

Challenges Faced By Spectacle Wearers: A Cross Sectional Questionnaire Survey Among Urban Youth

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Abstract:

Purpose: To assess the difficulties faced by spectacle wearing urban youth, in day to day life.

Methods: This is a cross sectional study where the participants filled up a semi structured 17 item questionnaires.

Results: A total of 118 participants took part in the survey (40.7% males and 59.3% females). Mean age was 20.76 ± 1.8 years. The most common difficulties faced were fogging of the glasses while drinking hot beverages and while getting out of AC car or room (72%), scratches on glasses (67.6%), blurring during rains (66%), need for careful handling (64.5%), difficulty to watch 3D movie (62.7%), issue regarding cost of frames and glasses (61%), feeling of dependency on glasses (61%) and inability to wear sunglasses (56%). Some other problems were glare, improper fit, difficulty to take part in sports or recreational activities, perceived personality by self and others. There was a statistically significant association between gender and cost of frames and glasses (Females, $p < 0.05$) and also between gender and inability to wear sunglasses (Males, $p < 0.05$)

Conclusions: In spite of the awareness and access to facilities, the urban youth were bothered by certain spectacle related challenges. The treating ophthalmologist needs to address these issues and guide them based on their needs.

I. Introduction

Uncorrected refractive error is a major cause of visual impairment globally. However, refractive error is a remediable cause of visual impairment as this can easily be corrected using glasses. Due to this global need and simple solution, uncorrected refractive error is a priority of the Vision 2020: The Right to Sight program the World Health Organization's Global Initiative for the Elimination of Avoidable Blindness.^[1] Spectacles are lenses held by frames which are worn in front of the eyes to enhance vision. Spectacle use remains the time and tested method to overcome refractive errors, in spite of availability of other options such as contact lenses and refractive surgeries. Spectacle compliance is important in the younger population who are in productive age group. Strategies to target this group to encourage the use of spectacles can reduce visual impairment due to uncorrected refractive error. Through this brief survey, we intend to study various difficulties faced by spectacle wearing urban youth in day to day life.

II. Materials and Methods

This study is a questionnaire based cross sectional study which was conducted during June-July 2015 after obtaining ethical clearance from the institutional ethics committee. The participants were undergraduate students from a professional college in a tier two city of India. All students who were wearing spectacles and willing to participate in the survey were included in the study. A total of 118 subjects participated in the study. After obtaining informed consent, a semi structured questionnaire was given to the students to be filled up. The questionnaire elicited the demographic profile, and 17 questions eliciting various challenges they face during their day to day life. They were asked to express their degree of concern as 'not a problem', 'problem to some extent' and 'severe problem'. The data was analysed using SPSS version 17 and chi square test was used for significance.

III. Results

118 participants were included in this survey, of which 48 were males and 70 were females. (40.7% males and 59.3% females). The youngest participant being 18 years and oldest 26 years of age. Mean age was 20.76 ± 1.8 years. Among the 118 participants 67(56.78%) were regular users of spectacles, 39(33.05%) used spectacles most of the time while 12(10.17%) used spectacles sometimes. This showed that majority of the participants were dependent on spectacles. We also tried to elicit what was the power of their glasses. But most of the students did not remember the exact power of their glasses- whether spherical or cylindrical, whether plus or minus glass, whether high power or small power.

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In this study we found a significant correlation of $p < 0.05$ between gender and certain problems using chi square test. Females were more concerned about the cost of frames whereas males were bothered due to inability to wear sun glasses. (Table 2 & 3)

Table 1: Showing frequency of various challenges in percentage

CHALLENGES	Cumulative percentage
Fogging of glasses	72%
Blurring in rain	66%
Unable to wear sunglasses or face masks	56%
Difficulty to watch 3D movie	62.7%
Glare	51.7%
Scratches and smudges	67.6%
Restrictions in sports or recreational activities	45%
Difficulty to view through a microscope	56%
Affects choice of profession	35.6%
Unhappy with the quality of vision	43.3%
Improper fitting	56%
Need for careful handling	64.5%
Cost of frames and glasses	61%
Visits to eye doctor and optician	55%
Perceived personality traits by others: teasing as being geek	49%
Self perceptions: reduces self esteem and confidence level	55%
Feeling of dependency on glasses	61%

Table 2. Showing gender association with cost of frames

			Cost of frames and glasses			Total
			Not a problem	Problem to some extent	Severe problem	
Gender	M	Count	17	27	4	48
		%	37.0%	51.9%	20.0%	40.7%
	F	Count	29	25	16	70
		%	63.0%	48.1%	80.0%	59.3%
Total	Count		46	52	20	118
	%		100.0%	100.0%	100.0%	100.0%

P=.038

Table 3. Showing gender association with unable to wear mask

			Unable to wear mask			
			Not a problem	Problem to some extent	Severe problem	Total
Gender	M	Count	14	18	16	48
		%	27.5%	47.4%	57.1%	40.7%
	F	Count	37	20	12	70
		%	72.5%	52.6%	42.9%	59.3%
Total	Count		51	38	28	118
	%		100.0%	100.0%	100.0%	100.0%

P=.041

IV. Discussion

There have been some studies addressing attitudes, beliefs, practices and challenges of spectacle wearers in different age groups and socioeconomic groups. Spectacle compliance can have an impact on their vision and their life.

In a study in Hyderabad majority of the subjects had stopped using spectacles because they thought the prescription was incorrect while a significant reason for not using spectacles currently was that the spectacles were uncomfortable, ranging from 17.9% to 22.2% where as lost and unable to afford a new pair was cited by 33.3% and no need to wear all the time was cited by 14.4%. [2] In a study from Nigeria among 198 participants aged between 15-80 yrs, revealed poor acceptance of glasses for the correction refractive errors. Health education regarding benefits of glasses may improve the acceptance and thus reduce the burden of visual

impairment due to uncorrected refractive errors.^[3] A cross sectional study among 500 undergraduate students of Nigeria was done where the investigators felt that their knowledge of refractive errors and acceptance of glasses for correction of refractive errors among them was not encouraging. 60% believed that glasses are meant for old people and 57% thought that people wearing glasses are visually handicapped. 56% believed that they would be teased if they wore glasses. This kind of attitude and perception could affect compliance to spectacle wear.^[4]

Aiyaniyi et al surveyed a total of 214 spectacle wearers aged between 18-84 years from a resource limited economical background. The wearer's challenges included expensive spectacles (43.0%), falling/scratched/broken lenses (29.4%) and fear that spectacles would damage the eyes (23.8%). The investigators conclude that during consultation, counselling of spectacle wearers on positive attitude and practices is required. Also the cost of the spectacles should be regulated.^[5] A study of prevalence and determinants of spectacle non-wear among rural Chinese secondary school children reports that significant number of the children were not wearing correction, despite the fact that they would benefit from doing so. A common reason for nonwear was the belief that spectacles weaken the eyes.^[6] Liping *et al* studied the attitude of students, parents and teachers toward glasses in china and reported 'inconvenience' as an important reason for not wearing glasses among all students groups and parents reported 'too busy with work' as the major reason for not making children comply with glasses wear.^[7]

In a study from south India where the perceptions regarding refractive errors and the psychosocial impact on youth was studied, 30% believed that wearing glasses would progressively increase the refractive error. 23% believed that spectacle using had harmful effects on eyes. A large percentage (35%) were teased for using glasses. 52% considered spectacles to be a cosmetic blemish. 3% had faced rejection of marriage proposal only because they wore glasses. 31% were ready to hide their glass to avoid rejection before marriage. This can have a serious psychosocial impact on the youth.^[8] In a study conducted in Pune to assess the compliance of spectacle wear among rural school children after 6 - 12 months of providing free spectacles concluded that spectacle compliance was poor and many children had significant vision impairment as a result. The causes for not wearing spectacles were lost spectacles 67 (9.3%), broken spectacles 125 (17.4%), forgot spectacles at home 117 (16.3%), uses spectacles sometimes 109 (15.2%), teased about spectacles 142 (19.8%) and do not like the spectacles 86 (12%).^[9]

We see that in most of the studies there is considerable negative attitude towards spectacles. Peers considering the spectacle wearers as visually handicapped or teasing them as geek or nerd can happen. The wearers themselves can develop some fear or hesitation or reduced self esteem which may hamper the personality development in young age. It may affect their confidence level in a social gathering. On the contrary, in a survey done in USA among 80 school children regarding how they feel about others who wear spectacles showed that they think spectacle wearers are more smarter and intelligent^[10]. This kind of falsely perceived personality traits by peers is not acceptable. This only suggests that the awareness regarding refractive errors is not satisfactory.

In our study, the participants were educated urban dwellers studying in a professional college with presumably high awareness levels. They did not have any misconceptions regarding refractive errors or spectacle wear. They even had better access to facilities like eye hospitals and optical dispensers. In spite of this, they had certain issues which bothered them due to spectacle wear.

V. Conclusions

Some of these issues are minor and they can definitely overcome with the use of better quality of lenses that are available today which prevent smudges, scratches and even watermarks. Antiglare, photo chromic or UV absorbing lenses can be chosen according to needs. Power can be incorporated in sunglasses. However there is always issue of extra expense due to frames and glasses. Ophthalmologist can give proper guidance regarding their choice of contact lenses either daily or occasionally. They also need proper guidance regarding refractive procedures and help them to make proper decision. Youth are naturally concerned about their appearance- whether glasses make a person boring or fashionable- will just depend on their attitude which needs tuning. More awareness should be created since childhood regarding refractive errors. Spectacle compliance is still more important in childhood.

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