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Research Article

**REFRACTIVE MISTAKE BETWEEN CHILDREN MATURED 6 – 15
YEARS PLAYING VIDEO GAMES**

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Abstract:

Background: Refractive error is error in light focus by the eye and common reason for decreased clarity of vision. Unremedied refractive errors are very common in our society, so its on-time identification and treatment is necessary.

Objective: This study aimed at determination of relation between various refractive errors and video games playing duration in children between 6 – 15 years of age.

Design of study: It was a cross-sectional study.

Patients & Methods: Hundred children were selected for study. Eye sight of all children was checked using distance Snellens vision clarity chart. Objective measurement of refractive error of patient's eyes was taken alongwith subjective refraction in children with visual clarity less than 06/12 in one or both eyes. Demographic features and questions about their video games' playing habits with its duration were asked from these children.

Result: Out of 100 children, 18 were originating with refractive mistakes. Vision, hyperopia and astigmatism were found in 72.22%, 16.7% and 11.1% respectively. This learning demonstrated no effective association of refractive mistake by their custom of playing video playoffs. But, there was prominent connection among period of playing video games and refractive error.

Conclusion: There is important relation between period of playing video games and refractive errors in children and this association wants additional exploration.

Key words: Refractive errors, Video games, Visual perception

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INTRODUCTION:

There are almost 161 million people across the world which are unsighted.[1] A refractive error is the one which shows problem in focusing of light by the eye. It is the common reason for decreased clarity of vision. [2] Among refractive errors, cylindrical and spherical errors are common. Emmetropia is the condition of vision where a distant thing at perpetuity is in pointed center by the eye lens in a impartial or tranquil condition. So an eye which is emmetrope shows comprehensible image.[3] Ametropia, which is frequently grounds by a innate irregularity, refers to vision disarrays distinguished by the eyes' incapability to properly center the imagery of matter on the retina.[4,5]

Myopia (nearsightedness) is a frequent vision situation in which one can see nearly substances without any problem but substances farther away seems fuzzy.[6] Astigmatism is a widespread vision stipulation that grounds indistinct vision. It happens when the cornea is erratically wrought or occasionally since of the bend of the lens within the eye.[6] In 2002, WHO estimated that on average, 3.4 people have vision problems with variation in range from 2.4 to 5.5 in accordance with country and region. Since early 1990s, WHO has provided clear and good estimations regarding reduced vision worldwide.[6]

There are 124 million people across the globes which are dim-sighted. Services regarding low vision would be available for only one-fourth of them and these are fresh estimations by WHO.[7] These services will be helpful for dim-sighted people.[8] Time which is utilized in near sight tasks and in activities outside the home, also has a correlation between siblings ($p < 0.001$) in accordance with Jeremy AG *et al*. [9] Refractive errors have close association with habits of video games playing, closely focused study, watching TV or dim-lighted screens.[10] More exposure of

reading may give rise to near-sightedness and this is according to Tan D, Stone RA, Chia KS and Chan WY.[11]

According to Dr. Hertle, continuous reading, more use of electronic devices, indulged in playing video games for most of the time may be the factors contributing to near-sightedness.[12] In Pakistan, refractive errors are at the third number in causes which are leading to blindness in people including large number of children.[13] This study aimed at determination of relation between various refractive errors and video games playing duration in children between 6-15 years of age.

PATIENTS & METHODS:

This study was done at College of Ophthalmology and Allied Vision Sciences, Lahore. Period of this learning was 3 months. Hundred children were selected for study. Eye sight of all children was checked using distance Snellens vision clarity chart. Objective measurement of refractive error of patient's eyes was taken alongwith subjective refraction in children with the visual clarity less than 06/12 in one or both eyes. Demographic features and queries about their video games' playing behavior with its duration were asked from these selected children.

RESULTS:

Two groups were made into which selected children were divided. In the first group, children of age ranging from 06 to 10 years, were included. In the second collection, children of age variety from 11 to 15 years, were included. Among them, guy children were 95 and womanly were 5. Two children showed astigmatism. Hypermetropia was shown by 3 children. Near-sightedness was found in 13 children. However, 82 children showed no refractive error.

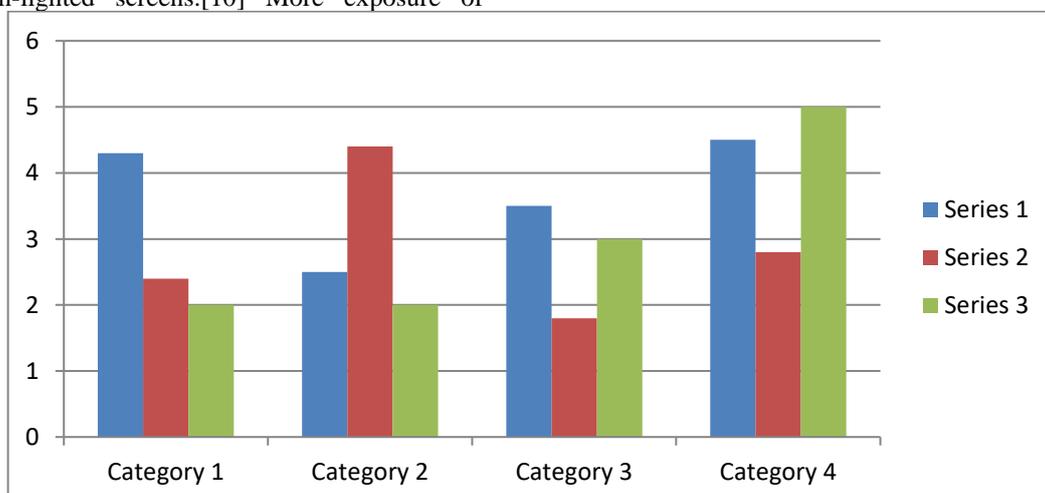
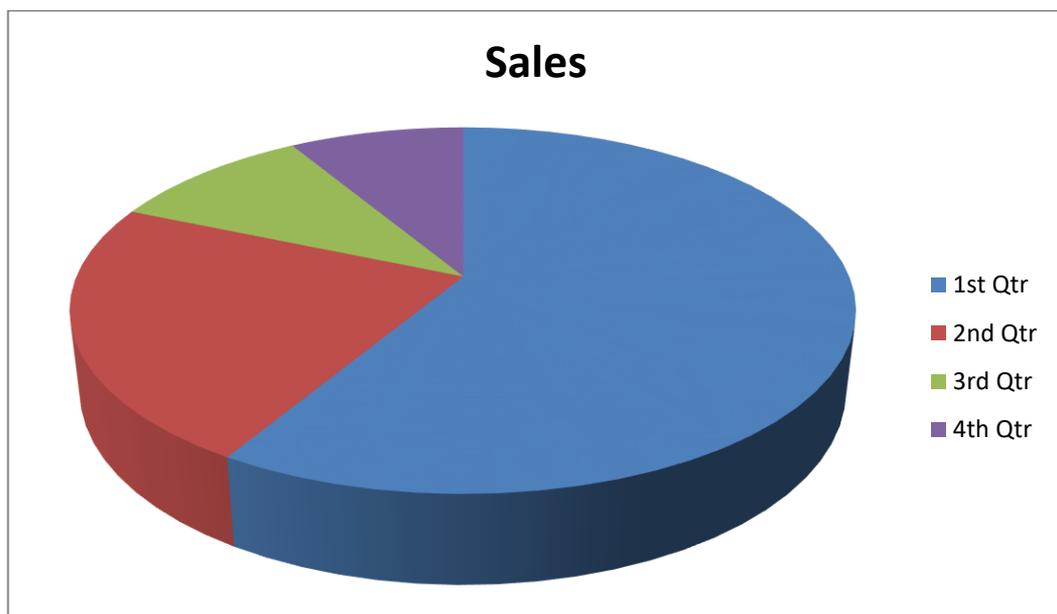
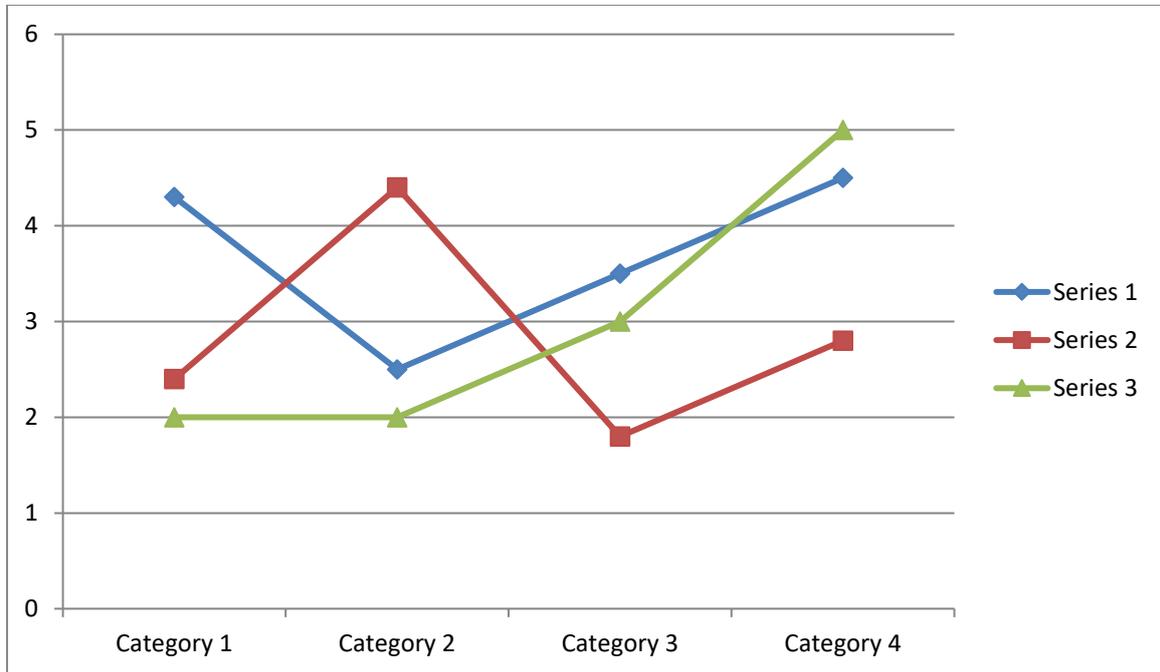


Table I: Refractive mistakes against period of playing video games

Extent of playing video games	kinds of refractive mistakes				Total
	None	Myopia	Hyperopia	Astigmatism	
1 hour	62	3	1	0	66
2 hours	11	7	2	2	22
3 hours	8	3	0	0	11
4 hours	1	0	0	0	1
Total	82	13	3	2	100



DISCUSSION:

This study shows 18 children affected with refractive error. In this study, commonness of refractive errors is demonstrated as 19.8% in school children. [12] During past decades, refractive errors have been increased in Singapore.[5] In the current study, near-sightedness was most prevalent, then hypermetropia and at last astigmatism. One study done on near working students in Madras, 91% students showed impaired

refractive errors.[8] In the current study, mostly students were of age between 11 to 15 years.

Boys play more video games in our community. It is also shown that refractive errors are prevalent among children. Ayub A et al showed in his study that 107 children had refractive errors out of total 540 children selected for study. In this study, near-sightedness was more widespread pursued by astigmatism and then hypermetropia. Refractive errors showed a prominent relationship with family having positive history about it. These errors also showed clear relation with dim-light study, near sight task and watching more TV and playing video games. [10]

CONCLUSION:

There is important relation between period of playing video games and refractive errors in children and this association wants additional exploration.

REFERENCES:

1. WHO, Programmes and Project, Avoidance of sightlessness and visual mutilation, causes of sightlessness and visual mutilation. Cited Aug, 2008.
2. Hogan CM. Analysis of highway noise. *Water, Air & Soil Pollution* 1973; 2(3):387-392
3. Khurana AK. Errors of refraction and binocular optical imperfections. In: *Theory and perform of optics and refraction*. 2nd Edition.[Elsveir, India] ,[2008], Page No 61
4. Khurana AK. Errors of refraction and binocular optical defects. In: *Theory and practice of optics and refraction*. 2nd Edition. [Elsveir, India], [2008], Page No. 62.
5. Dunaway D, Berger I. Worldwide Distribution of Visual Refractive Error [Online], [cited 2008 August 22]. Available at [URL:http://www.infocusonline.org](http://www.infocusonline.org).
6. Khurana AK. Errors of refraction and binocular optical defects. In: *Theory and practice of optics and refraction*. 2nd publication. [Elsveir, India], [2008], Page No. 71-79.
7. Mutti DO, Mitchell GL, Moeschberger ML, Jones LA, Zadnik K. Parental myopia, near work, school attainment, and children's refractive error. *Invest Ophthalmol Vis Sci* 2002; 43(12):3633-40.
8. WHO, Programmes and Project, Deterrence of sightlessness and visual mutilation, causes of sightlessness and visual mutilation. [Online], cited Aug, 2008.
9. Guggenheim JA, Pong-Wong R, Haley CS, Gazzard G, Saw SM, Correlations in refractive errors between siblings in the Singapore Cohort Study of Risk factors for Myopia. *Br J Ophthalmol*. 2007; 91(6):781-784.
10. Ayub A, Imran A, Saima A, Commonness of unnoticed refractive errors among school children. *Biomedica Dec* 2007; 23:96-101
11. Chan WY, Chia KS, Stone RA, Tan D. Near work in early-onset myopia. *Invest Ophthalmol Vis Sci*. 2002 Feb; 43(2):332-9, [Online] 30th August 2008.
12. Hertle Physical activity& myopia prevention by Vanessa Caceres Eye World Contributing Editor [Online] Cited on 30th August 2008.
13. Gilbert CE, Shah SP, Jadoon MZ, Bourne R, Dineen B, Khan MA, Johnson GJ, Khan MD. Poverty and blindness in Pakistan: Results from the Pakistan national blindness and visual mutilation survey. *BMJ*2008; 336(7634)29-32