https://doi.org/10.36570/jduhs.2019.3.640

JDUHS

ORIGINAL ARTICLE

Awareness and Practice Regarding Myopia Among Visitors Attending Public Sector Hospital of Karachi

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ABSTRACT

Objective: To determine the associated factors, awareness and practices regarding myopia in the general population attending outpatient department of Jinnah Post Graduate Medical Centre, Karachi.

Method: A descriptive cross-sectional study was conducted among visitors coming to outpatient department of Jinnah Post Graduate Medical Centre, Karachi, Pakistan from October to December 2018. General population (attendants and patients coming for check-ups) aged 16-40 years of either gender were consecutively enrolled. Information regarding participant's eyesight, awareness and practices towards myopia were noted.

Results: Of 365 participants, majority of the participants (n=158, 43.3%) were myopic. Among these myopic, a small number of individuals (n=38, 24.05%) got their eyesight checked. A significant association of eyesight checked by doctor was found with presence of myopia (p-value <0.001) and educational status (p-value 0.001). Moreover, 170 (46.6%) do nothing to prevent/counteract myopia and has statistically significant relationship with educational status (p-value 0.038).

Conclusion: This study has revealed dearth of awareness regarding myopia amongst people. Moreover, majority of the participants were least concerned about their eye health. A dire need of awareness is required among general population as the findings revealed essential role of educational status in awareness and correct practices.

Keywords: Myopia, General population, awareness, practice

INTRODUCTION

Myopia is defined as refractive error in which parallel rays of light from infinity focus in front of the retina at resting state of accommodation and so the eye fails to see distant objects clearly.[1] Myopia is becoming common worldwide. It is estimated that approximately one billion people will fall prey to high myopia by 2050.[2] Despite of this, literature has reported ignorance about the disease in majority of the patients.[3]

It is reported that uncorrected refractive error is the most common cause of distance vision impairment and the second most common cause of blindness globally.[4,5] Various factors have been reported that decreased sun exposure, vitamin D deficiency, interaction of genetic and environmental factors also results in this complex inherited ocular trait as also contributing factors to myopia especially in young adults.[6,7] Moreover, excessive use of near vision, like reading, writing, and use of computer, mobile phones, tablets, and other small screen devices for longer time were also reported as considerable factors particularly in urban population.[8,9] Another study have also reported high prevalence of myopia in people with high socioeconomic status and education.[10]

Due to lack of awareness and compromised quality of life, people usually don't give attention to their eye health." As a result, myopia and other refractive errors has become very common that people have accepted it as an inevitable condition. Thus, there is a dearth of awareness among public about myopia, correct practices and preventive measures regarding it. We therefore, planned a study to assess the level of awareness about myopia in general population so that this global phenomenon can be handled proficiently.

METHODS

A descriptive cross-sectional study was conducted at outpatient department (OPD) of Jinnah Post Graduate Medical Centre, Karachi from October 2018 to December 2018. All visitors including attendants and patients coming to OPD for check-ups having 18-40 years of age were consecutively enrolled. Non-residents of Pakistan and those who didn't give consent were excluded.

Data were collected by asking the participants to fill or answer a simple self-structured questionnaire which was translated in local language (Urdu) as well. Informed consent was taken from each participant

before filling questionnaire. Moreover, prior approval was obtained from Institutional Review Board (*ref #: JSMU/IRB/2018/-111*). Participants were assisted in understanding the questions and were approached individually. Questions regarding their eyesight, awareness and common practices towards near-sightedness were asked.

Data collected were entered and analysed using SPSS Version 20.0. Frequencies and percentages were calculated for age categories, gender, residence, educational status, having myopia, duration of myopia, eyesight checked by doctor, frequency of eyesight checked, wearing spectacles/contact lens, and type of vision. Inferential statistics were explored using chi-square test. p-value <0.05 taken as significant.

RESULTS

A total of 365 visitors were included in this study, out of which 126 (34.5%) were males and 239 (65.47%) were females. Majority of the participants (n=142, 38.9%) were between 16–25 years of age, 136 (37.26%) were in between 26-35 years and 87 (23.83%) were in between 36-40 years of age. Most of the participants (n=103, 28.22%) had matriculation education followed by primary education (n=92, 25.21%) whereas (n=74, 20.27%) were uneducated.

There were 179 (49.04%) individuals with the history of eyesight checked by doctor. Among these, 67 (37.43%) individuals get their eyesight checked only once in lifetime followed by twice a year in 42 (23.46%), once in a year 33 (18.43%), after every 3 years 27 (15.08%) and after

Table 1: Characteristics of participants' Vision (n=365)

	n (%)
Participants having Myopia	
Yes	158 (43.30)
No	207 (56.70)
Duration from which having Myopia (n=158)	
Less than 6 months	19 (12.02)
5 months – 1 year	31 (19.62)
2– 5 years	53 (33.54)
5– 10 years	28 (17.72)
More than 10 years	27 (17.09)
Eyesight checked by Doctor	
Yes	179 (49.00)
No	186 (51.00)
Frequency of getting eyesight checked	
Once in a year	33 (9.00)
Twice in a year	42 (11.50)
After every 3 years	27 (7.40)
After every 5 years	10 (2.70)
Once in lifetime	67 (18.40)
Never	186 (51.00)
Wear spectacles/ Contact lenses	
Yes	118 (32.30)
No	247 (67.70)
Type of vision for which spectacles are used	
Far Vision	58 (15.90)
Near Vision	21 (5.80)
Both	41 (11.20)
Not Applicable	245 (67.10)

All data presented as number (%)

every 5 years 10 (5.58%). The frequency of myopia was found to be 158 (43.3%). (Table 1) Out of these 158 myopic individuals, 118 (74.68%) individuals wear spectacles/contact lenses.

A significant association of eyesight checked by doctor was found with presence of myopia (p-value <0.001) and educational status (p-value 0.001) (Table 2). Moreover, myopia is more common in urban areas, but no significance was between residence and myopia.

The awareness of individuals regarding possible risk factors of myopia showed that sunlight exposure is thought to cause myopia by 178 (48.8%) participants, watching television (n=207, 56.7%), reading too much (n=130, 35.6%), bad and unbalanced diet (n=119, 32.6%), poor lightening (n=86, 23.6%), and genetics/family history (n=23, 6.3%). (Figure 1) A majority of the participants favoured that one should spend less than 1 hour in sunlight (n=155, 42.5%), 138 (37.8%) favoured 1-3 hours in sunlight, 44 (12.1%) favoured 4–6 hours, 5 (1.4%) favoured 7-9 hours, 6 (1.6%) favoured 10-12 hours and remaining 17 (4.7%) believe >12 hours are necessary. Furthermore, most of the participants reported that one should not exceed 1-3 hours in doing stressful eye work.

Awareness regarding dietary characteristics and myopia showed that majority of participants (n= 276, 75.6%) reported that fruits and vegetables should be taken daily to prevent myopia, 298 (81.6%) favoured daily intake of milk and egg, 42.7% favoured meat/chicken intake twice a week and 234 (64.1%) thought that junk food is hazardous and thus should be avoided.

Table 2: Association of demographic factors, educational status and myopia with eyesight checked by Doctor

	Total	Eyesight checked by Doctor		p-value
		Yes	No	
Gender				
Male	126	53 (42.1)	73 (57.9)	0.053
Female	239	126 (52.7)	113 (47.3)	
Educational status				
Uneducated	74	33 (44.5)	41 (55.4)	0.001*
Primary	92	40 (43.47)	52 (56.5)	
Matric	107	51 (47.6)	56 (52.3)	
Intermediate	49	21 (42.8)	28 (57.2)	
Graduation or above	43	34 (79.1)	9 (20.9)	
Age Group				
16-25 years	142	60 (42.2)	82 (57.7)	0.053
26-35 years	136	68 (50)	68 (50)	
36-40 years	87	51 (58.6)	36 (41.4)	
Occupation				
Housewife/unemployed	212	108 (50.9)	104 (49.1)	0.144
Manual worker	85	34 (40)	51 (60)	
Office worker/ Teacher/ Student	68	37 (54.4)	31 (45.6)	
Myopic/Near-sighted				
Yes	158	120 (75.9)	38 (24.1)	<0.001*
No	207	59 (28.5)	148 (71.5)	
Residence				
East	32	22 (68.7)	10 (31.3)	0.169
West	43	20 (46.5)	23 (53.5)	
Korangi	111	51 (45.9)	60 (54.1)	
South	57	32 (56.1)	25 (43.8)	
Central	39	15 (38.5)	24 (61.5)	
Malir	39	20 (51.3)	19 (48.7)	
Outside Karachi (rural areas)	44	19 (43.2)	25 (56.8)	

All data presented as number (%)
Chi-square test applied, p-value <0.05 taken as significant, *significant

Moreover, when inquired about measures they do for preventing/counteracting myopia, it was found that 170 (46.6%) do nothing, 102 (27.9%) took healthy diet, 102 (27.9%) avoid screen exposure, 33 (9%) do home remedies, 19 (5.2%) take vitamin supplements and 16 (4.4%) took other measures to prevent/counteract myopia and improve their eye health. (Figure 2) Educational status has a strong impact in this regard (p= 0.038) as 48.6% of uneducated people do nothing for their eye health.

DISCUSSION

Myopia and other refractive errors have a significant impact on quality of life and continues to evolve as leading cause of blindness. Through this study, we investigated that how awareness, practices, educational status and other demographic factors play role towards Myopia.

According to the current study findings, it was found that majority of the participants were myopic. Among these myopic, a small number of diseased individuals got their eyesight checked. Overall, more than half never had their eyesight checked, bringing light to iceberg of the disease that is still to be discovered. Previous studies also reveal that uncorrected refractive error is leading cause visual disability and blindness.[2,12,13] Our study also revealed that education plays a key role towards awareness and ultimately early diagnosis of myopia. Furthermore, there is a strong association of educational status with eyesight checked by doctor and frequency of getting eyesight checked. This might be due to the increase need of the perfect vision for reading and writing. This finding is consistent with

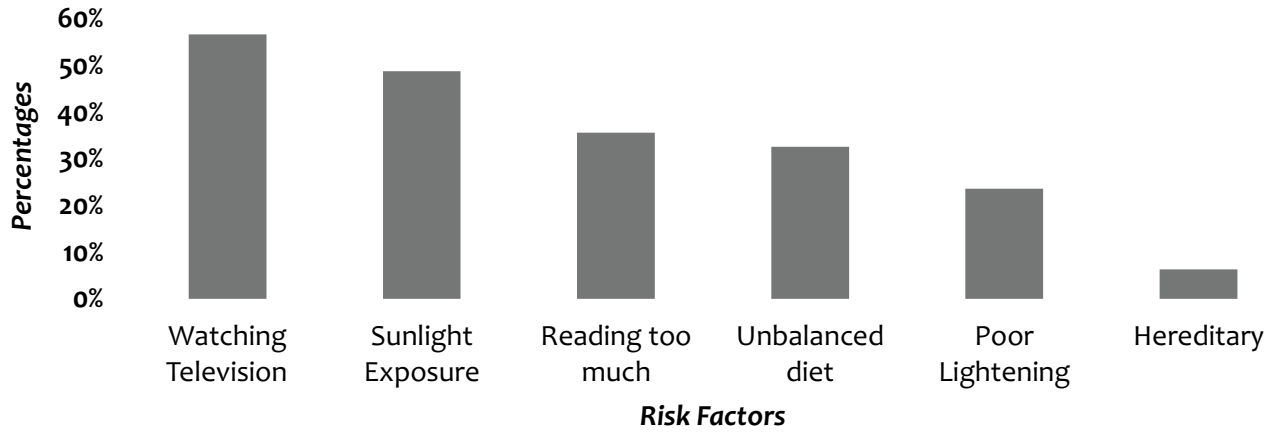

Figure 1: Awareness About Possible Risk Factors of Myopia

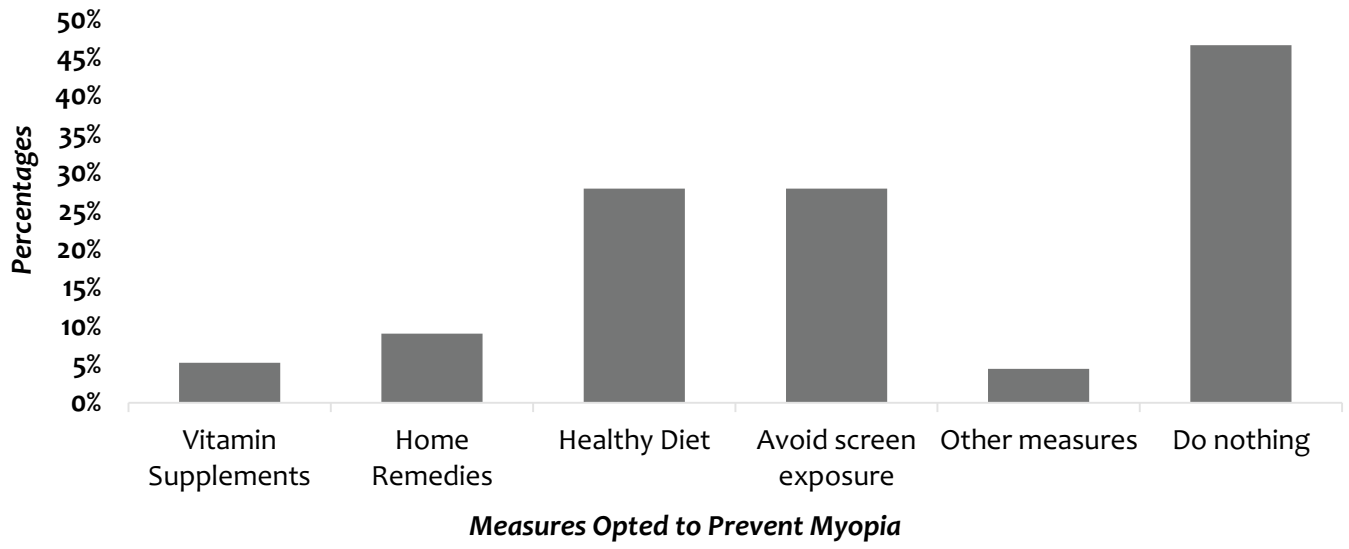

Figure 2: Different Measures Opted by Participants to Prevent/Counteract Myopia

previous study which shows that when there is vision loss, education improves eye care rates.[3] However, it was found in one study that education increases the risk of myopia. This can be due to increase near work, less exposure to outdoor light and shared genetic factors between myopia and intelligence.[14] Duration from which having myopia had significant association with wearing of spectacles. As the duration of myopia increases, people are more likely to seek for medical help and go to ophthalmologist.

Majority of the participants in our study believed that spending time outdoors in sunlight can cause myopia. This is somewhat not true as vitamin D and ultraviolet B radiation from sunlight reduces the risk of myopia.[6,15] Gender and awareness of sunlight exposure has notable significant association, as most of the females think sunlight exposure can cause myopia. This shows that there is dire need of awareness, as women are already more prone to be Vitamin D deficient.

In one of the study, it was found children who read for more than 2 hours a day were more likely to develop higher myopia as compare to those who read less than 2 hours.[16] Most of the participants in our study also agreed that reading too much can cause myopia and majority of the participants believed that one should not exceed 1 to 3 hours in doing stressful eye work. Majority of participants agreed regarded television as cause of Myopia. However, there are no researches that provide us strong evidence for this. Few studies show that there is no statistically significant association between myopia and watching TV.[16,17] Heredity and genetics play an important role to cause myopia[7], but only 6.3% of participants were in favour of this. Diet having high glycaemic index that causes hyperglycaemia and hyperinsulinaemia can induce myopia.[18] As far as dietary pattern that should be followed is concerned, majority of participants were well-aware about it. They know that fruits, vegetables, milk and eggs should be made part of regular diet, but junk food should be avoided.

Even minor refractive error can impact various aspects of life including social and psychological. Early detection and treatment is easy, effective and cheap. If not treated timely it can lead to serious consequences and can be irreversible.[19] Myopia escalates the risk of some serious disorders such as myopic macular degeneration, retinal detachment, glaucoma and cataract.[20]

Our study shows that 46.6% do nothing to prevent / counteract myopia and has statistically significant relationship with educational status. This tells us about degree of unawareness and lack of proper practices that prevail in general population regarding myopia.

Our research clearly showed that uncorrected refractive errors, low education level have huge impact on awareness and good practices towards near-sightedness. Although having awareness, some people still don't adopt proper measures and practices for myopia. This study shows that eyesight is least priority of most of the individuals. Future researches should also focus on awareness, attitude and practices towards Myopia rather than being bounded to prevalence of myopia only. This study was performed on small scale level. However, further interventional studies are needed on more wide scale as our population needs to be given awareness and more sensitive screening programs for eyesight problems. Most of the researches, had overlooked the components of awareness and common practices. Thus, such studies are also rare in Pakistan.

CONCLUSION

The findings of the study showed dearth of awareness regarding myopia amongst general population. Moreover, educational status has essential role in awareness and good practices. Majority are least concerned about their eye health although being aware about factors that aggravate it. As a result, myopia is rapidly increasing throughout the world. It can impair one's quality of life as well. Therefore, this issue should be given attention by health policy makers as our population needs further education and more widespread and sensitive screening programs in this regard.

ACKNOWLEDGMENT: The authors would like to acknowledge Dr. Syed Tafazzul Hyder Zaidi for his constant guidance in this study.

AUTHORS' CONTRIBUTION: AH, ZT substantially contributed to the conception and design of the study. AH, ZT, LK has worked in the acquisition, analysis and interpretation of the data also drafted the manuscript. AH, MN revised it critically for intellectual content, AH gave final approval.

FUNDING: None

CONFLICT OF INTEREST: None

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