



ORIGINAL RESEARCH PAPER

Ophthalmology

OCULAR HEALTH – KNOWLEDGE, ATTITUDE AND PRACTICE OF CONTACT LENS USE AMONG MEDICAL STUDENTS IN SRINAGAR

KEY WORDS: contact lens, knowledge, practice, attitude, compliance

Ayaz Bhat

Medical officer, J&K Health services, Kashmir

Ambrine Ashraf*

Demonstrator, Department of Community Medicine (SPM), Government Medical College, Srinagar *Corresponding Author

Mahrukh

Medical officer, J&K Health services, Kashmir

ABSTRACT

Introduction: Contact lenses are thin optical corrective lenses worn on the eye, resting on the surface of the cornea. They cling to the film of tears over the cornea due to surface tension and provide better peripheral vision.

Aim: To assess the knowledge, attitude & practices of contact lens usage among medical students of Government Medical College, Srinagar.

Methods: Study was conducted by providing semi-structural questionnaire. The questions regarding the use of contact lens, maintaining cleanliness of contact lens, ocular complications that may arise due to use of contact lens, discarding of lens beyond date of expiry, benefits of contact lens use over spectacles were asked.

Results: Out of total 127 medical students who were interviewed during the study period, only 23 (18%) of them were contact lens wearers. 21.7% were wearing for cosmetic purpose, 17.3% for refractive purpose and rest for both. Majority were wearing soft contact lenses. 91% have experienced some problem with contact lens use and the most common was ocular discomfort followed by redness. The students were aware of cleaning material and used lens solution, but 8.7% used water when lens solution not available.

Conclusion: Education, improving communication, behavioral modifications are important to improve the compliance.

Introduction

Contact lenses are thin optical corrective lenses worn on the eye, resting on the surface of the cornea (1). They cling to the film of tears over the cornea due to surface tension. Contact lenses are popular in young school and college students. Contact lenses are devices that can be worn to correct vision, or for cosmetic or therapeutic reasons (2). According to survey in 2004, it was found that 125 million people use contact lens throughout the world (3). Contact lenses provide better peripheral vision. The diseases like keratoconus are treated with contact lens (4). Another advantage of contact lens is that it eliminates prismatic effects of spectacles, and the field of vision is increased.

Despite the considerable evolution of contact lens materials and designs, the fitting success has been jeopardized by the occurrence of complications, the most dreaded of which is contact lens related corneal ulcer as well as allergic reactions to either the lens or the contact lens cleaning solutions (5-6). The corneal ulcers are mainly caused by bacterial infection (*Pseudomonas aeruginosa*) and protozoal infection (*Acanthamoeba castellanii*) (7). The wearer's attitude and knowledge relating to contact lens care including cleaning, disinfection, protein removal, keeping of solutions for a longer period, hygiene of hands and lens cases, a period of wear exceeding the recommended one, and the lack of regular eye assessment, have been proposed as the main causes of complications.

Aims and objectives

To assess the knowledge, attitude & practices of contact lens usage among medical students of Government Medical College, Srinagar.

Methodology

A cross sectional study was conducted using a pretested structured questionnaire among the contact lens wearing among the medical students during their study period in Government Medical College, Srinagar. Any medical student who has ever worn contact lens for any period of time and for whatever reason was enrolled in this study. Data was obtained from 127 contact lens wearers using a structured questionnaire after taking their consent for participation in this study. The questionnaire mainly had questions focusing on the knowledge, attitude, practice of contact lens wear and on the awareness of the probable complications that may arise on faulty use of contact lens or its cleaning solution.

RESULTS

Out of total 127 medical students who were interviewed during the study period, only 23 of them were contact lens wearers; thus the prevalence of contact lens wearers was 18%. The majority of

contact lens users were final year students (28.9%) followed by third year and fourth year (20.7% each), first year (15.7%) and second year (14%). Majority of the contact lens users were females (87.6%).

Table 1 : Parameters for assessing knowledge, attitude and practice of study subjects

Parameter	Number (n=23)	Percentage (%)
Purpose of wearing contact lens		
Refractive error	4	17.3
Cosmetic	5	21.7
Both	14	60
Type of contact lens used		
Soft	21	91.3
Semi-soft	2	8.7
Hard	0	0
Rigid (gas permeable)	0	0
Length of time since use of contact lens		
< 1 year	9	39.3
1-2 years	4	17.3
2-3 years	7	30.4
>3 years	3	13
Duration for which contact lens is used per day		
6-8 hours	13	56.6
8-12 hours	5	21.7
Overnight use occasionally	3	13
Overnight use habitually	2	8.7
Symptoms faced due to use of contact lens		
Ocular discomfort	17	74
Redness	6	26
Pain	4	17.3
Watering	6	26
No symptoms	2	8.7
Cleaning material used		
Lens solution	21	91.3
Plain water	2	8.7
Wash hands before handling contact lens		
Yes	18	78.2
No	5	86.8

Remove contact lens before going to bed		
Yes	21	91.3
No	2	8.7
Use contact lens beyond expiry date		
Yes	0	0
No	23	100
Knowledge about over-wear syndrome		
Yes	14	60.8
No	9	39.2
Knowledge about Acanthamoeba infection due to use of plain water as cleaning material for contact lens		
Yes	17	73.9
No	6	26
Knowledge about complications arising out of contact lens use (corneal ulcer)		
Yes	19	82.6
No	4	17.4
Informed about maintenance /complications due to use of contact lens by concerned medical personnel		
Yes	18	78.3
No	2	8.7
Not sure	3	13

DISCUSSION

Out of total 127 medical students who were interviewed during the study period, only 23 of them were contact lens wearers; thus the prevalence of contact lens wearers was 18%.

Chavan *et al.* conducted a study in Maharashtra and showed prevalence of contact lens in medical students was 17% which is in comparison to our results (8). Lee *et al.* from Singapore has reported that the prevalence of contact lens use was 8%, which is in contradiction to our study (9). Majority of contact lens users were females, and the reasons were cosmetic. According to Claydon *et al.*, the reasons of noncompliance in contact lens wear are lack of hand and lens-case hygiene and the over wearing of contact lenses, education was thought to be one of the main factors which will influence compliance (10). A study done by Curran *et al.* among 787 contact lens wearers revealed that only 30% cleaned their lens case daily and that too mainly with tap water only (11). In our study, we found that 8.7% of the contact lens users were using tap water to clean the contact lenses. Majority (91.3%) of students were using soft contact lenses as they are more comfortable and better-tolerated. Same was noted by Tajunisah *et al.* (12) in his study 82% students were using soft contact lenses and in a study by Chavan *et al.* (8) 94% were using soft contact lens. In our study, 8.7% of the students used contact lenses overnight, which might predispose to corneal infection, and is in comparison to a study by Feys (7). People who wear contact lens while sleeping are usually more prone to eye complications due to a longer period of contact of the lens on the cornea as it causes corneal anoxia (13). In the present study, more than 50% students were using contact lenses for about 12 hours per day. This observation is in comparison to Chavan *et al.* as in their study 65.5% students were using contact lens for 10-12 h (8). Students who use contact lenses for prolonged time have faced problems such as ocular discomfort (74%), redness (26%), pain (17.3%) and watering (26%). A study by Unnikrishnan and Hussain revealed that general discomfort (47.7%) and redness (19.2%) were most commonly reported symptoms (14). Recommendations for contact lens wearers from the American Optometric Association (15):

1. Always wash and dry our hands before handling the contact lenses
2. Regularly clean the contact lens as directed. Rub the contact lenses with fingers and rinse well before we soak the lenses overnight in sufficient multi-purpose solution so that it completely cover the lens
3. Lens should be stored in proper storage case and should be

disposed every 3 months, and it should be cleaned after each use

4. Only fresh solution should be used to clean and store contact lenses, and the solution should not be reused
5. Contact lenses should be removed before swimming or entering a hot tub.

CONCLUSION

Contact lens can cause serious complications such as corneal opacities, vascularization, and ulcer (17). Many students did not know about these complications (16). There is a need for more education to the contact lens users about the contact lens care and complications related to contact lenses. Education, improving communication, behavioral modifications are important to improve the compliance and to increase the success rate of contact lens.

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