



## Original Research Article

## Awareness knowledge of spectacles to contact lens usage among health care students

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## ABSTRACT

**Objective:** Objective of our study was to determine the awareness, knowledge of spectacles wear to contact lens among health care students after interventions and to find which is more advisable.

**Materials and Methods:** A questionnaire study was done on 140 healthy subjects, age group between 18-25 years, subjects with ametropic only were included. In this questionnaire study, pre and post data is collected among health care students regarding awareness, knowledge of spectacles to contact lenses, On pre examination participants were asked questions on their demographics, spectacles history, contact lens, history of contact lens usage, care practice and their related complications and video is shown to create awareness after which post awareness data is collected.

**Results:** A total of 140 undergraduate ametropic health care students comprising of 97 (69%) females and 43 (30%) males aged 18-25 participated in this study. Out of total participants, a greater majority of 52 (52%) participants were not aware of usage of refractive error correction a pre assessment and post assessment seventy one (71%) achieved awareness regarding usage of refractive error corrections.

**Conclusions:** Awareness and knowledge increasing public awareness, knowledge of spectacles to contact lens can improve the effectiveness of result from 47.1% to 89.5%. In this study out of total participants a great majority of 52.1% subjects were not aware of usage of refractive error correction in pre-assessment after providing them with adequate knowledge, the result improve to 71.4% in post- assessment data.

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## 1. Introduction

Perception of blur images when the light rays are focused anterior to the retina (myopia), posterior to the retina (hyperopia), or when the light rays from the different meridians are brought to different foci (astigmatism). Refractive error can simply detected, diagnosed, measured, and consequently, corrected using optical corrective approaches and devices such as spectacles and contact lenses. Spectacles remain the commonest and relatively cheapest form of refractive error correction. These are optical appliances consisting of pair of ophthalmic lenses

mounted in a frame. Contact lenses have evolved from glass lenses to plastic scleral contact lenses and then to polymethylacrylate (PMMA).<sup>1</sup>

Contact lenses are more expensive, the use of contact lenses has quite an avalanche of benefits that spectacle fails to provide. Spectacles are cost-effective and safe Interventions for refractive correction. The impact of unmet need of spectacles wearing is unrevealed. Care and maintenance of contact lens are one of the most important aspects. It can influence the outcomes of contact lens wearers and its seen in various aspects of contact lens wear and care. Ignorance of contact lens care leads to serious ocular health problems for example, corneal war page, and neovascularization.<sup>2</sup>

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Age and gender can influence attitudes towards refractive correction. Contact lens is worn for various reasons like for refractive, cosmetic, or therapeutic or for treating keratoconus, irregular astigmatism, colour deficiency, diplopia, and cosmetically unsightly eyes. Compliance in a contact lens is very important as it changes the integrity of contact lenses and the health of the eyes.<sup>3</sup>

Risks with contact lens wearers include sleeping, while Contact lenses include the risk of Microbial keratitis. Poor hygiene and failure to follow the instruction of use are major risk factors for corneal inflammation.<sup>4</sup>

## 2. Materials and Methods

This questionnaire based study was done on 140 subjects, age group between 18-25 years and it's approved by Institutional Ethics committee, of Saveetha College of Allied Health Sciences, subjects with ametropic only were included. In this questionnaire study, pre and post data was collected among health care students in the university regarding the awareness, knowledge on spectacles to contact lenses on pre examination participants were asked questions for information on their demographics, spectacles, contact lens, usage, care practice and their related complications in pre assessment and video is shown to create awareness after that post assessment data is collected. All the responses from pre and post assessments were taken. All data were analysed using SPSS V 16.0 (statistical package for social science) the highest and the lowest were compared and the mean, standard deviation (SD) is evaluated.

## 3. Results

A total of 140 undergraduate ametropic health care students comprising of ninety-seven (69.5%) females and forty-three (30.5%) males aged 18-25 participated In this study. Out of which the minimum of 17 and maximum of 25 ages participated as illustrated in Tables 1 and 2. Out of total participants surveyed, (52.4%) were aware of contact lens side effects and only (26.2%) were aware of purpose of contact lens. Whereas after post survey (71%) were aware of side effects and (42.8%) were aware of contact lens purposes. Participants were asked if they choose lenses as a substitute to address their refractive errors, a greater majority of (52.1%) were not aware of usage of refractive error correction and after post assessment (71.4%) got awareness regarding usage of refractive error corrections.

**Table 1:**

|     | N   | Minimum | Maximum | Mean  | Std. Deviation |
|-----|-----|---------|---------|-------|----------------|
| Age | 140 | 18      | 25      | 20.55 | 1.94           |

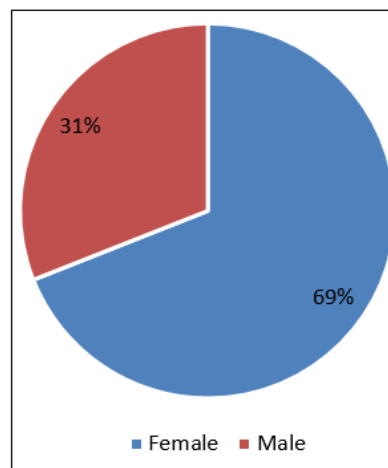
From Table 1, It is observed that, a total of 140 health care students were examined. The mean age of the health

care students was 20(Range 17-25).

**Table 2:** Distribution of gender

| Gender | Number of Respondents | Percentage |
|--------|-----------------------|------------|
| Female | 97                    | 69.5%      |
| Male   | 43                    | 30.5%      |
| Total  | 140                   | 100%       |

It is observed that 69.5% of the subjects who participated in this study are females and 30.5% of them are males and the same is depicted in Figure 1.



**Fig. 1:** Distribution of gender

A total of 140 undergraduate refractive correction wearers comprising ninety-seven females (69.5%) and forty-two males(30.5%) participated in this study.

**Table 3:** Pre and post assessments

| S. No. | Questions  | Pre assessment<br>Number and Percentage |             |
|--------|--|---|-------------|
|        |  | Pre                                     | Post        |
| 1.     | Have you ever had an eye examination?  |   |             |
|        | Yes  | (140)100%                               | (140) 100%  |
|        | No   | (0) 0%                                  | (0) 0%      |
| 2.     | If yes, how many times in a year, you will have your eye examination done?   |   |             |
|        | Once in a year   | (66) 47.14%                             | (66) 47.14% |
|        | Twice in a year  | (36) 25.71%                             | (36) 25.71% |
|        | None   | (38) 27.14%                             | (38) 27.14% |
| 3.     | What was your age when you first started wearing eye glasses to see objects? |   |             |
|        | Age in years   | (10)7.14%                               | (10)7.14%   |
|        | Don't know   | (56) 40%                                | (56) 40%    |
|        | Refused  | (74) 52.8%                              | (74) 52.8%  |
| 4.     | When did you purchase a pair of eye glasses to see distance objects?         |   |             |
|        | Less than 6 months ago   | (68) 47.57%                             | (68) 49.57% |
|        | More than 6 months ago   | (0) 0%                                  | (0) 0%      |
|        | 6-12 months ago  | (12) 8.57%                              | (14) 10%    |
|        | 12-24 months ago   | (17) 12.14%                             | (15) 10.71% |
|        | More than 24 months ago  | (42) 30.71%                             | (43)30.71%  |
| 5.     | Do you know the difference between Optometrist and Ophthalmologist?          |   |             |
|        | Yes  | (109)77.85%                             | (111)79.28% |
|        | No   | (31)22.14%                              | (29) 20.71% |
| 6.     | Do you wear glasses?   |   |             |
|        | Yes  | (55) 39.28%                             | (64) 34.74% |
|        | No   | (85) 60.71%                             | (76) 54.52% |
| 7.     | Do you have awareness of contact lens usage?                                 |   |             |
|        | Yes  | (94) 67.14%                             | (80) 57.14% |
|        | No   | (46) 32.85%                             | (60) 42.85% |
| 8.     | Do you ever worn contact lens?   |   |             |
|        | Yes  | (15) 10.71%                             | (12) 8.75%  |
|        | No   | (125)89.28%                             | (128)91.42% |
| 9.     | Are you aware of possible contact lens side effects?                         |   |             |
|        | Yes  | (73) 52.14%                             | (100)71.42% |
|        | No   | (67) 47.85%                             | (40) 28.57% |
| 10.    | According to you, what type of contact lens are more advisable?              |   |             |
|        | Daily disposable contact lens  | (61)43.5%                               | (69) 49.2%  |
|        | Weekly disposable contact lens   | (11)7.8%                                | (12) 8.57%  |
|        | Fortnight disposable contact lens  | (7) 5%                                  | (12) 8.57%  |
|        | Monthly disposable contact lens  | (28) 20%                                | (40)28.57%  |
|        | Non- disposable contact lens   | (33) 23.57%                             | (7) 5%      |
| 11.    | Since how many days / months are you using contact lens?                     |   |             |
|        | Less than 6 months ago   | (67) 47.85%                             | 49.28%      |
|        | More than 6 months ago   | (0) 0%                                  | (0) 0%      |
|        | 6-12 months ago  | (12)8.57%                               | (14)10%     |
|        | 12-24 months ago   | (17) 12.14%                             | (15) 10.71% |
| 12.    | If you are using contact lens what type of contact lens are you using?       |   |             |
|        | Bausch and Lomb  | (16) 11.42%                             | (39)28.57%  |
|        | CIBA vision  | (5)3.57%                                | (2)2.14%    |
|        | Johnson and Johnson  | (20) 14.285                             | (10)7.14%   |
|        | None   | (99)70.71%                              | (86)62.14%  |

*Continued on next page*

Table 3 continued

|     |  |             |             |
|-----|--|-------------|-------------|
| 13. | Why do you wear contact lens?              |             |             |
|     | Cosmetic purpose                           | (37) 26.42% | (60) 42.85% |
|     | Good vision                                | (30)21.42%  | (30)21.42%  |
|     | None                                       | (73) 52.14% | (50) 35.71% |
| 14. | Have you ever slept with contact lens?     |             |             |
|     | Yes  | (140)100%   | (140) 100%  |
|     | No   | (0)0%       | (0) 0%      |
| 15. | Cleaning materials for contact lens?       |             |             |
|     | lens solution                              | (122) 95%   | (123)87.14% |
|     | plain water                                | (18) 5%     | (17) 12.85% |
| 16. | Symptoms faced due to use of contact lens? |             |             |
|     | Ocular discomfort                          | (25) 17.8%  | (14) 10%    |
|     | Redness                                    | (30)21.42%  | (16) 11.42% |
|     | Pain                                       | (15)10.7%   | (5)3.57%    |
|     | Watering                                   | (28) 20%    | (17) 12.14% |
|     | None                                       | (73) 52.14% | (93) 66.42% |

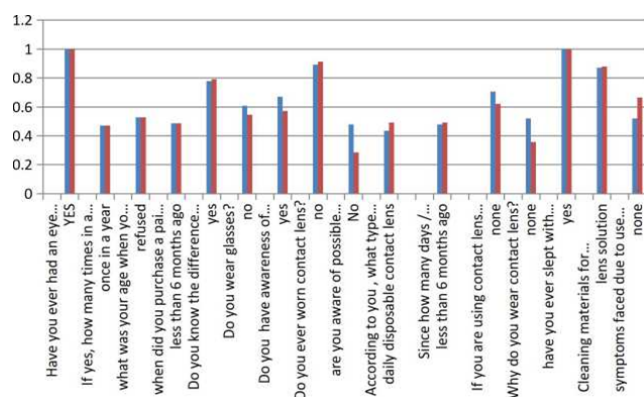


Fig. 2: Pre and post assessments of questionnaires

#### 4. Discussions

Refractive errors arise from the eyes mobility to clearly focus light rays from optical infinity on to the retinal plane. This cumulates in the perception of blur images when the light rays are focused anterior to the retina (myopia), posterior to the retina (hyperopia) or when the light rays from the different meridians are brought to different foci (astigmatism). Refractive error can simply detected, diagnosed, measured and consequently, corrected using optical corrective approaches and devices as spectacles and contact lens. Spectacles remain the commonest and relatively cheapest form of refractive error correction. Contact lens are more expensive, the use of contact lens have quite mass of benefits that spectacle fails to provide.

Risks with contact lens wearers include sleeping, while Contact lens they include risk of Microbial keratitis. Poor hygiene and failure to follow the instruction of use are major risk factor for corneal inflammation.

In our study, in pre assessment we found out that 47.14% of participants were aware of spectacles compared to contact lens and then after providing them with adequate appropriate counselling and knowledge we found out the improvement in result which shows that 89.5% of health care students are aware of both spectacles and contact lens and its usage. There by increasing students' knowledge about specs to contact lens usage can improve the effectiveness of health promotion.

Tchiakpe Michel Pascal et al undergone the similar study in the year 2017 on awareness and response of Undergraduate students about spectacle wearer to contact lens usage, this study including 120 subjects. (94) Participants i.e., 78% were aware and 22% were not aware of refractive error corrections.<sup>1</sup>

Hijab et al undergone the similar study in august 2012 on awareness of contact lens care among medical students. In

this study, 48% students are aware and 52% are not aware of refractive errors and their corrective methods.<sup>5</sup>

#### 5. Conclusions

This research sought to investigate the awareness and responses of undergraduate spectacles to contact lens usage. While most of the students are cognisant to contact lens, only few of them are aware of its uses and properties. After giving appropriate counselling and knowledge through questionnaire study 89.5% of students are aware of refractive error corrections. Therefore, it is concluded the knowledge and practice about contact lens care awareness should be increased through screening or counselling in every stages of life.

#### 6. Source of Funding

None.

#### 7. Conflict of Interest

None.

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#### References

1. Pascal TM, Ansah NS, Nartey A. Awareness and Response of Undergraduate Spectacle Wearers to Contact Lens Usage. 2017;1(1):103.
2. Jones-Jordan LA, Chitkara M, Coffey B, Jackson JM, Manny RE, Rah MJ, et al. A comparison of spectacle and contact lens wearing times in the ACHIEVE study. *Clin Exp Optom.* 2010;93(3):157–63.
3. Ebeigbe JA, Kio F, Okafor LI. Attitude and Beliefs of Nigerian Undergraduates to Spectacle Wear. *Ghana Med J.* 2013;47(2):70–3.
4. Kumar R, Gupta D. Awareness and compliance in contact lens wearers. *J Multidiscip Res Healthc.* 2018;5(1):33–7.
5. Ijaz H, Rida I, Rustam N. Awareness of contact lens care among medical students. *Pak J Ophthalmol.* 2017;33(2):103–8.

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