front of the patient's eye, and he/she was asked relevant questions. The answers of patient helped in assessing the condition. One to one interaction session was used for the health education of the students. Convenience technique was used for sampling. SPSS was used for the entry, compilation and analysis of data.

Results

40% of the subjects had phoria. 43.3% of the subjects with phoria had symptoms of headache and eyestrain. 33.3% of the subjects with phoria had difficulty in accommodation. Intermittent diplopia and avoidance reaction to reading task was present in 26.6% of the subjects with phoria. 16% of the subjects with phoria had complaint of blurring of vision under fatigue. 23.3% of the subjects with phoria had complaint of omission of small words during reading. 76.6% of the subjects with phoria had complaint of sleepiness during studying.

Table No.1

Prevalence of Latent Squint		
	Frequency	Percentage
Group 1 (with Phoria)	30	40%
Exophoria	12	16%
Esophoria	12	16%
Hypophoria	2	2.70%
Hyperphoria	1	1.30%
Multiple	3	3.90%
Esophoria with Exophoria	1	1.30%
Exophoria with Hypophoria	1	1.30%
Hypophoria with Hyperphoria	1	1.30%
Group 2 (without Phoria)	45	60%

Table No.2

AWARENESS ABOUT LATENT SQUINT				
		Phoria		Total
		Absent	Present	
Previous knowledge about latent squint	Absent	31	21	52
	Present	14	9	23
Total		45	30	75

Table No.3

Associated Symptoms due to muscular fatigue				
		Presence of Phoria		Total
		Absent	Present	
Headache and eyestrain	Absent	29	17	46
	Present	16	13	29
	Total	45	30	75
Headache & Eyestrain Relieved by Closing One Eye	Absent	10	10	20
	Present	6	3	9
	Total	16	13	29
Difficulty in accommodation	Absent	38	20	58
	Present	7	10	17
	Total	45	30	75
Sensitivity to light	Absent	31	14	45
	Present	14	16	30
	Total	45	30	75
Sensitivity to light relieved	Wearing glasses	7	6	13
	Closing one eye	3	1	4
	Both	3	2	5
	None	0	8	8
	Total	13	17	30

Table No.4

Symptoms due to failure in maintaining constant binocular vision.				
		Phoria		Total
		Absent	Present	
Double vision under fatigue	Absent	42	22	64
	Present	3	8	11
	Total	45	30	75
Blurring of vision	Absent	41	25	66
	Present	4	5	9
	Total	45	30	75

Table No.5

About difficulties in academics.				
		Phoria		Total
		Absent	Present	
Avoidance reaction to reading	Absent	41	22	63
	Present	4	8	12
	Total	45	30	75
Omittance of small words	Absent	37	23	60
	Present	8	7	15
	Total	45	30	75
Sleepiness while studying	Absent	17	7	24
	Present	28	23	51
	Total	45	30	75

Discussion

Our research was designed to find out the prevalence of phoria among a group of young people between the ages 18 to 25 years. Both the sexes were included in the study. According to this study, the prevalence of phoria was 40% (Table 1). These results are close to the findings of NC Gupta which are between 42% to 57% and to the findings of Razavi ME which are 57.7%.^{1,2} In this study, esophoria and exophoria have same prevalence that is 40% of the total subjects with phoria (Table 1).

A similar study was done by Leone JF on Australian school children to find the prevalence of heterophoria and its associations with refractive errors. They found exophoria more prevalent (58.3%) than esophoria.³ This is probably because their study was done on children of ages 6 and 12, while our study was done on young people between ages 18 to 25.

Presentations of phoria usually include headache, eyestrain, difficulty in accommodation, sensitivity to light, double vision, blurring of vision, difficulty in depth perception, poor concentration during reading etc. The following results were obtained regarding the presentations of phoria (Table 3,4 and 5) A research done by Barnard (1990) also shows that most common symptoms of heterophoria are headache (10.8%), eyestrain (13.8%), blurred vision (4.6%), difficulty in accommodation (12.3%), sensitivity to light (9.2%) and diplopia and avoidance reaction to reading (3.1%).⁴

The percentages of headache, eyestrain, blurred vision and difficulty in accommodation match with the results of our study while that of sensitivity to light, diplopia and avoidance reaction to reading task differs from our results because they selected a group of students with binocular dysfunction, while our study was on apparently normal subjects.

Conclusions

Significant numbers of medical students were found to have latent squint, which was undiagnosed previously. Majority of such students had no previous knowledge about it.

References

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