East African Medical Journal Vol. 96 No. 7 July 2019
AWARENESS, ATTITUDE, AND PRACTICE OF NURSES TO COSMETIC SURGERY IN EBONYI STATE, SOUTHEAST NIGERIA
Ugochukwu Uzodimma Nnadozie, Division of Plastic Surgery, Department of Surgery, Alex Ekwueme Federal University Teaching Hospital Abakaliki, Ebonyi State, Nigeria, Charles Chidiebele Maduba, Division of Plastic Surgery, Department of Surgery, Alex Ekwueme, Federal University Teaching Hospital Abakaliki, Ebonyi State, Nigeria, Christian Chidebe Anikwe, Department of Obstetrics and Gynaecology, Alex Ekwueme Federal University Teaching Hospital Abakaliki, Ebonyi State, Nigeria, Okwudili Obayi, Department of Psychiatry College of Health Sciences, Ebonyi State University Abakaliki, Ebonyi State, Nigeria, Vincent Chidi Enemuo , Department of Surgery College of Health Sciences, University of Nigeria, Enugu Campus, Obinna Chukwudi Arinze, Department of Surgery College of Health Sciences, Ebonyi State University Abakaliki, Ebonyi State, Nigeria, Cletus Ikechukwu Otene, Department of Surgery, Delta State University Abraka, Olayinka Adebanjo Olawoye, Department of Surgery, College of Medicine, University of Ibadan.

Corresponding author: Ugochukwu Uzodimma Nnadozie, Division of Plastic Surgery, Department of Surgery, Alex Ekwueme Federal University Teaching Hospital Abakaliki, Ebonyi State, Nigeria; email: ugodozie@yahoo.ca

AWARENESS, ATTITUDE, AND PRACTICE OF NURSES TO COSMETIC SURGERY IN EBONYI STATE, SOUTHEAST NIGERIA

U. U. Nnadozie, C. C. Maduba, C. C. Anikwe, O. Obayi, V. C.Enemuo, O. C. Arinze, C. I. Otene and O. A. Olawoye,

ABSTRACT

Background: **Cosmetic surgery (CS) is a rapidly growing subspecialty in Nigeria. Nurses are indispensable part of successful cosmetic surgery practice and thus plays important role in promoting the practice.**

Objective: **To evaluate the level of awareness, attitude and practice of CS among nurses in selected secondary and tertiary hospitals in Ebonyi state, southeast Nigeria.**

Methods: **A cross sectional survey was done among randomly selected nurses in the tertiary and secondary health facilities in Abakaliki between 1st September, and 30th November 2019. Data obtained was analyzed using IBM SPSS version 20**

Results: **The mean age of the respondents and year of practice were 36.80 ± 9.46 years and 11.35 (95%CI 10.59 – 12.12) respectively. The majority (96.3%) of the respondents were aware of CS and the main source of information was from lectures received while in the nursing school. Breast augmentation and breast reduction were the commonest types of CS known. Only 17% of the respondents correctly identified that CS should be done by the aesthetic/cosmetic surgeon. Nurses in the teaching hospital had a higher propensity of recommending cosmetic surgery to a client than nurses in the secondary healthcare institutions (OR = 2.07 95% CI 1.255-3.45). Only about a quarter of the respondents will accept CS even when offered free to them**

Conclusion: **Our study shows a good awareness of cosmetic surgery among the respondents. Their attitude towards the CS was poor. There is need to improve attitude to CS among nurses as this can assist in improving societal acceptance of CS.**

INTRODUCTION

Cosmetic surgery (CS) is a subspecialty of plastic surgery which deals with the enhancing of body appearance. The demand for CS has grown globally with the United States of America being the most resourceful place for the industry[1] with estimated 18,160,785 cosmetic procedures performed there in 2019.[2]There has been a progressive increase in the figures over the years. Increased demand for CS has been reported in other parts of Western hemisphere [3] and countries like China and India have become Asia's biggest CS markets. [4]

In developing countries like Nigeria, there is increasing awareness of the importance of plastic surgery [5] but the awareness is low compared to the developed world. Nigerian studies have reported low knowledge of CS among the general populace. [6] The low knowledge being attributed to low literacy level, cultural barrier to CS, cost implications of the procedure, and gross inadequacy of cosmetic surgeons. [6, 7, 8] A five-year retrospective study of the elective surgical procedures performed in a tertiary health institution in a neighboring state to where this present study was carried out supports this low knowledge in Nigeria. Of the 3,759 elective plastic surgical procedures performed within the study period, only 68 (1.8%) were for aesthetic purposes. [9] Although Adedeji et al. had reported a high awareness of CS among health workers, they remarked that the workers had a poor disposition to CS [10] which could influence the promotion of the procedure within Nigeria.

Cosmetic surgery gives hope to the afflicted [11] and improves the psychological wellbeing of the client. The popularity of CS has increased around the world. Mass media such as television shows have contributed to this development. [12] It has been argued that the desire to seek cosmetic surgical procedures might be affected by the mental health of the individual. Symptoms of depression and anxiety, history of deliberate self-harm, Para suicide, and illicit drug use, have been reported to predict prospective CS clients in a study in Norway.

Abdominoplasty, breast augmentation, breast reduction, mastopexy, rhinoplasty, facelift, blepharoplasty, liposuction, and cleft surgery are some of the cosmetic procedures. [10, 13] In USA, abdominoplasty is one of the top 5 cosmetic surgical procedures with 132,258 and 8,576 procedures performed in women and men respectively in 2017. [13] Abdominoplasty has been shown to increase quality of life, improve general life satisfaction, and increase emotional stability whereas depressed patients have shown significant improvements after cosmetic abdominoplasty. [14, 15] In Nigeria, with an increase in the prevalence of obesity attributed to increasing sedentary life and eating habits [16, 17] and with increasing parity among women [18] which predisposes to abdominal laxity, the need for tummy tuck surgeries among women is likely to increase.

Nurses are one of the repositories of medical information and knowledge. They are expected to be at the fore front of the dissemination of medical information. This could help in the promotion of the uptake of cosmetic surgeries. This study is therefore aimed at determining the knowledge, attitude, and practice of nurses towards CS. Assessment of their overall perception of CS could throw more light on some of the

reasons behind the poor utilization of cosmetic procedures in our environment. The findings from this study will be of help in moving the specialty forward and increasing the patronage and access to CS.

MATERIALS AND METHODS

Study area: This study was carried out in a university teaching hospital and three mission hospitals in Ebonyi state, southeast Nigeria. Within the state are a federal university teaching hospital, four mission hospitals, and few state-owned general hospitals. Majority of the nurses that work in the state are in the mission and teaching hospitals.

Ethical approval: Ethical clearance was obtained from the Research and Ethics Committee of the Alex Ekwueme Federal University Teaching Hospital, Abakaliki (REC No: 22/07/2019-02/08/2019). The administrators of the mission hospitals approved the study.

Study instrument: The study instrument is a pretested structured interviewer-administered questionnaire adapted and modified from a previous study.[10] It is divided into four (4) sections: socio-demographic characteristics; knowledge; attitude and practice of CS.

Sample size: The sample size (N_0) was calculated using

$$N_o = \frac{Z^2pq}{e^2}$$

Where Z is a constant = 1.96

e: the desired level of precision also known as sampling error: 5%

p: prevalence from similar study [6] = 0.60

q: 1-p

$$N_o = \frac{(1.96)^2 \times 0.6 \times 0.4}{(0.05)^2}$$

$$= 368.8$$

To make up for non-response, an additional 20% attrition was added giving a total minimum sample size of 369 + 74 = 443. A total of 500 nurses were eventually enrolled into the study.

Sampling/Procedure: This study was carried out at the Alex Ekwueme Federal University Teaching Hospital Abakaliki (AEFUTHA), and three mission hospitals - Mater Misericordea Hospital, Afikpo (MMHA), Mile 4 Hospital (Mile 4), Abakaliki, and St Vincent de Poor Hospital, Ndubia (Ndubia), from 1st September to 30th November, 2019. Using a proportionate technique, bearing in mind the estimated sample size. The participants were selected by systematic sampling using the nurses' employment list of each institution. Consent was obtained from each participant and trained resident doctors administered the questionnaires. The nurses that responded from AEFUTHA, Mile 4, MMHA, and Ndubia hospitals were 325, 59, 44 and 27 respectively.

Data Analysis: Data were analyzed using IBM SPSS Statistics, version 20. Results were presented in tables and figures. The level of significance was set at 0.05.

RESULTS

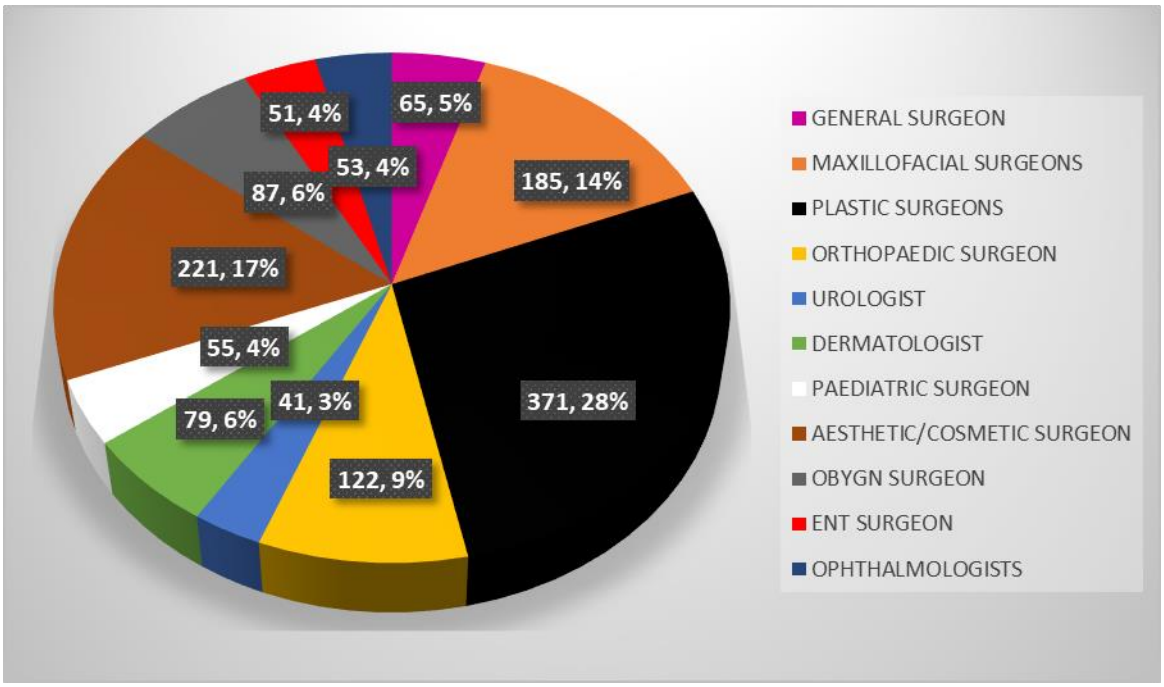

Figure 1: Views of the respondents on who should perform CS (multiple answers allowed)

Only less than one-fifth (17%) of the nurses indicated that CS should be performed by the cosmetic surgeon. Close to one-third (28%) was of the view that CS should be done by only plastic surgeons.

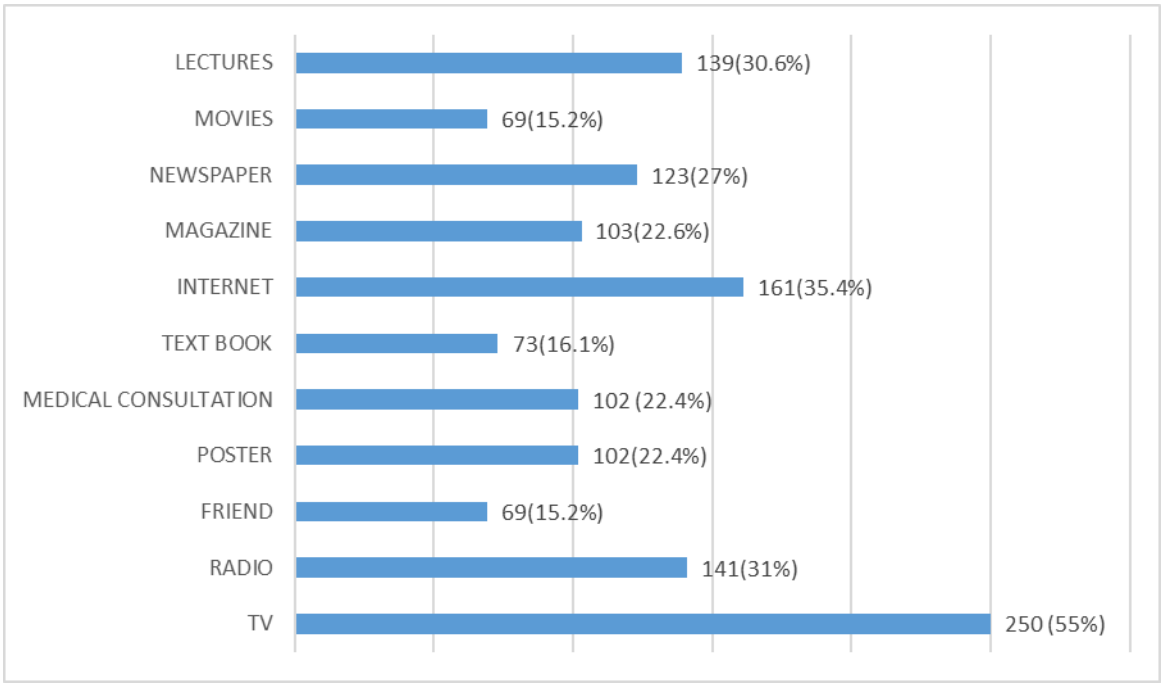

Figure 2: *Respondent view on means to increase CS awareness in Nigeria (multiple answers allowed)*

TV (television): Use of mass media (such as television, internet and radio) more than prints was the means respondents favored to increase awareness of CS in Nigeria. Movies and friends were least recommended.

Majority of the respondents were females (84.4%), aged 18 – 65 years (mean age: 36.8 ± 9.46), Christians (89.7%). 79.8% of the respondents lived in urban areas and up to 40.4% had practiced Nursing for over 10 years.

Table 1

Socio-demographic characteristics (n = 455)

Variable	Frequency	Percentage
Age		
≤30	140	30.8
31-35	89	19.6
36-40	89	19.6
41-45	42	9.2
46-50	60	13.2
≥51	35	7.7
Years of practice		
≤10	271	59.6
11-15	64	14.1
16-20	65	14.3
≥21	55	12.1
Residence		
Rural	92	20.2
Urban	363	79.8
Religion		
Christian	408	89.7
Moslem	47	10.3
Hospital		
AEFUTHA	325	71.4
Mile 4	59	13.0
MMHA	44	9.7
Ndubia	27	5.9
Sex		
Female	384	84.4
Male	71	15.6

Most of the respondents (96.3%) were aware of CS. Formal lecture during their nursing training was the commonest source of knowledge while posters and magazines were the least sources. Those younger in practice were more aware of CS than their older counterparts.

Table 2

Sources of knowledge about cosmetic surgery (Multiple answers allowed)

Variable		Number of the year of practice (years)				
	Total N (%)	**≤10 N (%)**	**11-15 N (%)**	**16-20 N (%)**	**≥21 N (%)**	**p-value**
Aware of CS						**0.315**
Yes	438(96.3)	258(58.9)	63(14.4)	62(14.2)	55(12.5)	-
No	17(3.7)	13(76.5)	1(5.9)	3(17.6)	0(0.0)	-
Sources of information about CS						
Television	118(26.8)	78 (17.7)	16(3.6)	14(3.2)	10(2.3)	0.315
Radio	52(11.8)	27 (6.1)	10(2.3)	6(1.4)	9(2.0)	0.345
Friend	52(11.8)	32 (7.3)	8(1.8)	7(1.6)	5(1.1)	0.933
Posters	26(5.9)	11 (2.5)	6(1.4)	4(0.9)	5(1.1)	0.245
Medical consultation	60(13.6)	31(7.0)	11(2.5)	12(2.7)	6(1.4)	0.328
Textbook	119(27.0)	59 (13.4)	13(3.0)	26(5.9)	21(4.8)	0.002*
Internet	114(25.9)	84 (19.1)	13(3.0)	11(2.5)	6(1.4)	0.003*
Magazine	44(10.0)	25 (5.7)	11(2.5)	6(1.4)	2(0.5)	0.089
Newspaper	26(5.6)	18 (4.1)	3(0.7)	29(0.5)	3(0.7)	0.705
Movies	54(12.3)	37 (8.4)	10(2.3)	6(1.4)	1(0.2)	0.056*
Lectures	187(42.5)	92 (20.9	31(7.0)	34(7.7)	30(6.8)	0.002*
Reliability of source information						
Reliable	396(87.0)	235(87.1)	54(84.4)	59(90.8)	47(85.5)	0.734
Not reliable	32(7.0)	18(6.6)	3(4.7)	1(1.5)	5(9.1)	0.323
Not sure	27(5.9)	17(6.3)	7(10.9)	5(7.7)	3(5.5)	0.936

**significant*

Respondents' knowledge about various cosmetic surgeries (Table 3): Breast reduction and breast augmentation were among the topmost cosmetic procedures known by the respondents while Vaginoplasty is the least known by them. There was a trend of decreasing knowledge of different forms of CS with an increasing number of years of practice. Overall, there is a poor knowledge of the various forms of CS.

Table 3

Cosmetic surgeries known to the respondents (Multiple answers allowed)

Variable		Number of years of practice			
	Total (n, %)	≤10 (n, %)	11-15 (n, %)	16-20 (n, %)	≥21 (n, %)
Breast augmentation	296(66.7)	186(41.9)	36(8.1)	38(8.6)	36(8.1)
Breast reduction	312(70.3)	175(39.4)	49(11.0)	49(11.0)	39(8.8)
Mastopexy	118(26.6)	60(13.5)	20(4.5)	21(4.7)	17(3.8)
Rhinoplasty	103(23.2)	52(11.7)	20(4.5)	15(3.4)	16(3.6)
Face lift	181(40.8)	96(21.6)	29(6.5)	30(6.8)	26(5.9)
Blepharoplasty	94(21.2)	49(11.0)	17(3.8)	18(4.1)	10(2.3)
Liposuction	136(30.6)	95(21.4)	14(3.2)	17(3.8)	10(2.3)
Abdominoplasty	201(45.3)	111(25.0)	32(7.2)	30(6.8)	28(6.3)
Cheiloplasty	96(21.6)	51(11.5)	17(3.8)	11(2.5)	17(3.8)
Post-bariactic	63(14.2)	35(7.9)	14(3.2)	8(1.8)	6(1.4)
Thighplasty	66(14.9)	35(7.9)	14(3.2)	10(2.3)	7(1.6)
Armplasty	63(14.2)	34(7.7)	10(2.3)	11(2.5)	8(1.8)
Scar revision	129(29.1)	69(15.5)	18(4.1)	21(4.7)	21(4.7)
Hair transplant	90(20.3)	50(11.3)	13(2.9)	12(2.7)	15(3.4)
Tattoo	63(14.2)	34(7.7)	9(2.0)	8(1.8)	12(2.7)
Otoplasty	100(22.5)	54(12.2)	15(3.4)	15(3.4)	16(3.6)
Vaginoplasty	34(7.7)	22(5.0)	4(0.9)	2(0.5)	6(1.4)

Respondents' awareness of CS done in Nigeria: When asked about the awareness of CS procedures performed in Nigeria, the most common procedures were breast augmentation, breast reduction, abdominoplasty, tattoo, and scar revision while vaginoplasty and hair transplant were the least known. The overall awareness of the availability of CS markedly decreases with an increasing year of practice.

Table 4

Respondents' awareness of CS done in Nigeria (multiple answers allowed)

Variable		Number of years of practice			
	Total (n, %)	≤10 (n, %)	11-15 (n, %)	16-20 (n, %)	≥21 (n, %)
Breast augmentation	165(47.0)	110(31.3)	22(6.3)	18(5.1)	15(4.3)
Breast reduction	169(48.1)	100(28.5)	20(5.7)	27(7.7)	22(6.3)
Mastopexy	52(14.8)	33(9.4)	4(1.1)	10(2.8)	5(1.4)
Rhinoplasty	66(18.8)	36(10.3)	9(2.6)	14(4.0)	7(2.0)
Face lift	72(20.5)	42(12.0)	8(2.3)	11(3.1)	11(3.1)
Blepharoplasty	45(12.8)	29(8.3)	6(1.7)	7(2.0)	3(0.9)
Liposuction	78(22.2)	57(16.2)	7(2.0)	8(2.3)	6(1.7)
Abdominoplasty	104(29.6)	65(18.5)	14(4.0)	11(3.1)	14(4.0)
Cheiloplasty	64(18.2)	35(10.0)	7(2.0)	10(2.8)	12(3.4)
Post-bariactic	34(9.7)	22(6.3)	7(2.0)	4(1.1)	1(0.3)
Thighplasty	28(8.0)	19(5.4)	3(0.9)	4(1.1)	2(0.6)
Armplasty	32(9.1)	23(6.6)	2(0.6)	5(1.4)	2(0.6)
Scar revision	105(29.9)	58(16.5)	18(5.1)	15(4.3)	14(4.0)
Hair transplant	27(7.7)	16(4.6)	4(1.1)	3(0.9)	4(1.1)
Tattoo	96(27.4)	55(15.7)	16(4.6)	12(3.4)	13(3.7)
Otoplasty	45(12.8)	31(8.8)	6(1.7)	3(0.9)	5(1.4)
Vaginoplasty	27(7.7)	17(4.8)	4(1.1)	3(0.9)	3(0.9)

Respondents' socio-demographic characteristics versus attitude and practice towards CS: Female sex is associated with agreeing that CS is 'Godly' (x^2 = 8.87, df 10, p = 0.025). Living in an urban setting have increased propensity of advising a person to undergo CS (OR = 0.49 95%CI 0.27-0.88) and hospital of practice is significantly associated with recommending CS to a client (p = 0.0028). Respondents from the teaching hospital had 2.08 higher odds of recommending CS to clients compared to those from the mission hospitals (OR = 2.07 95%CI 1.25-3.45).

Table 5

Respondents' socio-demographic characteristics versus attitude and practice towards CS

Variable	Advice CS			CS necessary			Undergo CS			CS Godly			Outcome of CS in Nigeria vs. Abroad		
	Yes(n)	No(n)	NS(n)	Yes(n)	No(n)	NS(n)	Yes(n)	No(n)	NS(n)	Yes(n)	No(n)	NS(n)	Yes(n)	No(n)	NS(n)
Age															
≤30	67	38	35	95	26	19	37	68	35	50	44	46	96	7	37
31-35	43	20	26	62	15	12	23	38	28	29	26	34	52	13	24
36-40	45	23	21	59	14	16	18	41	30	32	24	33	50	10	29
41-45	22	6	14	20	8	14	6	22	14	10	15	17	22	6	14
46-50	38	9	13	48	7	5	15	35	10	26	15	19	37	8	15
≥51	22	7	6	24	7	4	11	20	4	13	9	13	18	4	13
P- value	0.393			0.064			0.150			0.887			0.314		
Sex															
Female	195	91	98	253	69	62	86	196	102	124	117	143	234	42	108
Male	42	12	17	55	8	8	24	28	19	36	16	19	41	6	24
P- value	0.352			0.157			0.088			0.025			0.572		
Residence															
Rural	34	26	32	61	10	21	19	39	34	27	30	35	56	9	27
Urban	203	77	83	247	67	49	91	185	87	133	103	127	219	39	105
P- value	0.005*			0.035*			0.042*			0.526			0.964		
Religion															
Christian	208	98	102	276	70	62	102	204	102	140	120	148	250	38	120
Moslem	29	5	13	32	7	8	8	20	19	20	13	14	25	10	12
P- value	0.112			0.986			0.069			0.593			0.041*		
Year of practice															
≤10	129	69	73	180	50	41	67	127	77	93	82	96	173	26	72
11-15	36	13	15	39	11	14	14	34	16	22	19	23	43	6	15
16-20	37	12	16	51	7	7	15	35	15	30	17	18	32	7	26
≥21	35	9	11	38	9	8	14	28	13	15	15	25	27	9	19
P- value	0.367			0.406			0.925			0.568			0.119		
Hospital															
AEFUTHA	185	65	75	224	50	51	77	164	84	117	87	121	189	37	99
Mile 4	19	15	25	36	11	12	16	20	23	16	19	24	40	5	14
MMHA	23	13	8	30	10	4	9	27	8	13	21	10	28	5	11
Ndubia	10	10	7	18	6	3	8	13	6	14	6	7	18	1	8
P- value	0.006*			0.774			0.167			0.157			0.037*		

*NS not sure, * significant,*

DISCUSSION

Cosmetic surgery is a growing subspecialty in Nigeria and good knowledge, attitude, and practice of nurses towards it are important in promoting client uptake as nurses are likely to be sought for health counsel by the people. This study shows that the respondents have a good awareness of CS. In similar studies done in other centers in Nigeria [6, 10] and in India [19] a high awareness of cosmetic surgery was also reported. An observational cross-sectional study that investigated the knowledge, attitudes and practices of CS among 234 female students of a University in Saudi Arabia reported that as much as 94.0% of the participants have heard about CS[20] similar to our finding.

Mass media was the greatest source of information about CS for our respondents; also reading, lectures, internet, and medical consultation. This finding corresponds to that of Adedeji et al. where mass media, medical consultation, and reading medical books, were reported the commonest sources of information [10]. Another related study that investigated the knowledge, attitude, and practice of CS among basic science students in a Nigerian university reported that mass media was the greatest source of information. [21] Many other Indian [19, 22], Saudi Arabian [20], and Nigerian [23] studies reported mass media as the commonest source of knowledge of CS among the nurses and it has also been reported that people are significantly influenced by social media to consider undergoing cosmetic procedures.[24]

Like the report of Adedeji et al. from southwest Nigeria [9], we found that breast reduction, breast augmentation, abdominoplasty, and rhinoplasty were among the top types of surgeries known to our respondents. Abdominoplasty and breast augmentation were also the most common type of CS that could be remembered, respectively by University undergraduates [20] and a great majority of female medical students in a Saudi Arabian study. [25]

Regarding who should perform CS, less than one-fifth of our respondents correctly identified that CS should primarily be carried out by aesthetic/cosmetic surgeons. This finding is not surprising as our study corroborated earlier reports of poor understanding of the scope of plastic surgeries and even cosmetic surgeries among health workers [19, 26] including primary healthcare physicians.[27] This finding is akin to a study to assess medical students' understanding of hand surgery specialists.[28] The researchers reported that the medical students had a poor understanding of the plastic surgeon's role in hand surgery as they generally perceived orthopedic surgeons as hand specialists more so than plastic and general surgeons.

Our study also found that the respondents have poor knowledge of the availability of cosmetic surgical procedures in Nigeria. Most believed that cosmetic surgical procedure outcome is better when done outside Nigeria, same finding by researchers in Osogbo, southwest Nigeria [10]. Otene and his team in a cross-sectional survey of 166 pre-clinical students in Abraka, south-south Nigeria reported that majority of the respondents felt that CS was not available in Nigeria and was reserved for celebrities. [21]

We found that respondents from teaching hospital were more likely to recommend CS to a client. The reason could be the availability of plastic/cosmetic surgeons in the teaching hospital against the mission hospitals. Our study also revealed that respondents who are urban dwellers were much more disposed to undergo CS. They viewed cosmetic procedure as worth embarking upon and were more likely to recommend a client to undergo CS if necessary. Living in urban areas also increases the willingness to consider CS as

necessary (p< >035) or personally undergo CS (p<.042).

Only about a quarter of our respondents agreed that they would accept to undergo CS if offered freely to them. This is higher than that reported among undergraduates in a Saudi Arabian University where only one-fifth agreed to possibly accept CS in future. [20] A 2019 study reported that 91.6% and 75.9% of the participants, respectively felt CS is harmful and would not marry someone who has had CS. [21] The authors believed that culture and religion influenced the attitudes of majority of the respondents towards CS as our findings showed that Christians have increased odds of believing in a good outcome of CS in Nigeria more than Muslims (OR = 2.63 95% CI 1.17-5.90; P = 0.023).

It is evident from our study that the respondents' attitude and practice to CS increased with a decreasing number of years of practice. A possible explanation to this is that those with shorter duration of practice were more recently trained and may have been influenced more by factors such as increased or better exposure to CS, technological advancement in health care services, and increasing world demand for fashion and cosmetics.

We also found that women were more likely than men to consider having CS. This may be a reflection of enormous societal pressure a woman is meant to bear to live up to idealized images of physical perfection and similar result has been reported in Nigeria [13] and also outside Nigeria.[20]

CONCLUSION

Our study has shown a good awareness of CS among nurses studied with a higher knowledge demonstrated by those with fewer years of practice. The common source of information was from lectures and reading. Of all the range of cosmetic surgery operations, it was breast augmentation and reduction that were the commonest known procedures. There is a need to sustain the awareness of CS among the study population especially through didactic lectures during nursing training and for those that are already working, through seminars organized for continuous professional development that will make them better informed about the whole range of cosmetic surgery procedures and put them in better position to offer informed counsel to clients who may be interested in cosmetic surgery.

REFERENCES

1. Zhang W-J, Ding W, Jiang H, Zhang Y-F, Zhang J-L. National Representation in the Plastic and Reconstructive Surgery Literature: A Bibliometric Analysis of Highly Cited Journals Ann Plast Surg. 2013;70(2):231-4. doi: 10.1097/SAP.0b013e3182309982.

2.https://www.plasticsurgery.org/documents/News/Statistics/2019/cosmetic-procedure-trends-2019.pdf (accessed 1st July, 2020)

3. Hammadi HA, El-Shereef EAA. Study of Knowledge, Attitude, and Practices of Plastic Surgery among Females Students at Faculty of Education, Taif University, Saudi Arabia. American Journal of Public Health Research 2017; 5(3): 63-69.

4. Mann D. Indian, china among plastic surgery hot spots— WebMD, http://www.webmed.com/beauty/treatments/2010. (accessed 9th July, 2020)

5. Guardian Nigeria The Guardian Nigeria Newspaper. The Rise of Cosmetic Surgery in Nigeria. Oct 30, 2018. https://guardian.ng/life/the-rise-of-cosmetic-surgery-in-nigeria/ Assessed May 14, 2019.

6. Isiguzo CM, Nwachukwu CD. Knowledge and perception of plastic surgery among tertiary education students in Enugu, South-East Nigeria. Niger J Clin Pract 2016;19:327-31.

7. Adeyemo WL, Mofikoya BO, Bamgbose BO. Knowledge and perceptions of facial plastic

surgery among a selected group of professionals in Lagos, Nigeria J Plast Surg 2010;63:578-82.
8. Olawoye OA. Building capacity for aesthetic surgery in Nigeria: Perspectives from the cosmetic surgery fellowship at the Ivo Pitanguy Institute Rio de Janeiro, Brazil. *Nigerian J Plast Surg* 2019; 15: 14-19
9. Onah II, Nnadozie UU, Ogbonnaya IS. Aesthetic surgery indications at the National Orthopaedic Hospital, Enugu. Nigerian J Plast Surg. 2010 6 (1): 12-15.
10. Adedeji OA, Oseni GO, Olaitan PB. Awareness and Attitude of Healthcare Workers to Cosmetic Surgery in Osogbo, Nigeria. Surg Res Pract. 2014; 8 pages
11. Bradbury E, Habel A. Psychological and social aspects of cleft lip and palate in the developing world, including implications of late surgery or no surgery in Management of Cleft Lip and Palate in the Developing World, M. Mars, D. Sell, and A. Habel, Eds., pp. 159–171, JohnWiley & Sons, Chichester, UK, 2008.
12. Sperry S., Thompson J.K., Sarwer D.B., Cash T.F. Cosmetic surgery reality TV viewership: relations with cosmetic surgery attitudes, body image, and disordered eating. Ann Plastic Surg, 62 (1) (2009 Jan), pp. 7-11.
13. American Society for Aesthetic Plastic Surgery. Quick facts: Highlights of the ASAPS 2017 statistics on cosmetic surgery https://www.surgery.org/sites/default/files/ASAPS-Stats2017.pdf. Assessed May 20, 2019.
14. Papadopulos NA, Meier AC, Henrich G, Herschbach P, Kovacs L, Machens H-G et al. Aesthetic abdominoplasty has a positive impact on quality of life prospectively. Journal of Plastic, Reconstructive & Aesthetic Surgery (2019) 72, 813–820.
15. Nnadozie U U, Okorie G M, Maduba C C et al. Abdominoplasty for male truncal obesity: case report. Pan African Medical Journal 2020;36:52.
16. Nkwoka I.J., Egua M.O., Abdullahi M., Sabi'u A., Mohammed A.I. Overweight and obesity among staff of Usmanu Danfodiyo University, Sokoto, Nigeria. Educ. Res. 2014; 5(8): 290-295
17. Akarolo-Anthony SA, Willett WC, Spiegelman D, Adebamowo CA. Obesity epidemic has emerged among Nigerians BMC Public Health 2014; 14:455
18. National Population Commission (NPC) Nigeria; ICF International Nigeria Demographic & Health Survey 2013. Abuja, Nigeria, and Rockville, Mary Land, USA: NPC and ICF international 2014.
19. Panse N, Panse S, Kulkarni P, Dhongde R, Sahasrabudhe P. Awareness and perception of plastic surgery among healthcare professionals in Pune, India: do they really know what we do? Plastic Surgery International 2012, Article ID 962169, 9 pages.
20. Hammadi HA, El-Shereef EAA. Study of knowledge, attitude, and practice of plastic surgery among female students at the Faculty of Education, Taif University, Saudi Arabia. American Journal of Public Health Research, 2017; 5(3): 63 – 69.
21. Otene CI, Odonmeta AB, Ebeye OA, Enivwenae AO, Ozoko LE, Ebeigbe PN. Knowledge, attitude and practice of cosmetic surgery among basic science students of a University in Delta State, Nigeria. Journal of Dental and Medical Sciences. 2016; 15(4): 28 – 36
22. Agarwal P. "Perception of plastic surgery in the society," Indian Journal of Plastic Surgery, 37(2): 110–114, 2004.
23. Abubakar AI, Jamda MA, Ibrahim A, Ajani A, Iyun K, Opara KO. University students and cosmetic surgery in Nigeria: A survey of perception, attitudes, and experiences. Nigerian J Plast Surg 2016;12:12-6.
24. Arab K, Barasain O, Altaweel A et al. Influence of social media on the decision to undergo a cosmetic procedure. Plast Reconstr Surg Glob Open, 2019; 7(8): e2333.

25. Doheyan TA, Saad AA, Haidar AA et al. Knowledge, attitude and practices concerning cosmetic surgery among female medical students at the University Hospital, King Saud University, Riyadh, Saudi Arabia. British Journal of Medicine & Medical Research, 2016; 14(4): 1-10.

26. Xu S, Shu G, Qiang S, Lei C, Xiumei Z. Advances in plastic and cosmetic surgery at home and abroad – A bibliometric analysis. European Review for Medical and Pharmacological Sciences. 2013; 17: 2732-2754.

27. Alharbi AA, Al-Thunayyan FS, Alsuhaibani KA, Alharbi KA, Alharbi MA, Arkoubi AY. Perception of primary health care providers of plastic surgery and its influence on referral. J Family Med Prim Care. 2019; 8(1): 225–230.

28. Agarwal JP, Mendenhall SD, Hopkins PN. Medical student perceptions of plastic surgeons as hand surgery specialists. Annals of Plastic Surgery, 2014; 72(1): 89 – 93.