

# Awareness of Complications of Contact Lenses in Medical Students

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## ABSTRACT

**Purpose:** To assess the awareness of complications of contact lens wear in medical students

**Methods:** This is a cross sectional descriptive study. All 71 students of new first year MBBS class of Mohterma Benazir Bhutto Shaheed Medical College were enquired about the awareness of complications of contact lens.

**Results:** All 71 students present in the class (total strength 75) completed the questionnaire. Average age was 18.25 years. 42 were female and 29 were male. Except allergy, 78.8% of students did not know the complications of contact lens. More than 80% of the students knew that the complication could be serious and could lead to loss of vision. Majority of the students thought that the contact lens is not worth wearing. 52.1% would not recommend to others. Regarding the source of their information, majority replied friends and family (78.8%), internet and media (53.5%) and lastly eye care provider.

**Conclusion:** Significant number of students did not know about the risk factors and complications associated with contact lens use. Hence more effective strategies need to evolve to make young people aware of contact lens care, handling and complications.

**Keywords:** Awareness, contact lens, contact lens care

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## INTRODUCTION

Contact lenses are an important resource of optical correction. In addition to correcting refractive errors, they also improve the cosmetic appearance of the wearer and are gaining popularity among the younger generation<sup>1</sup> (school, college and university students, young working adults). Contact lens usage is quite common in our country but many users are not aware of their proper handling, care<sup>2</sup> and their complications. Most common complications associated with the use of contact lenses are dry eye, giant papillary conjunctivitis, corneal abrasion, corneal edema, corneal ulcer, keratitis and neovascularization<sup>3</sup>. The awareness of these complications is found lacking in the younger wearer<sup>4</sup>. Knowledge of the correct and careful practice regarding contact lens wear can prevent complications<sup>5</sup>. Medical students are future health providers for community and awareness needs to be increased in them<sup>6</sup>. -Hence the present study was conducted to assess the knowledge and awareness of contact Lens especially the complications among medical students of Mohterma Benazir Bhutto Shaheed Medical College Mirpur, Azad Jammu and Kashmir.

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## MATERIALS AND METHODS

This is a cross-sectional descriptive study. It was conducted on 7<sup>th</sup> Jan 2013. The students of first year MBBS class of Mohterma Benazir Bhutto Shaheed Medical College, Mirpur AJK were requested to fill a questionnaire that covered different aspects of study objectives. 71 out of total 75 students were present in the class on the day of distribution of proforma. Results were deduced from the forms that were recovered. SPSS 15.0 Evaluation Version was used for the purpose of data management. The questionnaire enquired about the risk factors for complications of contact lenses and the source of information of students

## RESULTS

Average age of the student is 18.25 years. Male to female ratio was 29:42. Only 9.85% of the students were found to be occasional users of contact lenses.

Table 1 Question regarding student demographics.

Average age	18.25 years
MBBS Class	First Year
Number of students	71(94.66%)
Males	29(38.66%)
females	42(56%)
Occasional Users	7 (9.3%)
Non users	67(89.33%)
Regular users	0

When we analyze the information regarding complications of contact lens, we surprised to know that only 10% of the participants were sure that water

is not an appropriate solution for storage of contact lens. More than 90% of the students don't know that conjunctivitis can be caused by the use of contact lens. Even more than 70% of the students don't know that corneal ulcer can be a complication of lens which

can lead to blindness. Similarly corneal vascularization and opacities are other important complications. Around 85% of the participants were again not aware of these facts which should be known by every contact lens user

Table 2: Questions regarding complication of contact lens and their risk factors.

	yes	No	Don't know
Using water as storage cleansing solution is a risk factor for developing complications	37(53.1%)	10(14%)	24(33.8%)
Chronic inflammation of ocular surface and lids is a risk factor for developing complications	42(59.1%)	0	29(40.8%)
Poor personal hygiene is a risk factor for developing complications	49(69%)	5(7%)	17(23.9%)
Duration of lens usage in years is a risk factor for developing complications	38(53.5%)	5(7%)	28(39.4%)
Corneal ulcer is complication of wearing contact lens	18(25.3%)	2(2.8%)	51(71.8%)
Conjunctivitis is a complication of using contact lens	4(5.6%)	2(2.8%)	65(91.5%)
Allergy is a complication of wearing contact lens	56(78.8%)	2(2.8%)	13(18.3%)
Corneal vascularization is complication of wearing contact lens	7(9.8%)	2(2.8%)	62(87.3%)
Corneal opacities can result from wearing contact lens	13(18.3%)	0	58(81.6%)
Corneal distortion can develop from wearing contact lens	27(38%)	2(2.8%)	42(59.1%)
Complication of contact lens can be serious	60(84.5%)	4(5.6%)	7(8.8%)
Complications of contact lens can cause loss of vision / blindness	58(81.6%)	4(5.6%)	9(12.6%)
Considering the complication are contact lens worth wearing	17(23.3%)	37(52.1%)	17(23.3%)
Would you recommend contact to others	15(21.1%)	42(59.1%)	14(19.4%)

Majority of the participants got the information regarding contact lens through friends and family. Only a small percentage contacted the health care provider for advice regarding the use of lens.

Table 3 Questions regarding source of information.

	Yes	No	Don't Know
Family and friends	56(78.8%)	10(14%)	5(7%)
Eye care provider	12(16.9%)	51(71.8%)	8(11.2%)
Net/media	38(53.5%)	26(36.6%)	7(9.8%)

## DISCUSSION

Contact lens use for the correction of refractive error is gaining momentum world-wide. This may be due to the improvements in contact lens manufacturing technology and better lens materials, production techniques as well as storage and care products<sup>7</sup>. In Pakistan the exact number of contact lens wearers is not known but according to unofficial surveys, large number of contact lens users is present. The prevalence of contact lens usage among medical students observed in our study was 9.8% much lower than 17.1% and 27.4% in studies by Purushottam et al<sup>6</sup>, India (2012) and Vidotti et al<sup>8</sup> which was conducted in Brazil in 2006.

In our study 100% were occasional users of contact lenses. In a similar study conducted by Muneer and Beenish<sup>2</sup> concluded that majority (72.7%) were found to be occasional users.

In this study 84.50% students replied that complication of contact lenses may be serious. 81.69% mentioned that complications may lead to visual loss / blind. 60.56% pointed about the fact that contact lens should not be worn when the eyes are red but 39.5% admitted that they did not know that. Microbial keratitis is a rare but severe complication of contact lens wear, affecting approximately 5 per 10 000 wearers. Poggio EC et al<sup>9</sup>, Iam DS et al<sup>10</sup>, Cheng KH et al<sup>11</sup> and Seal DV et al<sup>12</sup> also emphasizes the importance of relation of bacterial keratitis and blindness due to improper hygiene and use of contact lens. Yousef Aldebasi in his study conducted in Saudi Arabia also emphasize on the fact that contact lens can act as a vector for microorganisms to adhere to and transfer to the ocular surface if not used and cared properly<sup>13</sup>.

Regarding risk factors for developing complications 47.9% did not know that using water for storage is risk factor for developing complications; 40.85 % students did not know that chronic ocular surface inflammation leads to complication in lens wearer although 69% said that poor personal hygiene is risk factor.31% did not know the fact and 46.5% did not know that the duration of contact lens usage in years is risk factor for developing complications. Hence awareness about the risk factors was lacking in many medical student.

Only 18% of the medical students were sure that contact lens can cause corneal ulceration<sup>14</sup>. With the exception of allergy, majority of students had very little knowledge of the complications of contact lens a

very serious matter this is opposite to the study by Tajunisah, Reddy and Phuah (2008), 88% of students were knowledgeable about the complications and 68% answered the etiological agents of contact lens related ulcers correctly.

Considering the effort of handling and care and complications 52.11% of the students in our study said that contact lenses are not worth wearing and 59.15% replied that that they would not recommend contact lenses to others and this is in accord with a study by Muneer and Beenish (2009) in which 42% said that contact lens are harmful.

Regarding the source of their information majority of the students replied friends and family 78.8%, internet and media 53.5% and eye care provider 16.9%. In study by Tajunissah, Reddy and Phuah (2008) only 52% of students were informed by their prescribers about the complications related to contact lens wear. Steinmann et al (2005) in their study state that uninformed patients who acquire lenses from unauthorized providers are significantly less likely be instructed on appropriate lens use and care, consequently have a higher incidence of acute vision-threatening infection and inflammation<sup>15</sup>.

## CONCLUSION

Contact lens can cause serious complications like corneal opacities, vascularization and ulcer. Majority of the participants don't know about these complications. There is a need for more education to the consumers about the contact lens care and complications related to contact lenses, which should be provided by all contact lens providers. There is need to enact laws that will regulate dispensing of contact lenses by unqualified persons as well as purchase or sale of contact lens. Education, improving communication, behavioral modifications are the main factors that helps to improve the compliance level in any population.

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