

## Original Research Article

### **AWARENESS AND EFFECTS OF OCULAR COSMETICS AMONG FEMALES IN ABADAWA COMMUNITY, SAMINAKA, LERE LOCAL GOVERNMENT AREA, KADUNA STATE, NIGERIA.**

#### **ABSTRACT**

**Title:** A study on, Awareness and Effects of Ocular Cosmetic among females in Abadawa Community Saminaka, Lere Local Government, Kaduna State, Nigeria. **Objective:** The main objective was to identify the; level of awareness on the common ocular cosmetics used, the effects experienced and possible ways of overcoming the effects. **Methods:** The study utilized a descriptive design out of the 502 targeted populations, 100 respondents were sample using Nwana's decision rule and Simple random sampling technique was used in data collection from the respondents. **Results:** Findings revealed that; majority; 82 (91.1%) of the respondents were aware of the effects of ocular cosmetics, majority; 46 (46.0%) of the respondents uses 3-4 different types of ocular cosmetics at a time also, the common ocular cosmetic being used among others was; majority 59 (65.5%) eye shadow. While, Majority 82 (82.0%) have experienced ocular effect, Among the effects experienced; were: majorities; 31 (31.0%) eye tearing and 13 (13.0%) eye itching. Among the way forward are; majority 29 (29.0%) health education against the used and majority 38 (38.0%) are of the opinion to go natural without make up. **Conclusion:** In conclusion, there is a good awareness of the effects of ocular cosmetics among the respondents but still lack in depth knowledge of the latent effects which normally arouse later in life. It was recommended that; Government, NGOs and health workers in generals specifically Nurses should increase an awareness campaign on the effects of ocular cosmetics among the female genders. Also, Government should make policies that will guide the manufacturing industries on making ocular cosmetics to meet best world standard.

**Keywords:** Ocular, Cosmetics, Target population, Abadawa, Saminaka, Lere, Kaduna, Nigeria.

#### **Introduction**

According to; (Robert and Supper, 2011). The eye are the windows to the soul because they reflect our state of mind, this certainly can be true if our eyes are red, swollen, watery and itching from allergies reaction due to cosmetics, hay, dust, smokes, chemical fumes, etc.

Allergies causes symptoms that can discomfort the eye are common reasons for visiting eye clinics/hospitals severe allergies cause serious damages that can threaten eye sight. The use of

Ocular Cosmetics dated back to the time of the ancient Egyptians where colouring from plants and animals were used to emphasize and enhance the appearance of the eye. Lin (2010).

Cosmetics are product used to enhance or change the appearance of the face fragrance or the texture of the body: Many Cosmetics are design for use of applying to the face and body. They are generally mixtures of Chemical Compounds derived from Natural Sources (such as Coconut oil) or may be synthetic artificial. U.S Food and Drugs Administration (FDA) (2019).

Today cosmetics that are apply to the face to enhance one's appearance are also known as makeup which include lipstick, mascara, eye shadow, foundation, blush, highlighters, bronzers, artificial eyelashes, eyeliner, concealer and contact lenses remain a major popular trend because of their ability to highlight the eyes and increase facial attractiveness, after application of ocular cosmetics, they migrate unto the ocular surface and into the tear film to cause ocular discomfort. Permanent makeup FAQ (2018).

According to American Optometrist Association (AOA) (2018) says that according to the United States Census Bureau, that ten billion dollars are spent yearly for beauty product, which eighty percent of women have used face and eye Cosmetic in the last years and 78% of women uses cosmetics to improve their confidence with all of this cosmetics use, over 50% of makeup users report not checking instructions on how long makeup should be left on, 90% of women uses cosmetics beyond the expiration date and 20% do not know that makes ups expires at all. 7% are not knowledgeable of the effect of ocular cosmetics on the visual and ocular health.

According to;(Evans, *et.al.*, 2016) reported that changes to the film and its stability may occur shortly after application of eye cosmetics, and contact lens wearer can also be affected by lens spoliation from cosmetic products. Furthermore, additional creams used in the prevention of skin aging are often applied around the eyes, and retinoid present in these formulations can have

negative effects on meibomian gland function and may be a contributing factor to dry eye disease.

## **Background**

Cosmetics are product applied to the body or face to improve appearance. They cleanse, beautify, promote attractiveness and alter appearance of the body. The concept of beauty and cosmetics is as old as mankind and civilization. Civilization have used cosmetics though not always recognizable compared to today advance products for the centuries in religious visuals, to enhance beauty and to promote good health, cosmetics usage throughout history can be indicative of a civilization practical concern, such as protection from the sun, indication of class or convention of beauty. (Okerete, *et.al.*, 2015). Most people who used cosmetics are unaware of the potentials danger that can threaten their health while using them (Nnorom, *et. al.*, 2015).

Cosmetics like facial and eyes make up have the ability to encourage microbial growth and possibly cause infections. Eye makeup can get contaminated by poor handling procedures, using manufacture leaflets wrongly and defect in preservatives capacity of makeup. Many women do not know that makeup can harbor bacteria and spread infections, because some cannot be able to smell and see them with their eye. Also, some women even share makeup and applicators with friends and family, hence increasing their chances of getting infections if they are contaminated, poor storage of eye makeup ca determine whether it is more likely to encourage bacterial growth or not, for example within one month of purchase, Mascara can begin to harbor bacterial (If exposed) and the bacterial will begin to grow while product that come from local manufacturers which are presumed to be less effective can be more prone to microbial contamination e.g. E.coli which is indicated that there may have been facial contaminated before use. Some ocular cosmetic products are toxic Kohl products derived from lead compound which are used in Asia,

Africa and the Middle East. It is applied to the eye of infants according to their culture to prevent evil spirit from entering into the child and is also used to prevent glare effects by applying it to the inner rim of the eyelid behind the lash line. Gullion and Massa, (2012).

Risk of mechanical trauma is more common with mascara application which causes corneal trauma. Corneal trauma encourages microbial growth and spread. Allergic reactions occur with cosmetics applied on eyelids; some eye lash cosmetic tend to cause dermatitis along the eye lash line. Also, frequent and long-term use of Mascara and eye Kohl can cause obstruction along the lacrimal system due to accumulation of eye cosmetics. Some cosmetic has negative impact on the tear lipid layer and the presence of foam at the inner canthus hence destabilizing the layer. The eye lid skin is very thin and allows for easy penetration or absorption of chemicals which lowers hemoglobin level of infants when in blood. If consumers are aware about the general effects of eye cosmetics, then there should be low incidence of eye infections and their associated complications. Wilson and Ahearn (2010).

Eye cosmetic have been used since prehistoric times in emphases and highlight the eyes. To this day they remain widely used worldwide among females' population of all age groups. In addition to religious, cultural and medical purpose market research from the United State and United Kingdom suggest that a large proportion of women uses facial and eye cosmetics, with Mascara eye liner and eye shadows being among the most common applied products. Wand and Craig (2018). Common uses of ocular cosmetics are; mascara, eye shadow, eye liner, false eyelashes, highlight and contact lenses. Gullion and Massa, (2012).

### **Effects of Ocular Cosmetic**

Wang (2018) had report that there is migration of external applied eye cosmetics into the ocular surface has been consistently reported. There has been reported of tears film contamination with eye cosmetics products. Prospective students have confirmed that tears film contamination can result from passive to inadvertent migration of peri-ocular cosmetic across the eye lid margin in addition to poor application techniques.

According to; Mintel, (2012), reported that 70% of women use ocular cosmetic and there was 38% increase in ocular cosmetic sale in the year 2014. He also had the view that the highest users of cosmetics is among women with full time employment retirement age and teenagers. The eye effect associated with eye cosmetics usage is more among this group with increased risk of bacterial or fungal infections.

According to (Hugbo, *et. al.*, 2012) Stated normal commensals of ocular floras include *Haemphilus* species, *Pneumococcal* species are normally found around the skin of the eyelid. They are not harmful but can spread within cosmetics products and eye infections. Corneal trauma with mascara applications has been reported.

Some users use straight pin to apply and separate damp eye lashes which can lead to corneal trauma thereby given microbial agents easy entry route to cause minor to severe sight threatening infections in several patients who have mascara injury. (Guillian and Massa,2012)

According to (Fatah and Ibrahim, 2010), estimated that 12% of cosmetic reactions occur in the eye lids, 4% of which is due to eye cosmetics use. Eye Canthus cosmetics tend to cause a band of dermatitis along the lash line. Another Ocular cosmetics effect is dry eye syndrome which is a multi-factorial disease of the tears and ocular surface that result in syndrome of discomfort, visual disturbance and tear film instability with potential damage to the ocular surface. It is

accompanied with increase osmolarity of the tear film and inflammation of the ocular surface. The prevalence of symptoms related to dryness is greater in contact lens wearers and it has been implicated that the use of eye cosmetics can also increase dryness symptoms. Hypoxia is another common side effect of wearing contact lens for an extended period of time, it occurs when there is limited supply of oxygen to the eye; the corneal relies on tears for oxygen supply. Moreover, microbial keratitis which is due to contact lens wearing that is taking care of them properly can lead to damaged vision. (Brannan and Dille 2015)

### **Constituent/Composition of Ocular Cosmetics**

Mercury is a common ingredient found in skin lightening soap and creams, (United Nation Environmental Programmed) (UNEP, 2010). It is also found in cosmetics such as eye makeup cleansing product and mascara. This make makeup is commonly used in certain Africa and Asia nations. The organic mercury is use as cosmetics preservation in eye makeup cleaning products and mascara. Although, the concentration of this organic element makeup is low but long-term use can affect the vision by accumulating in the retina photo receptors thereby resulting to constricted field of vision or abnormal color vision. (UNEP 2010).

According to (Nnorom, *et. al.*, 2010) posted that after analysis of several facial makeups available in Nigeria, lead, Cadmium, Chromium, Nickel, zinc, iron was seen in most of the products. The geometric mean obtained from chromium and cadmium were generally low (14%) and these cosmetics were generally safer for use when compared to lead base which is 60% commonly used in Nigeria. The continuous use of these cosmetics could result in an increased trace element level in ocular surface and human body beyond acceptable limit.

Kohl is a popular eye care product for pediatric age. (Hardy, *et. al.*, 2013). It has been defined to be eye preparatory alternative form of special possessed “Kohl” stone. Most commercially produced Kohl contains high level of lead galena, amorphous carbon, magnetite and zimude. Prolong application may cause excessive lead storage in the body affecting the brain and bone marrow is causing convulsion and anaemia. (Hardy, *et. al.*,2013).

### **Ways of Overcoming the Effects Associated with use of Ocular Cosmetics**

As good as makeup add beauty, certain measures have to be put in place to avoid this effects that comes with this makeup. According to Dan Gudge (2019) makeup can be safety tips such as:

- i. Only use cosmetics that are designed for use around the eyes, avoids products that contain untested harsh chemicals.
- ii. Throw away eye makeup after three months and get new products.
- iii. If you developed and eye infection like pink eye, immediately stop all of your eye makeup, even with family or close friends.
- iv. Before applying makeup, make sure your face and eyelids are very clean.
- v. Remove all eye makeup at night before sleeping especially mascara that can stick to the lashes.
- vi. If you notice an allergic reaction to makeup, find out what the ingredients are so you can watch out for them in other products.

Avoid harmful and dangerous makeup procedures such as close proximity of sharp objects to the eye, also glue chemicals e. t. c. Read labels for expiry dates and avoid makeup with harmful ingredient e.g., Lead, Urea, Sulphate and phthalates (Nnorom, *et. al.*, 2012).

### **Research Design**

The research design used for this study was non-experimental design specifically the cross-sectional descriptive survey, in which the researcher collect data from a large sample drawn from a given population and describes certain features of the sample as they are without manipulating any independent variables of the study.

### **Research Setting/Area of Study**

The Abadawa is in the main town of Saminaka. The town Saminaka lies within latitude 11.4 North and Longitude 8.68 East. Located at a distance of about 137km from main Kaduna Metropolis and situated in Lere Local Government Area which is in the Northern part of Kaduna State and a boundary between Kaduna, Kano, Bauchi and Plateau State respectively. The target population of people in the community is Three Thousand (3,000) as stated by the village head. Their main activities are: farming and social lives like; (Organizing parties, dancing and dressing competitions). They have three main Private Secondary Schools and one government Primary Health Care Clinic with market situated in the main town of the community which is normally observed once in a week every Wednesday. More so, they have four (4) major tribes in the community which are: Kurama, Gure, Amo and Hausa with their different cultural practices which are normally observed once in year.

### **Target Population**

The target population for this study was females in Abadawa Community which was discovered to be 502 population.

### **Sample and Sampling Techniques**

Probability sampling technique was employed to select sample for the study. Using Nwana's decision rule formula which stated that if you are dealing with less than 999 population use 20% to find the sample size; That is as follows  $20\% \text{ of } 502 = 100.4$  which is approximately 100.

### **Instrument for Data Collection**

Self-structure questionnaire was use and retrieve, within 2 weeks from females in Abadawa community. The questionnaire was structured based on the objectives of the study and was divided into five sections.

Section A: Social demographic data

Section B: Awareness on the effects of Ocular Cosmetic

Section C: Common Ocular cosmetic used

Section D: Effects of ocular cosmetic

Section E: Ways of overcoming the effect

### **Validity of the Instruments**

The instrument for data collection was given to two experts in measurement and evaluation for both face and content validity. They examined the items in line with the objectives and their observations, modifications and suggestions was affected and final copy was then used for pilot testing and subsequently data collection.

### **Reliability of the instrument**

In testing the reliability of the instrument, a pilot study was done in Ungwan Makama community, 10 copies of the questionnaire were administered to females residing in the area, which represent 10% of the sample sizes was administered the completed questionnaire were retrieved, sorted and analyze. The reliability co-efficient was certain 0.7

### **Method of Data Collection**

A structured questionnaire for data collection was used. An introductory letter from the management of Post Basic Ophthalmic Nursing National Eye Center Kaduna was presented to the village head of Abadawa Community. This was possible with the help two (2) research

assistance, that assisted in the data collection. The whole exercise lasted for one (1) week 20 copies were distributed and retrieved immediately

### **Method of Data Analysis**

The data collected was analyzed using frequency table and percentage.

### **Ethical consideration**

The ethical consideration was duly considered following the principles of morality, the right and wrong of an action prior to an act such as: A letter of introduction from the management of post Basic Ophthalmic Nursing, National Eye Centre Kaduna State was attached to each questionnaire. That was read to the participants showing the research was purely voluntary; no names were collected and data obtained as treated with high level of confidentiality.

### **Results**

#### **Section A.**

**Table 1: Socio-Demographic Data of Respondents**

<b>S/N</b>	<b>VARIABLES AGE</b>	<b>FREQUENCY</b>	<b>PERCENTAHE</b>
1	15 – 20	20	20.0
	21 – 25	58	58.0
	26 – 30	16	16.0
	31 – 35	6	6.0

2	<b>OCCUPATION</b>		
	Student	51	51.0
	Employed	30	30.0
	Unemployed	19	19.0
3	<b>MARITAL STATUS</b>		
	Single	75	75.0
	Married	23	23.0
	Divorced	2	2.0
	Widow	Nil	0
4	<b>RELIGION</b>		
	Christianity	90	90.0
	Islam	10	10.0
	Pagan	Nil	-
	Others	Nil	-

Table 1 (1) revealed that majority are within age of 21-25 years 58 (58.0%), 20(20.0%) of the respondents were within the age range of 15 – 20 years, 26 – 30yrs are 16 (16.0%). 31 – 35 years of age range are 5(5.0%)

Table 1 (2) revealed that majority 51 (51.0%) of the respondents are students, 30 (30%) are employed, 19 (19.0%) are unemployed.

Table 1 (3) revealed that majority 76 (76.0%) are single, 23 (23.0%) are married, 1 (1.0%) is divorced while widow nil (0%)

Table 1 (4) revealed that majority of the respondents are Christianity 90 (90%) and Islam 10 (10%) while pagan and others nil (0%).

### Section B

**Table 2 what are levels of Awareness in Abadawa Community on the Effect of Ocular Cosmetics?**

S/N	ITEMS	FREQUENCY	PERCENTAGE %
1	<b>Are you aware it has any effect on ocular structure</b>		
	YES	82	91.1
	NO	8	8.9
2	<b>If yes, how did you know about it?</b>		
	Television	20	22.2
	Radio	16	17.8
	Self-experience	11	12.2

	School	28	31.1
	Hospital	7	7.8
	Nil	8	8.9
3	<b>For how long are you aware of it?</b>		
	1 year	15	16.7
	2 years	20	22.2
	3 years	22	24.4
	4 years	14	15.6
	5 years	11	12.2
	Nil	8	8.9
4	<b>For how long have you been using ocular cosmetics?</b>		
	1 – 5 years	51	56.7
	6 – 10 years	23	25.6
	11 – 15 years	12	13.3
	16 – 20 years	2	2.2
	Nil	2	2.2

Table 2 (1) reveals that majority 91 (91.0%) are aware of the effect while 9 (9.0%) are not aware of the effect on ocular structure.

Table 2 (2) reveals that majority they are aware through school 31(31.0%), Television 22 (22.0%), through radio 18 (18.0%), by self-experience 12(12.0%), through hospital are 8 (8.0%) and nil 9 (9.0%).

Table 2 (3) reveals how long they were aware which majority 3years 24 (24.0%), 1year 17 (17.0%), 2years 22 (22.0%), 4years 16 (16.0%), 5years 12 (12.0%) and nil 9 (9.0%).

Table 2 (4) reveals for how long they have been using ocular cosmetics which are majority 1 – 5 years 57 (57.0%), 6 – 10 years 26 (26.0%) while 11 – 15 years are 13 (13.0%) and 16 – 20 years 2 (2.0%) while nil was 2 (2.0%).

### Section C

**Table 3 what are the Common Regular Ocular Cosmetic used among female?**

S/N	ITEMS	FREQUENCY	PERCENTAGE %
1	<b>Do you use Ocular Cosmetics?</b>		
	YES	98	98.0
	NO	2	2.2

2	<p><b>How many ocular cosmetics do you used?</b></p> <p>1 – 2</p> <p>3 – 4</p> <p>5 – 6</p> <p>7 – 8</p> <p>Nil</p>	<p>32</p> <p>46</p> <p>14</p> <p>6</p> <p>2</p>	<p>32.0</p> <p>46.0</p> <p>14.0</p> <p>6.0</p> <p>2.0</p>
3	<p><b>Which among the bellow do you usually used?</b></p> <p>-Eye shadow</p> <p>-Eyeliner</p> <p>-Eye mascara</p> <p>-Eyelashes</p> <p>-Nil</p>	<p>67</p> <p>18</p> <p>13</p> <p>1</p> <p>2</p>	<p>67.0</p> <p>18.0</p> <p>13.0</p> <p>1.0</p> <p>2.0</p>

4	<b>Tick as many from the list below of those you used?</b>		
		13	13.0
	A	9	9.0
	B	12	12.0
	C	6	6.0
	D	1	1.0
	E	18	18.0
	AB	36	36.0
	ABC	3	3.0
	ACE	2	2.0
	NIL		

Table 3 (1) reveals that those who used ocular cosmetics are majority 98 (98.0% and those that do not are 2 (2.0%)

Table 3 (2) reveals that those who use 3-4 are majority 46 (46.0%), those that use 1 – 2 cosmetics are 32 (32.0%), those that use 5 – 6 are 14 (14.0%) and those who use 7 – 8 are 6 (6.0%) while those that do not use it are 2 (2.0%)

**Note:** we have two people who do not use ocular cosmetics

Table 3 (3) reveals that most used ocular cosmetics which majority use eye shadow 66 (60.0%), Eye liner 18 (18.0%) Eye Mascara 13 (13.0%) and eye lashes 1 (1.0%) while 2 (2.0%) do not use ocular cosmetics

Table 3 (4) reveals number of ocular cosmetic use by individuals which are eye shadow only 13 (13.0%) eyeliner only 9 (9.0%), eye mascara only 12 (12.0%), eye lashes only 6 (6.0%), contact lens only 1 (1.0%) eye shadow and eye liner only 18 (18.0%), eye shadow, eye mascara and contact lens 3 (3.0%) while 2 (2.0%) do not use ocular cosmetics.

#### Section D

**Table 4 what are the effects of Ocular cosmetics?**

S/N	ITEMS	FREQUENCY	PERCENTAGE %
1	<b>Have you experience any ocular effect from use of cosmetics?</b>		
	Yes	82	82.0
	No	17	17.0
	Nil	2	2.0

2	<b>Which was the Ocular cosmetics did you experienced the effect with?</b>		
	Eye shadow	52	52.0
	Eyeliner	9	9.0
	Eye mascara	14	14.0
	Eye lashes	7	7.0
	Nil	18	18.0

UNDER PEER REVIEW

3	<p><b>Which of these common effects did you experienced with the ocular cosmetics you used?</b></p> <p>Eye tearing</p> <p>Itching</p> <p>Redness of the eye</p> <p>Eye rashes</p> <p>Eye swollen</p> <p>Dry eye</p> <p>Sandy sensation in the eye</p> <p>Nil</p>	<p>31</p> <p>13</p> <p>8</p> <p>7</p> <p>7</p> <p>2</p> <p>14</p> <p>18</p>	<p>31.0</p> <p>13.3</p> <p>8.0</p> <p>7.0</p> <p>7.0</p> <p>2.0</p> <p>14.0</p> <p>18.0</p>
4	<p><b>For how long did the effect persist?</b></p> <p>1 – 7 days</p> <p>Two weeks</p> <p>Three weeks</p> <p>Four weeks</p> <p>Nil</p>	<p>63</p> <p>11</p> <p>6</p> <p>2</p> <p>18</p>	<p>63.0</p> <p>11.0</p> <p>6.0</p> <p>2.0</p> <p>18.0</p>

5	<b>Was there any treatment taken?</b>		
	YES	12	12.0
	NO	61	61.0
	Nil	18	18.0
6	<b>Did it resolve by itself?</b>		
	YES	61	61.0
	NO	21	21.0
	NIL	18	18.0

Table 4 (1) reveals that majority 82 (82.0%) experienced ocular effect while 16 (16.0%) have never experienced any ocular effect and nil 2 (2.0%) shows those that don't use ocular cosmetics

Table 4 (2) reveals the ocular cosmetics they experienced the effect with which shows that majority 52 (52.0%) eyeliner 9 (9.0%) while eye mascara 18 (18.0%) those that did not experience any effect from use of ocular cosmetics.

Table 4 (3) reveals the common effect experienced with majority eye tearing 31 (31.0%), eye itching 13 (13.0%), while redness of the eyes are 8 (8.0%) eye rashes 7 (7.0%), swollen eye 7 (7.0%), dry eye 2 (2.0%), sandy sensation in the eye 14 (14.0%) and nil 18 (18.0%) those that have not experienced any effect

Table 4 (4) reveals how long the effect lasted which majority 1 – 7 days 63 (63.0%) two weeks 11 (11.0%), three weeks 6 (6.0%) four weeks 2 (2.0%) and nil 18 (18.0%) for those that have never experience.

Table 4 (5) reveals majority do not undergo any treatment 61 (61.0%), while those that undergo treatment which are 21 (21.0%) and nil 18 (18.0) have not participated in any of the two options.

Table 4 (6) reveals those that the effect resolves on its own which are majority 61 (61.0%) and 21.0% are those that the effect persist while 18 (18.0%) have not participated in any of the two options.

### Section E

**Table 5 what are the ways of overcoming these effects Associated with use of Ocular Cosmetics?**

S/N	ITEMS	FREQUENCY	PERCENTAGE %
1	<b>Do you Check the Content of your ocular cosmetics?</b>		
	Yes	29	29.0
	No	69	69.0
	Nil	2	2.0

2	<p><b>Do you check the expiry date of your ocular cosmetics?</b></p> <p>Yes</p> <p>No</p> <p>Nil</p>	<p>46</p> <p>52</p> <p>2</p>	<p>46.0</p> <p>52.0</p> <p>2.0</p>
3	<p><b>Do you use the right method of application of your ocular cosmetics?</b></p> <p>Yes</p> <p>No</p> <p>Nil</p>	<p>76</p> <p>22</p> <p>2</p>	<p>76.0</p> <p>22.0</p> <p>2.0</p>
4	<p><b>Do you share your ocular cosmetics with someone?</b></p> <p>Yes</p> <p>No</p> <p>Nil</p>	<p>42</p> <p>56</p> <p>2</p>	<p>42.0</p> <p>56.0</p> <p>2.0</p>

5	<b>Do you wash your face after day activities?</b>	78	78.0
	YES	20	20.0
	NO	2	2.0
	Nil		
6	<b>What other ways can the effect be overcome?</b>	20	20.0
	Face washing	29	29.0
	Health education	38	38.0
	Go natural	13	13.0
	Always check the content and expiring date		

Table 5 (1) reveals that majority 69 (69.0%) do not check the content of ocular cosmetics while 29 (29.0%) check the content of their ocular cosmetics and nil 2 (2.0%) do not use ocular cosmetics.

Table 5 (2) reveals that majority 52 (52.0%) do not check expiring date while 46(46.0%) check expiring date and nil 2 (2.0%) do not use ocular cosmetics.

Table 5 (3) reveals that majority 76 (76.0%) use right method of application while 22 (22.0%) do not use right method and nil 2 (2.0%) do not use ocular cosmetics.

Table5 (4) reveals that majority 56 (56.0%) do not share cosmetics while 42 (42.0%) share their cosmetics and 2 (2.0%) do not use ocular cosmetics

Table5 (5) reveals that majority 78 (78.0%) wash their face after day activities while 20 (20.0%) do not wash their face and nil 2 (2.0%) do not use ocular cosmetics.

Table 5 (6) reveals that majority 38 (38.0%) are of the opinion to go natural 20 (20.0%) are of opinion to wash their faces, 29 (29.0%) go for health education while 13 (13.0%) suggested checking the content and expiring date.

## Discussion

The study revealed that majority of the females in Abadawa 91 (91.0) are aware of the effects of ocular cosmetics which is not in line with (Nnorom *et. al.*, 2010) which state that most people who used cosmetics are unaware of the potential danger that can threaten their health while using them.

The finding also revealed that majority of the respondents were within age of 21-25years (58.0%), which is not in line with an online survey by Renfrew center foundation for eating disorder (2012) that say 27% of women reported wearing makeup at the age of 13years.

The study reveals that majority of the females in Abadawa 67 (67.0) uses eye shadow as the common ocular cosmetics which is in line with (T. M. *et. al.*, 2018) which state that eye shadow being among the most common applied products.

The study reveals that majority of the females in Abadawa 82 (82.0) do experience various effects such as redness of the eyes, sandy sensation tearing, itching which is in line with (Wang 2018) had report that there is migration of external applied eye cosmetics into the ocular surface has been consistently reported. (Guillian, *et. al.*, 2012) also state that some users use straight pin

to apply and separate damp eye lashes which can lead to corneal trauma thereby given microbial agents easy entry route to cause minor to severe sight threatening infections in several patients who have mascara injury.

The study revealed that majority of the respondents 38 (38.0%) suggested going natural without who state that hand and face washing should be done before application of makeup because bacteria from the hand can be transfer to the eye and vice versa. Also (Oji. *et. al.*, 2012) state that read labels for expiry dates and avoid makeup with harmful ingredient.

The findings also revealed that majority 91 (91.0) are aware of the effect which is in line with (American. *et. al.*, 2018) that only 7% are not knowledgeable about the effect.

Base on the finding it shows that majority of the respondents 67 (67.0) use eye shadow which is not in line with (Purslow. *et. al.*, 2013) which state that mascara was the most frequently eye product with 70% of individuals using this form of makeup.

Majority of the respondents 31 (31.0%) experienced eye tearing from the used of ocular cosmetic which is in line with (North and Katherine (2013) who stated that 70% perceived ocular discomfort such as eye tearing, sandy sensation and itching.

The study reveals that majority of respondents 38(38.0%) suggested going natural as the best option to overcome the effect which is not in line with (A.O.A 2018) stated that 65% of women suggested face and hand hygiene should be employed to first line of defense against eye infection and women should not fall asleep with contact lens on because it dries out the eye thereby reducing oxygen supply to the eye.

### **Implication of the Study to Nursing**

Nurses being the back bone of healthcare system have a great role to play by being proactive in serving as an agent of change by creating awareness on effects of ocular cosmetics and safe method of application which will help to abate to ocular structure thereby preventing the laden effect which arose later in life and may lead to blindness.

### **Limitation of the Study**

The study was limited to Abadawa community which was not up to a local government as whole hence COVID19 lockdown causes delay on the research work, financial constraint and the researcher knowledge which would have been generalized beyond Abadawa community.

### **Summary**

The study was carried out to determine the awareness and effect of ocular cosmetics among females in Abadawa community, Saminaka Lere local government Kaduna state. The main objective was to identify level of awareness to the effect, the effect experience and possible ways of overcoming the effect. Various literature was reviewed under conceptual, empirical and theoretical respectively. The study design used was non-experimental descriptive. Out of the 502-target population, the study sample 100 females for the study. The instrument used was a self-structured questionnaire, while a Simple random sampling technique was used in data collection of all distributed data and were all retrieved after due completion and was analyzed using structural method. The findings show that majority of the females are aware of the effect of ocular cosmetics, uses ocular cosmetics and usually experience its effect after application.

### **Conclusion**

The finding shows that many females are aware of the effect of ocular cosmetics in Abadawa community through television. Eyes shadow as the commonly used have a side effect of eye tearing and itching which normally lasted for 7days and resolve without any treatment taken.

The important of awareness and effect of ocular cosmetic cannot be over emphasized because many females are using cosmetics to boost their confidence and highlight their beauty at the age of waiting to settle down and have relationship with other opposite sex but not having the knowledge of the latent effect which normally arose later in life therefore as good as its, there is need for adequate knowledge/awareness on the content of ocular cosmetics, mixing effect , proper storage, sharing, usage and application in other to abate to ocular structures

### **Recommendations**

Government should enact policy that will govern the manufacturing company producing ocular cosmetics to produce cosmetics that will be safe for the eyes.

Cosmetic should be tested to be of world standard before allowing it to enter market for consumption.

Nurses should encourage to induce medical demonstration on safe use and application of ocular cosmetics

Massive awareness on effect of ocular cosmetics should be propagated by the government and NGOS through the mass media for effective information dissemination and going natural as the best option.

Organizers of mandatory continuing profession development programmer (M.C.P.D.P) with the support of nursing council association should ensure continuous awareness on effect of ocular cosmetics during workshop.

School eye health and outreach programmers should be encouraged in order to create awareness on effect of ocular cosmetics

### **Suggestions for Further Studies**

Similar study should be carryout on composition and proper method of application of ocular cosmetics in the entire Kaduna State

Similar study on the effect of ocular cosmetics should be carry out among women of different age groups and social demographic status in the rural communities in Lere local government.

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