

Original Research Article

Awareness of the Practice and Uses of Contact Lens amongst Students in a Nigerian Tertiary Institution

Affiong A Ibanga¹, Dennis G Nkanga¹, Bassey A Etim¹, Ifeoma C Echieh¹

¹Department of Ophthalmology, University of Calabar Teaching Hospital, Calabar, Nigeria

***Corresponding author**

Affiong A Ibanga

Email: draffiongibanga@yahoo.com

Abstract: To assess the level of awareness and use of contact lens among tertiary students and to evaluate lens care practices among contact lens users. A descriptive cross sectional study was conducted among students in the University of Calabar between May 2013 and October 2013. A total of 242 students were interviewed using a self-administered questionnaire. The questionnaire gathered information on level of knowledge and perception of contact lens use, indications for use and attitude towards lens care among consenting participants. Two hundred and forty two participants were involved in the study, with mean age of 24years. Majority of contact lens wearers were females. The main indication for contact lens use was therapeutic. A higher percentage of students used the daily wear type of contact lens. 40.8% of contact lens wearers had experienced several eye symptoms such as blurring of vision, redness of the eyes, foreign body sensation, and itching of the eyes. 49% of participants bought their contact lens from the eye clinic, although, 81% of the respondents who used contact lens had no formal training on the care of contact lens. This underscores the need for ophthalmologists and optometrists to properly educate contact lens wearers and follow them up closely. The study revealed a relatively high level of knowledge of contact lens use among students, with a higher number unaware of the complications that could follow its use. Therefore, it is recommended that proper training and counseling by eye care practitioners when dispensing contact lenses should be emphasized, as well as follow up of contact lens wearers.

Keywords: Contact lens, awareness, tertiary, students

INTRODUCTION

A Contact lens can be a corrective, cosmetic or therapeutic lens usually placed on the cornea. These lenses are designed in such a way that they stick to the tear film and during each eye blink, the lens moves slightly, allowing fresh tears to flow under the lens. This provides lubrication and oxygen to the cornea.

Contact lenses are worn for various indication ranging from therapeutic to cosmetic and sports. Therapeutic use of contact lenses constitutes an important segment of the contact lens wearing population. Here they are used in the treatment of symptomatic corneal diseases; Keratoconus, Irregular astigmatism, Colour deficiency, Diplopia, and cosmetically unsightly eyes. Contact lenses are also used in sports such as soccer, basketball, softball,

football, tennis, rugby, cricket, polo, squash, skiing and hockey. For cosmetics (fashion), use of contact lens is believed to enhance the beauty of the wearer. Most people especially females consider it fashionable to alter the color of their eyes. While this may be of psychological utility to the wearer, the health implication and risks associated with this cannot be overemphasized.

There is an increase in the use of contact lenses in Nigeria, because of the optical, occupational and cosmetic advantages to individuals[1]. Furthermore, the use of contact lens is becoming popular among young people especially University students which has contributed to the increased availability globally as well as lowering the cost contrary to what was obtainable in the past [2].

Overall, contact lenses provide a safe and effective modality for vision correction.

80% of contact lens complications can be traced to poor patient compliance with the recommended lens care guidelines[3]. This is a major issue with contact lens wearers and is seen in various aspects of contact lens wear and care. Poor contact lens hygiene and microbial contamination of the lens storage case has been observed to be related to microbial keratitis [3, 4]. More so, in our tropical environment where climatic conditions favor the growth of microorganisms, proper evaluation, care and follow up of contact lens wearers should be emphasized.

Patient education is paramount in ensuring compliance and the eye care practitioner has a major role to play in this aspect.

In this study, the authors reviewed the demographic profile, level of awareness of contact lens care and compliance among tertiary students of the University of Calabar. The criterion for the choice of this population was based on the assumption of better awareness of this group regarding contact lens wear.

The objectives of this study evaluation of the level of awareness and perception of contact lens wearers amongst tertiary students, to assess the lens care practices among them and to educate contact lens wearers on the complications associated with improper use of contact lens.

MATERIALS AND METHODS

A cross sectional study was conducted using a self-administered structured questionnaire among students in the University of Calabar, Nigeria. A multi-stage sampling method was used to recruit participants that make up the different faculties in the University. In the first stage, four faculties were randomly selected by

casting lots from the ten faculties that make up the institution; Basic Medical Sciences, Education, Law and Science. In the second stage, using the total number of students in each faculty, participants were randomly selected using a computer aided random number selection. A total of 242 students were thus randomly selected and enrolled into the study and interviewed from May 2013 - October 2013 using a self-administered semi-structured questionnaire, after the purpose of the study was explained and an informed consent for participation in this study was obtained from them.

The questionnaire was in English language and gathered information on the level of knowledge and perception of contact lens use, indication for use, attitudes towards lens care among consenting participants. A pre-test was conducted in two of the excluded faculties two weeks prior to the research work and the questionnaire was modified based on the response in order to obtain better responses. The data collected was analyzed using SPSS 16.0 version program.

RESULTS SOCIO-DEMOGRAPHIC

The mean age in the study sample was 24yrs, with an age range of 15-50years.

There were 168 (69.42%) females and 74 (30.6%) males, who were mainly Christians.

AWARENESS LEVEL OF CONTACT LENS WEARERS AMONGST TERTIARY STUDENTS

Majority of participants in the study sample (206 or 85.1%) had heard about contact lens while only 36 (14.9%) were totally unaware of the term contact lens. (fig 1)

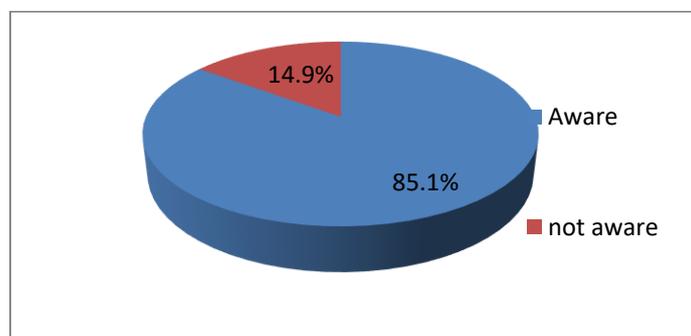


Fig-1: Level of awareness of contact lens Wearers Amongst Tertiary Students

CONTACT LENS USE AMONG STUDY PARTICIPANTS

181 (75.42%) of the study participants knew somebody who wears contact lens while 59 (24.58%)

did not. 104 (43.0%) were aware that complications could follow use of contact lens while 138 (57.0%) were oblivious of any known complication.

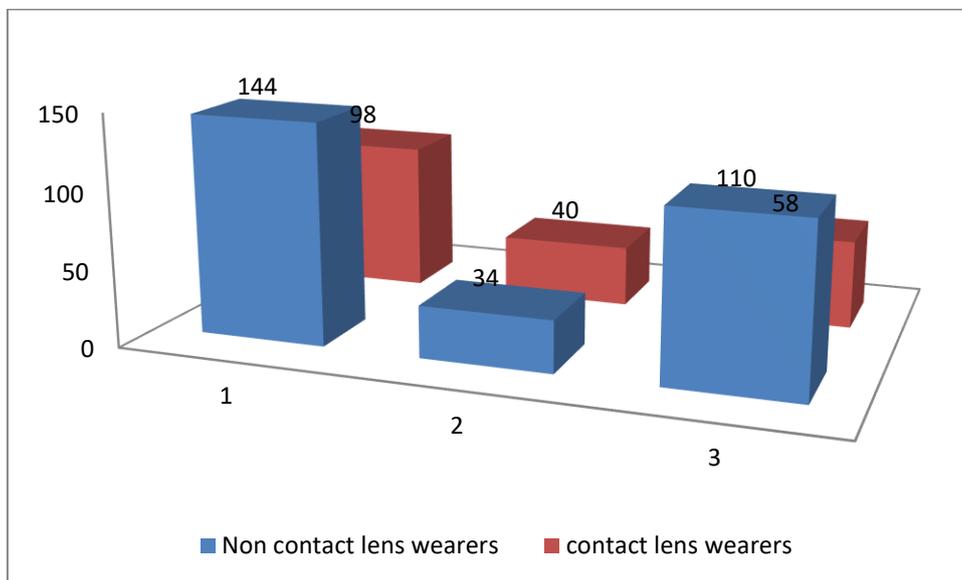


Fig-2: Contact lens use among study participants

144 (59.50%) of the study participants did not wear contact lens while 98 (40.50%) of the study participants did. Of the contact lens wearers, 58 were females while 40 were males. Of those that did not wear contact lens, 110 were females and 34 males. This difference was statistically significant, P value <0.0001.

Types of contact lens worn by participants were daily wear 50 (53.76%) and extended wear 43

(46.24%). Duration of use of contact lens varied from 45 (52.32%) for 1-3 years, 41 (47.67%) for less than 1 year.

The most common reason was therapeutic 44 (44.9%), followed by cosmesis 37 (36.7%) and the last was simply convenience 17 (17.3%).

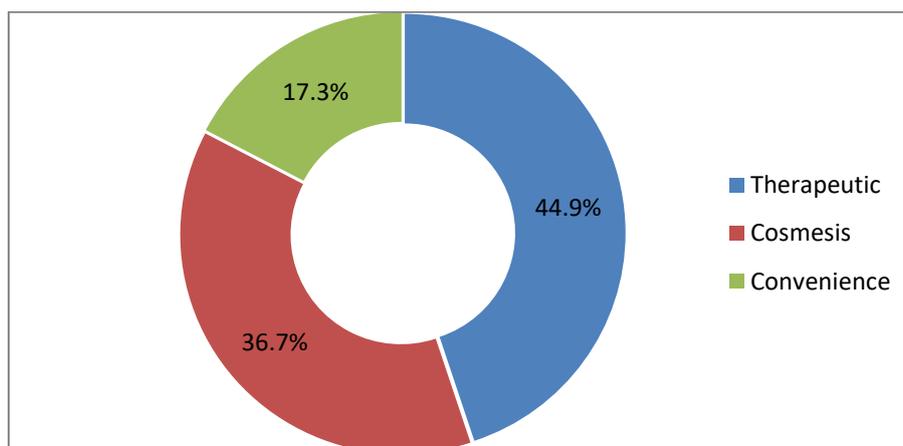


Fig-3: Reasons for Use of Contact Lenses by Wearers in Study Participants

EYE COMPLAINTS AMONG CONTACT LENS WEARERS IN STUDY PARTICIPANTS

Forty (40.81%) out of the study participants that wore contact lens admitted to having eye complaints in the course of use of contact lens. The eye complaints included redness 21 (52.50%), blurred Vision 13 (32.5%), foreign body sensation 5 (12.5%) and itching 1 (2.5%). The most common action taken when any of these complaints occurred was immediate eye clinic visitation 50 (51.0%) followed by Ignoring the complaint 22 (22.5%), removal of contact lens/observation 16 (16.3%) and lastly self-medication 10 (10.2%).

USE OF PRESCRIBED GLASSES AMONG STUDY PARTICIPANTS

59 (24.4%) of the study participants used prescribed glasses while 183 (75.93%) did not. Of those that used glasses only 23 (39.0%) would have liked to change to contact lens while 36 (61.0%) did not like the idea of changing to contact lens. Of the 183 study participants who did not wear prescribed glasses, up to 141 (77.1%) would not want to wear contact lens while a 42 (23%) liked the idea of wearing contact lens (P value= <0.001).

KNOWLEDGE ON COMPLICATIONS OF CONTACT LENS AMONG STUDY PARTICIPANTS

138 (57.02 %) study participants knew that the use of contact lens could cause ocular complications while 73 (30.17%) had no idea. 31 (12.81%) failed to respond to the question

Table-1: Characteristics of Contact Lens Wearers in the Study Population

Problem with eyes following contact lens use	Yes 24 (24.5%)	No 74(75.5%)			
Duration of use of contact lens	1mth -6mths 39(39.8%)	>6mths -2yrs 44(44.9%)	>2yrs 15(15.3%)		
Knowledge on wearing schedule	Yes 54(55.1%)	No 44(44.9%)			
Source of contact lens	Beauty salon 32(32.7%)	Eye clinic 48(49.0%)	Open market 11(11.2%)	Pharmacy 7 (7.1%)	
Procedures undertaken prior to fixing contact lens	Decontamination 47(48.0%)	Handwashing 51(52.0%)			
Frequency of Replacement of contact lens	Daily 21(21.4%)	Fortnightly 3(3.1%)	Monthly 48(49.0%)	Weekly 26(26.5%)	
Cleaning and disinfection of contact lens when removed	Yes 54(55.1%)	No 18(18.4%)	Occasional 26(26.5%)		
Solution used for contact lens	Commercially prepared lens solution 46(46.9%)	Methylated Spirit 31(31.6%)	Water 21(21.4%)		
Have you been trained on how to wear and take care of your contact lens	Yes 17(17.3%)	No 81(82.7%)			
How contact lens is stored	In its case 50(51.0%)	Disinfectant 11(11.2%)	Glass box 14(14.3%)	Cool dry place 13(13.3%)	Purse 10(10.2%)

DISCUSSION

The use of contact lens is popular among students of the University of Calabar and perhaps other tertiary institutions due to its convenience, affordability and wide availability [5]. This study was undertaken to assess the awareness on the practice and use of contact lens among undergraduate students in University of Calabar. The demographic characteristic of this study suggests a young population who are likely to be contact lens wearers with a mean age of 24 years. This study showed a high level of awareness among students on the use of contact lenses; 85.1% (figure 1). This is almost similar to the study in Malaysia where 89.6% of the medical students were aware of proper wear and care of contact lens[2].

The percentage of contact lens usage among tertiary students observed in our study was 40.50%. This is however not surprising as increased level of education could lead to increased willingness to use contact lenses. On the other hand, Giri *et al.*, in Maharashtra, India, reported a prevalence of contact lens usage among medical students to be 17.1% [6]. Similarly, A study of prevalence of contact lens usage among medical students done by Tajunisah *et al.* was much lower with a prevalence of 14%[2]. This lower prevalence may be due to the fact that the study was limited to Medical students.

In assessing gender differences among the total population in the study that used contact lens, more females used contact lenses. This is similar to studies done in Owerri, South Eastern - Nigeria, where Emereole, Alawuba and Ogugua reported a higher percentage of females (79.3%) as contact lens wearers [7]. Similarly, Tajunisah, Kuala Lumpur, Malaysia reported majority of contact lens wearers as females[2]. Abahussin *et al.* in Saudi Arabia, reported a high prevalence of contact lens users were females[8]. This has been attributed to the cosmetic advantage offered by these lenses which tends to attract more female wearers.

In this study, 53.7% of participants wore daily wear contact lens and 46.24% wore extended wear. In Owerri, Nigeria, Emereole and colleagues reported 81.0% of contact lens wearers wore the daily wear schedule than the extended wear schedule[7].

Our study showed the main reasons for using contact lens were therapeutic, cosmetic and convenience. A higher percentage of students (44.9%) wore contact lens for therapeutic indication. This is in contrast to the observations made by Tajunisah and

Giri, where the main reasons of contact lens use were cosmetic and convenience[2, 5]. In a study by Gayathni *et al.* in Karnataka, India the main reasons for use of contact lens were due to refractive error and ease of wear[9]. This finding collaborates with our study.

In our study, 49% of contact lens wearers got their lenses from Eye clinics, while 32%, 11% and 7% purchased contact lenses in the beauty salon, open market and pharmacy respectively. In contrast, Reem Alasiri *et al.* in Saudi Arabia, reported that majority of participants 68.1% got their contact lenses from cosmetic centers while 25.2% got theirs from optical shops and only 6.7% got their contact lenses prescribed from the hospital [10]. This out of the clinic purchase could limit the level of counseling on good hygienic practices to the contact lens users. Stapleton *et al.* reported an association between contact lens purchase locations and the occurrence of contact lens related complications[11].

40.8% of students in this study admitted to varied eye symptoms while using contact lenses. Redness of the eyes, blurring of vision, foreign body sensation and itching of the eyes were commonly reported. A higher percentage of students (52.5%) experienced redness of the eyes. The most common action taken when any of these complaints occurred was immediate eye clinic visitation. On the other hand, in a study conducted by Alasiri *et al.* among College students in Saudi Arabia, majority of the students stated that they would withhold their contact lenses until symptoms resolved [10].

55.1% of respondents were quite conversant with the wearing schedule. 61% of participants who are spectacle wearers showed a low level of uptake of contact lens as alternatives to spectacles. This was borne out of the fact that most participants thought contact lens use was expensive and cumbersome to use.

Concerning contact lens care, 52% washed their hands before handling contact lens, while 55.1% followed the regimen of cleaning and disinfection of their contact lenses. 46.9% used the commercially prepared lens solution to clean their contact lens, 21.4% of students used tap water to clean their contact lens. Aldebasi *et al.* reported 50% of contact lens wearers cleaned their contact lens infrequently and many times with tap water[12]. Poor contact lens hygiene have been observed to be related to a higher risk of microbial keratitis[4]. Most ophthalmologists recommend contact lens be cleaned daily after use with

commercially prepared contact lens solution and allowed to air dry, then placed in an appropriate lens case. The lens case should be replaced every three months.

In this study, a high percentage of students (82.7%) had not been properly trained by eye specialists on how to wear and take care of contact lens. Tajunisah *et al* in Malaysia, reported 52% of students were informed by their prescribers on the complications related to contact lens wear[2]. The role of the prescriber must be re-emphasized. This spans through assessing the need and indication for use, explanation on the types, modes of usage, practices required for good contact lens care and follow-up of contact lens users.

CONCLUSION

The results from this study indicate that majority of contact lens users demonstrate a reasonable knowledge of lens wear and care techniques. However, proper training and counseling by eye care practitioners when dispensing these lenses should be emphasized, as well as follow up of contact lens wearers.

RECOMMENDATIONS

Eye care practitioners should thoroughly educate their clients on the use of contact lenses. Enlightenment on the benefits of wearing prescribed contact lens and the need for prompt visit to the ophthalmologist if symptoms are noticed during its use to prevent complications.

The following guidelines are important for contact lens users:

- Careful and regular cleaning of contact lens,
- Washing and drying of hands before handling contact lens,
- Use of commercially prepared solution to clean contact lens,
- Storage of contact lenses in the proper storage case,
- Adherence to recommended contact lens replacement schedule.

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