wjpmr, 2019,5(5), 325-329

SJIF Impact Factor: 4.639

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Research Article

ISSN 2455-3301

WJPMR

FREQUENCY OF MYOPIA AND RISK FACTORS OF MYOPIA AMONG MEDICAL STUDENT AT SHEIKH ZAYED MEDICAL COLLEGE LAHORE

Dr. Muhammad Hammad Subhani[1], Dr. Sehresh Aslam[2] and Dr. Shumaila Tabassum*[3]

[1](Medical Officer, BHU Malley Kay Taaru Pakpattan).
[2](Medical Officer, BHU Burj Jeevay Khan Okara).
[3](Medical Officer, BHU Kalyana).

***Corresponding Author: Dr. Shumaila Tabassum**
(Medical Officer, BHU Kalyana).
Doi: https://doi.org/10.17605/OSF.IO/2CVYX

Article Received on 20/03/2019 **Article Revised on 10/04/2019** **Article Accepted on 01/05/2019**

ABSTRACT

Background: In past usually adults over 40 years of age used to wear spectacles. But now a days we see children and adolescents with spectacles/contact lenses. There is dramatic increase in refractive error among medical students. Medical education involves extensive near work such as reading and writing have been associated with greater myopia prevalence. Refractive error defined as a problem in which eye cannot clearly focus the images from the outside world on retina. Myopia is a refractive error in which eye fails to see distant objects properly. **Objectives of the study:** To determine frequency of myopia in young medical students and its association with underlying factors like, parental history, gender, reading and electronic device usage. **Material and Methodology:** A total of 200 students at Sheikh Zayed Medical College Lahore were included in study with their informed consent. A questionnaire was designed data was collected and analyzed using SPSS and Microsoft excel. Type of study was cross sectional and type of sampling was Non Probability Convenient. **Result:** The mean age of 2nd year students was 22 years. Out of total 200 students, 68% were myopic. 5.9% were in the age group of 18-20 years, 83.8% in 21-23 years and 10.3% were 24-26 years of age. 66.2 % students were females. Family history of myopia was positive in 73.5% students. Genetic history of myopia is positive in 66.2%. The study hours of 19.2% students were ≤ 2 hour, 2-8 hours in 66.2% and > 8 hours per day in 11%. The duration of TV watching was <2 hour per day in 27.9% students, 2-4 hours in 41.2% and > 4 hours in 30.9% children.16.2 % of the students were spending their time on smart phones for <2 hour, 58.5% for 2-4 hours and 25% for > 4 hours. 8.8% students have less than 6 hours sleeping time, 64.7% students who sleep 6 to 8 hours and 26.5% more than 8 hours. **Conclusion:** From our study we concluded that Myopia is affecting majority of 2nd year MBBS students. There is strong association of myopia with near work and with family and genetic history of myopia.

KEYWORDS: Key words are 2nd year MBBS students Myopia, study hours, family history.

INTRODUCTION

Refractive error may be defined as a state in which the visual system of the non-accommodating eye fails to convey parallel rays of light to focus on the retina.[1] Especially myopia has become a very common problem. In Myopia, parallel light rays are focused in front of the retina causing blurring of image when the person tries to see a faraway object. It has become a major public health concern and socioeconomic implications. Moreover Low visual acuity cause problems in social dealings, academic performance and professional interaction. Use of spectacles or contact lenses is an unsightly inconvenience and a costly. Myopia is becoming an epidemic in East Asia.[2] Myopia was found to be the commonest refractive error according to a study conducted in an Indian Medical College.[3] Another South Indian study showed that incidence of myopia is growing among among medical students and majority of myopic students also had myopic parents.[4] It is estimated that the current number of 2 billion people in 2010 with this condition will grow to 2.6 billion by 2020 and 4.8 billion by 2050. Increasing incidence rates of myopia have been reported in individuals who spend long hours in near work activity, such as carpet weavers, visual display terminal workers & microscopes and medical students.[5] Some important risk factors for myopia includes, higher educational, higher socioeconomic status & increased amount of near work.[6] Researchers at the University of Cambridge have found that a lack of outdoor play could be linked to myopia.[5] Medical education imposes significant stress on medical students mainly through time pressure large amount of new information, excessive study hours, less sleeping hours and other problems. A considerable degree of Myopia has been reported in medical students

ranging from excessive study hours to less sleeping hours and other extended near vision tasks coupled with a genetic predisposition for Myopia. A study done in Singapore among 157 second year medical students showed prevalence rate 89.8%. Prevalence rates in Asian countries vary from 50% in Chinese children,[7] to 84% in Taiwan and Hong Kong.[7] In Europe, the prevalence of myopia seems to be lower than in Asian countries.

OBJECTIVES

To study the frequency and risk factors of Myopia among medical students.
To study the prevalence of Myopia between the different genders of different age groups.

MATERIAL AND METHODOLOGY

Study design: A Descriptive cross-sectional study. **Study Population:** 2nd year MBBS at Sheikh Zayed Medical College Lahore. **Setting:** Study was carried at community medicine department at Sheikh Zayed Medical College Lahore. **Study Duration:** Data was collected from 27th April 2017 to 8th May 2017**. Sampling technique:** Data was collected using Non Probability Convenient sampling. **Sample size:** 100 students from 2nd year MBBS were included in the study. **Inclusion criteria:** 2nd year MBBS students**. Exclusion criteria:** Students with astigmatism, hypermetropia and students not from 2nd year MBBS. **Data collection procedure:** Data was collected by distributing a questionnaire that included various demographic variables like Age, Gender of the students and Residence. And various other variables suspected to be the underlying factors in causing myopia for example Study hours, sleeping hours, eye exercises, watching TV, using smart phones etc. **Data Analysis:** Data was analyzed in the department of Community Medicine using IBM SPSS (statistical package for social services) v.20. And compiling was done using MS OFFICE 2013.

Table 1: Age distribution of students of 2nd year MBBS. n=200.

Age group	Frequency	Percentage
18-20	14	7
21-23	162	81
24-26	24	12

Table 2: Gender distribution of 2nd year MBBS. n=200.

Gender	Frequency	Percentage
Male	74	37
Female	126	63

Table 3: Frequency distribution of Myopia Among 2nd year MBBS students n=200.

History of Myopia	Frequency	Percentage
Yes	136	68
No	64	32

Table 4: Frequency distribution of Myopia among to different age groups N=200.

History of Myopia		Age		Total
	18-20	21-23	24-26	
Yes	8	114	14	136
No	6	48	10	64
Total	14	162	24	200

Table 5: History of myopia according to gender distribution.

History of Myopia	Gender		Total
	Male	Female	
Yes	46	90	136
No	28	36	64
Total	74	126	200

Table 6: Frequency distribution of Myopia among students according to their Residence. n=200.

History of myopia	Residency		Total
	Day scholar	Boarder	
Yes	66	70	136
No	28	36	64
Total	94	106	200

Table 7: History of myopia among the students according to genetic history.

History of Myopia	Genetic History					
	1 Parent		2 Parent		None	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	44	32.4%	46	33.8	46	33.8
NO	18	28.1%	8	12.5	38	59.4
Total	62	31%	54	27%	84	42%

Table 8: History of Myopia among the students according to Family history.

History of Myopia	Family History							
	Sibling		Grand parents		None		Both	
	Frequency	%age	Frequency	%age	Frequency	%age	Frequency	%age
Yes	68	50%	20	14.7%	36	26.5%	12	8.8%
NO	14	21.9%	10	15.6%	36	56.2%	4	6.2%
Total	82	41%	30	15%	72	36%	16	8%

Table 9: History of myopia among the students according to study hours. n=200.

History of Myopia	Study hours					
	Less than 2 hours		2 to 8 hours		More than 8 hours	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	26	19.1%	90	66.2%	20	11%
NO	20	31.2%	42	65.6%	2	3.1%
Total	46	23%	132	66%	22	14.7%

Table 10: History of myopia among the students according to Time spent in front of Display screen (laptop/pc/TV). n=200.

History of Myopia	Time Spent					
	Less than 2 hours		2 to 4 hours		More than 4 hours	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	38	27.9%	56	41.2%	42	30.9%
NO	22	34.4%	24	37.5%	18	28.1%
Total	60	30%	80	40%	60	30%

Table 11: History of myopia among the students according to Time spent on smart phone. n=200.

History of Myopia	Time Spent (TV)					
	Less than 2 hours		2 to 4 hours		More than 4 hours	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	22	16.2%	80	58.8%	34	25%
NO	10	15.6%	36	56.2%	18	28.1%
Total	32	16%	116	58%	52	26%

Table 12: History of myopia among the students according to Sleeping hours. n=200.

History of Myopia	Time Spent in sleeping					
	Less than 6 hours		6 to 8 hours		More than 8 hours	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	12	8.8%	88	64.7%	36	26.5%
NO	14	21.9%	42	65.6%	8	12.5%
Total	26	13%	130	65%	44	22%

Table 13: History of myopia among the students according to Eye exercise.

History of Myopia	Eye exercise					
	Regular		Irregular		No Exercise	
	Frequency	%age	Frequency	%age	Frequency	%age
Yes	16	11.8%	8	5.9%	112	82.4%
NO	0	0%	0	0%	64	100%
Total	16	8%	8	4%	176	88%

Table 14: History of myopia among the students according to use of eye drops n=200.

History of Myopia	Use of Eye drops			
	Regular		Irregular	
	Frequency	%age	Frequency	%age
Yes	28	20.6%	108	79.4%
NO	4	6.2%	60	93.8%
Total	32	16%	168	84%

Table 15: History of myopia among the students according to rubbing of eyes n=200.

History of Myopia	Rubbing of eyes			
	Yes		No	
	Frequency	%age	Frequency	%age
Yes	82	60.3%	54	39.7%
NO	42	65.6%	22	34.4%
Total	124	62%	76	38%

RESULT AND DISCUSSION

In our study, out of 200 students myopia was 68% and 32% were emmetropes. Majority of students were in the age group of 21-23 years i.e. 83.8% and only 5.9% were 18-20 years, 10.3 % were in 24 to 26 years Frequency of myopia in our study was similar to myopia in the study conducted by Chaudhary et al, in which it was 57.6%.[4] And 63% of the students in our study were females while only 37% were male There were a total of 200 students in the study. And frequency of myopia among females was higher Frequency of myopia was 66.2% and 33.8% as compared to male, which is consistent to the study conducted by Mavracanas TA et al, which reported 67.37% students were female as compared to 32.63% males.[5] Our study results revealed significant association of Family history of myopia was positive in 73.5% myopia with family history. And genetic history in 66.2%. Similarly in study conducted by singsong P parents with myopia tends to have children with myopia.[6]

According to the report by World Health Organization, uncorrected refractive error is the second commonest cause of global visual impairment next only to cataract.[1]In our study, high prevalence of myopia was found among the medical student which was in agreement with the study conducted by Sod et al.[2]Similar to our findings, Chalasani et al. also observed that the number of myopic was found to be increased among the student taking admission in the medical college every year.[3] It was observed in our study that myopia is also highly associated with use of electronic gadgets such as smart phones and computers.

This observation was in agreement with the findings of Reddy et al. who found that more than 2 hours continuous use of computer was significantly associated with occurrence of symptoms of computer vision syndrome.[7] Our results in this regard is also consistent with another study suggesting that prolonged use of computers is responsible for visual fatigue which in turn may lead to myopia.[8] According to David Allenby, Founder of Focus Clinics, there has been a 35 per cent increase in the number of people with advancing myopia (short sightedness) since the launch of smart phones in 1997.[9] Our study proposed the higher incidence of myopia among smart phone users as also suggested by Lee H et al.[10]

CONCLUSION

High prevalence of myopia was found among the medical students. The increased applicability of electronic gadgets, laptops, computers and smart phones were found to be the major associated risk factors along with the family history and genetic history. Further studies are recommended for the prevention of increasing frequency of myopia among the young population.

LIMITATIONS

A very limited research has been done regarding prevalence of myopia among the 2nd year MBBS students of Sheikh Zayed Medical College Lahore.

The present was an institution-based study. Longitudinal cohort studies or randomized clinical trials of community-based health behavior interventions should

be conducted to search further the etiology of refractory errors.

Degree of generalizability is questionable.

RECOMMENDATIONS

Population at risk should be identified by screening and proper evaluation of those with any difficulty seeing distant objects clearly such as the TV or the writing on the board. Refractive error should be correctly measured in patients suffering from myopia. And health education of general population and high risk population regarding the underlying factors causing myopia and prevention. Use as much light as possible while studying in order to reduce the size of the pupil and, consequently, the accommodation.

REFERENCES

1. Gopalakrishnan S, Prakash MVS, Kumar R. A Study of Refractive Errors among Medical students in AIMST University, Malaysia. Indian Med, 2011; 105(11): 365.
2. Sod RS, Sod A. Prevalence of myopia among the medical students in western India vis-à-vis the East Asian epidemic. IOSR Dent Med Sci., 2014; 13(1): 65-67.
3. Chalasani S, Kampala VK, Kayak P. Myopia among Medical Students-A Cross Sectional Study in A South Indian Medical College. AL Amen J Med Sci., 2012; 5(3): 233-242.
4. Chaudhary R, Ali H, Sheikh HN. Frequency and Ophthalmology outpatient department, it may not underlying factors of myopia among medical students. Be possible to generalize the results to the whole Biomedical, 2011; 27(2): 154-60.
5. Mavracanas TA, Mandalas A, Pesos D, Goliad V, needed to establish causal relationship between Mega Lou K, Gregoriadou A, et al. Prevalence of myopia in a sample of Greek students. Act Ophthalmic Scan near work and myopia in this age group, 2009; 78(6): 656-59.
6. Yangon P. Risk factors for refractive errors in primary school children (6-12 years old) in Nacho Pathos Province. J Med assoc, 2010; 93(11): 1288-93.
7. Reddy SC, Low CK, Lim YP, Low LL, Marina F, Nursaleha MP. Computer vision syndrome: a study of knowledge and practices in university students. Nepal J Ophthalmic, 2013; 5(10): 161-168. DOI:10.3126/nepjoph.v5i2.8707
8. Rajeev A, Gupta A, Sharma M. Visual Fatigue and Computer Use among College Students. Indian Community Med, 2006; 31(3): 192-193.
9. Nines E. Have you got ‘screen sightedness’?- Smartphones are causing sight problems to soar, warns eye surgeon, “Daily mail”, United Kingdom, 2013 August 15. (http:// www.dailymail.co.uk/health/article-2394611).
10. House L, Sundae L, Young Sang C, See Y, Shim E. A new posture monitoring system for preventing physical illness of smartphone users. Consumer Communications and Networking Conference (CCNC), 2013. IEEE: 821-825.DOI:10.1109/ CCNC.2013.6488555.