

Original Article

Eyelash Extension Use among Female Students in a Tertiary Institution in Nigeria: A Study of Kaduna Polytechnic, Kaduna

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ABSTRACT

Background: Eyelash extensions involve the attachment of synthetic eyelashes made of chemical fibers or other materials onto natural eyelashes. It has become common practice among Nigerian women for various reasons. **Aim/Objectives:** The aim is to assess eyelash extension use among students of a higher institution in Nigeria, the reasons for its use and related eye complications. **Materials and Methods:** This is a cross-sectional descriptive study using structured self-administered questionnaire. Stratified sampling technique was used. The key items in the questionnaire were sociodemographic variables, knowledge and use of eyelashes extension, reasons for the use of eyelashes extension and eye symptoms/complications experienced during such use. A total of 310 questionnaires were completely and correctly filled. The results were analyzed using SPSS version 23.0 statistical package. **Results:** There were 310 respondents; the age range was 16–52 with a mean of 23.0 years \pm 4.8. The prevalence of eyelash use was 38.7%. Beauty was the most common reason for lash extension 56.1% ($n = 174$). Others were curiosity, peer pressure, and replacement therapy. The most common complication was itching 45.8% ($n = 142$). Others were redness, pain, heavy eyelids, loss of lashes, casting of shadow in vision, tearing, burning sensation, foreign body sensation, and boils (stye) on the eyelid. **Conclusion:** Eyelash extension use is popular among young female students of higher institutions commonly for esthetic reasons (often because they desire to become more beautiful). Majority of them experience one ocular symptom or the other. Attention should, therefore, be paid to the potential health risk of the procedure and its use should be made much safer for our women.

KEYWORDS: *Complications, eyelash extension, females students, higher institution, reasons*

Date of Acceptance:
14-Nov-2017

INTRODUCTION

Eyelash extension involves the attachment of synthetic eyelashes made of chemical fibers or other materials individually onto natural lashes using glue.^[1]

They have become common practice for enhancing beauty among women on occasions such as weddings, festivities, and other social gatherings including funerals.^[2]

False eyelashes can also be used for individuals who have thin or short eyelashes along with mascara to thicken the look of the natural eyelashes.^[2]

Beyond their esthetic and social functions, eyelashes serve a protective function by defending the eye against debris and triggering the blink reflex.^[3-6]

In general, the number of eyelashes emanating from each upper eyelid is between 100 and 150.^[5,6] Lower eyelashes are half as numerous as the upper eyelashes.^[5]

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How to cite this article: Abah ER, Oladigbolu KK, Rafindadi AL, Audu O. Eyelash extension use among female students in a Tertiary Institution in Nigeria: A study of kaduna polytechnic, Kaduna. Niger J Clin Pract 2017;20:1639-43.

Access this article online	
Quick Response Code:	Website: www.njcponline.com
	DOI: 10.4103/njcp.njcp_124_17

The upper eyelashes are arranged in 2–3 rows.

Eyelashes have the following characteristics:

1. Like scalp hair, they are terminal hair, but they are coarse, longer and wider and more pigmented^[7]
2. Unlike other hair types, they do not lose pigmentation and become grey with age
3. They lack accompanying arrector pili muscle
4. They are not influenced by androgens^[7,8]
5. Like other hair follicles, all eyelash follicles are present at birth, and their number does not increase during life^[7,9]
6. Unlike most mammals, their cycle is asynchronous (while some are growing, others are dormant).^[7]

In general, the hair cycle of all hair types consist of anagen (growth and melanogenesis), catagen (transition/apoptosis of epithelial component) and telogen (resting phase-no growth neither differentiation).

The length of the cycle and individual phases varies by body location.

For eyelash follicles, the total cycle lasts 5–7 months-1–2 months, 15 days, 4–9 months for anagen, catagen, and telogen, respectively. Exogen (expulsion of the previous hair) takes place between telogen and anagen.^[6,10-12]

Eyelashes are shed-like other types of hair from the follicles. Each eyelash has its own growth cycle (anaphase) that lasts 6–8 weeks (excluding the telogen) so that most eyelashes are present to maintain their collective protective mechanism.^[13]

The eyelids which are modified fold of skin closing the front of the orbit, protect the front of orbit, as well as (protect) the anterior surface of the globe from local injury.^[3]

In addition, they aid in the regulation of light reaching the eye, tear film maintenance and also in tear flow by their pump action on the conjunctival sac and lacrimal sac.^[3]

The use of artificial lashes may interfere with the normal periodic shedding and growth of new lashes and cause some discomfort. Essentially, they interfere with the normal anatomical and physiological function of the eyelids and lashes.

Longer eyelashes increase airflow around the eye making the ocular surface to dry easily in addition to allowing more dust to settle on it.^[5]

They may also irritate the eyelid or clog follicles in the eyelid as well as pull out eyelashes

during removal.^[14] The procedure does not allow frequent washing of the eyelids which could result in bacterial and/or fungal infection seen as blepharoconjunctivitis.^[15] The eyelashes may also be displaced when wet with water or sweat and serve as a foreign body in the eye. The bonding agent (glue) used to attach artificial lashes to the natural eyelashes can cause keratoconjunctivitis.^[16]

Eyelashes that are long and thick are considered a sign of beauty in many cultures and are well sought-after.^[17] However, it is important to appraise the comfort and safety of the use of eyelash extension and other reasons for their application among our women, especially the young ones.

MATERIALS AND METHODS

Background of the study area

Kaduna Polytechnic is a higher institution located at Tudun Wada, Kaduna South Local Government Area, Kaduna State in North-Western Nigeria.

This was established in 1956 as Kaduna Technical Institute but became Kaduna Polytechnic in 1968 and offers National Diploma (ND), Higher ND (HND) and Post Graduate Diploma.

It has five colleges:

1. College of Business and Management Studies (CBMS)
2. College of Environmental Studies (CES)
3. College of Engineering (COE)
4. College of Science and Technology (CST)
5. College of Administrative Studies and Social Sciences (CASSS).

The student population is over 15,000 with a staff strength of 2963. Kaduna is highly cosmopolitan and admits students from all over Nigeria and other countries.

Study design

A cross-sectional descriptive study was employed for the study. Data were collected using pretested structured self-administered questionnaire, which consisted of open- and closed-ended questions. The questionnaire was administered to 344 respondents between May and June 2016.

Study population

The study population was all female students in the polytechnic. Those who were fully registered were included and female students who were not registered at the time of the study were excluded. Eligible students who did not consent to participate in the study were also excluded from the study.

Sample size determination

The minimum sample size was calculated using the formula, $n = Z^2pq/d^2$. With the assumption of 28% of females having good knowledge of eyelashes extension from a previous study,^[2] and 5% tolerable margin of error at 95% of the confidence interval, the minimum sample size was 310. Considering attrition rate of 10% the minimum sample size was adjusted to 344.

Sampling technique

Stratified sampling technique was used for the study. The different colleges were used as strata. The minimum allocation from each of the stratum (colleges) was done by proportionate allocation, based on the total registered number of female students per college.

1. CBMS - 2047 (134/%)
2. CES - 525 (34/%)
3. COE - 630 (41/%)
4. CST - 1155 (76/%)
5. CASSS - 893 (59/%)

Respondents in each of the stratum were selected by simple random sampling with the list of the students used as the sampling frame.

Data collection/instrument

The data were collected using structured self-administered questionnaire. The instrument was pretested on 34 students (10% of calculated minimum sample size) in Nuhu Bamali Polytechnic, located in Zaria which is about an hour's drive from Kaduna. The questionnaire consisted of open- and closed-ended questions. The key items in the questionnaire were sociodemographic variables, knowledge and use of eyelashes extension, reasons for eyelashes extension use and eye symptoms/complications experienced during such use.

Data analysis

All the questionnaires were checked for completeness, entered into Statistical Package for Social Sciences (SPSS) version 23.0 software (IBM) and analyzed. Of the 344 questionnaires distributed, only 310 were completely and correctly filled corresponding to a response rate of 90%. The 310 were analyzed and the results were presented in tables and charts.

Ethical consideration

Ethical clearance was granted by the Health Research Ethics Committee of Ahmadu Bello University Teaching Hospital, Shika-Zaria, before the commencement of the study. Permission was also obtained from the management of Kaduna Polytechnic. A written informed consent was also obtained from each participant and confidentiality was ensured.

RESULTS

The age range of the 310 respondents was 16–52 years with a mean of 23 years \pm 4.8. Most of the participants were students of HND-42.6% ($n = 132$) [Table 1]. The prevalence of eyelash use among the respondents was 38.7% ($n = 120$). Over two-thirds (85.8%; $n = 266$) of the respondents were aware of eyelash extension. Majority got the information from friends (57.1%; $n = 177$), followed by social media (31.3%; $n = 97$). Less than 10% of the respondents (8.4%; $n = 46$) got their information from books and magazines. Majority of the students (40.7%; $n = 126$) first extended their eyelashes between the ages of 16 and 20 years, followed closely by the age group 21–25 years (24.8%; $n = 108$). Many of the respondents (52%; $n = 161$) who had used eyelash extensions used them for 1–2 weeks before removal. Some used it for <1 week (38.1%; $n = 118$).

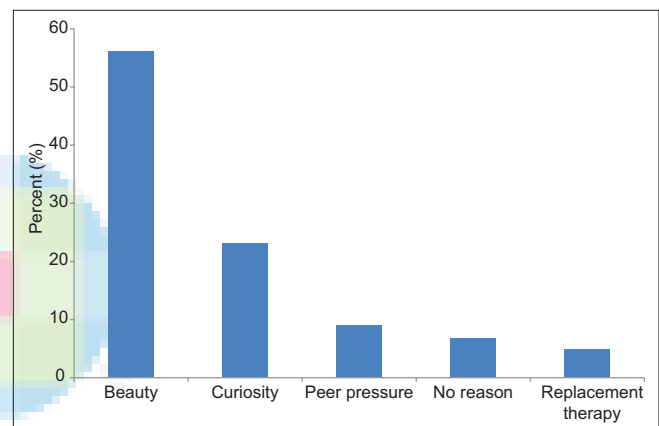


Figure 1: Reasons for eyelash extension use

Table 1: Sociodemographic distribution of respondents

	Frequency (%)
Age (years)	
15-19	98 (31.6)
20-24	128 (41.3)
25-29	50 (16.1)
30-34	16 (5.2)
35-39	6 (1.9)
40-44	5 (1.6)
45-49	3 (1.0)
50-54	4 (1.3)
Total	310 (100)
Level of education	
Certificate	61 (19.7)
OND	94 (30.3)
HND	132 (42.6)
PGD	14 (4.5)
Others	9 (2.9)
Total	310 (100)

Others: Pre-ND and ND2-Direct; ND=National Diploma; HND=Higher National Diploma

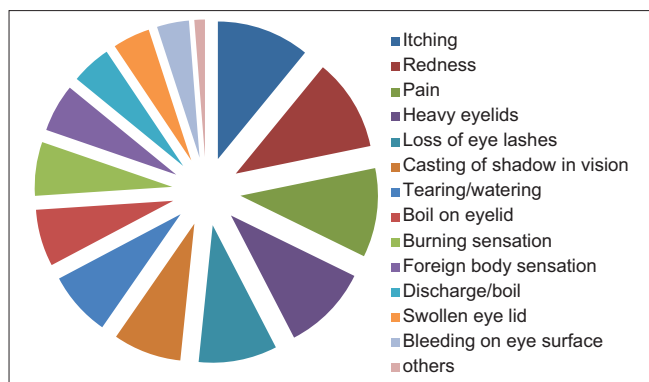


Figure 2: Symptoms/complications experienced by the respondents

Majority of them had fixed artificial eyelashes twice or thrice (38.0%; $n = 118$). This is followed by those who had fixed artificial eyelashes once (34.5%; $n = 107$) while the least were respondents who had fixed it four or more times (27.5%; $n = 85$).

Beauty was the most common reason for eyelash extension (56.1%; $n = 174$), followed by curiosity (23.2%; $n = 72$) and peer pressure (9.0%; $n = 28$) [Figure 1]. Of the 120 respondents who use eyelashes, 88 (73.3%) experienced one eye symptom or another and the most frequent symptom/complication was itching (45.8%). Others symptoms were redness (45.5%) pain (43.9%) and heavy eyelids (41.6%). Others were casting of shadow in the field of vision, tearing, boil on the eyelid, burning sensation, foreign body sensation, discharge, lid swelling, and bleeding on eye surface [Figure 2].

DISCUSSION

Since ancient times, physical beauty has been considered an advantageous and sought after trait.^[18] Although the definition of beauty varies over time and from culture to culture, the face and the eyes, in particular, are recognized as important contributors to physical beauty.^[18,19] Eyelashes that are long and thick are considered a sign of beauty in many cultures and often have a positive psychological effect on women.^[20-23] To enhance the overall prominence of their eyelashes women have employed a number of techniques one of these is the use of eyelash extension.^[24] The use of eyelash extension in our country today is on the rise, especially among our young women, and it is on this basis that a tertiary institution where women of such age group are commonly found was selected for this study. The prevalence of eyelash extension use among the respondents was 38.7% ($n = 132$). This is much higher than what was reported in a National Survey on eyelash extensions in Japan (10.3%).^[1] The difference may be related to the age group of our study participants; in the Japan study, the age range was wider.

The peak age of eyelash extension use in Japan was 25–29 years.^[1] This is similar to what was found in this study 20–25 years. The majority in Ghana had extended their eyelashes more than once (69.2%); this value is close to what was found in this study (65.5%).^[2] Beauty was the most common reason for eyelash extension in this study (56.1%). In Ghana, it was also for the same reason, but the percentage was much higher (81.6%).^[2] Most of those studied in Ghana (80%) experienced one or more ocular symptoms.^[2] The frequency is similar to this study (73.3%) but much lower in the Japan study (26.8%).^[1] This is likely to be related to the type of procedure and the experience of the beautician.

Tearing, heavy eyelids, and burning sensation were the predominant symptoms experienced in Ghana.^[2] While in our study and that of Japan itching, redness, and pain were the commonest.^[1] These are also likely to be related to the material and procedure. Since most of the glue (bond agent) contain formaldehyde, latex, ammonia, phthalates, and sodium dodecyl benzene sulfonate which can cause keratoconjunctivitis.^[16]

Limitations

No baseline assessment to isolate symptoms previously experienced from those due to eyelash extension use. There are limited numbers of studies available for comparison.

CONCLUSION

Eyelash extension use is popular, especially among young female students of higher institutions in Nigeria. This is mainly because those who use it desire to be more beautiful. Most users experience one or more ocular symptoms. Attention must, therefore, be paid to the potential health risks of the procedure vis-à-vis the material (especially the glue).

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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