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Trends, Motivations and Complications of Body Piercing among Undergraduate Students in a University in Southwestern Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

Background: Body piercing is an increasingly common practice globally. This practice is associated with several health concerns which vary from tissue trauma, allergic reactions, keloids, and infections which can range from local to systemic and transmission of blood-borne infections such as HIV and hepatitis B and C virus. There is limited data in Nigeria on the prevalence, medical and social consequences of body piercing. Hence, this study sought to examine the trends, motivation and complications of body piercing among undergraduate students with body piercings in a university in southwestern Nigeria.
Methodology: A cross-sectional study was conducted between August 2022 and January 2023 among undergraduate students with body piercings in a private University in Southwestern Nigeria. Self-administered, semi-structured questionnaires were used to obtain data from the 137 participants.
Results: The mean age of the respondents was 19.43 ± 1.52 years and 59.1% were females. The number of body piercings among the participants ranged from 1-9 with 43.8% having 2 body piercings. The ear lobe was the most commonly (66.1%) pierced site. Males were more likely to pierce their tongues while females were more likely to pierce their navels. The predominant motivations for obtaining body piercings were fashion (40.0%), self-expression (36.2%), and creative expression (21.5%). Most (50.0%) of the participants had piercings done by staff in a professional piercing shop, a piercing needle was the most common instrument used (42.6%) and most (79.6%) of the participants reported sterilization of the piercing instrument before use. Only 8.8% of the participants reported complications which ranged from post-piercing bleeding (2.2%), and haematoma formation (4.4%) to tearing of skin (2.2%).
Conclusion: Due to the increasing popularity of body piercing, there is a need to increase awareness about the hazards associated with body piercings among piercers, their clients and the health services.

Keywords: Piercing; body modification; body art; trends; motivation; complications; undergraduate students; Nigeria.

1. INTRODUCTION

Body piercing is a form of body modification which involves the creation of a fistula-like opening by inserting a large-bore needle through the skin or cartilage for the placement of jewellry [1]. The practice of body piercing has evolved from a ritualistic practice to a contemporary form of self-expression [2]. The practice is prevalent worldwide and has gained popularity in recent decades [2–5]. The practice of body piercing cuts across all ages; however, adolescents (12-18 years) and young adults (18-25 years) are more inclined towards such forms of body modification due to their adventurous and risk-taking nature [3,5–8]. The prevalence of body piercing among adolescents and young adults varies by country, socioeconomic status and setting, ranging from 6.5% to 56% [5,9–12]. Studies have reported that 25-51% of adolescents and young adults have a body piercing at a site other than the ear lobe [13–15]. Studies among undergraduate students reported a piercing prevalence of 13.2% and 17.5% [12,16]. Numerous sorts of piercings have been done to various parts of the body, such as the nose, eyebrows, lips, navel, tongue, genitalia, etc. [17] with the commonest site being the soft earlobes.

The reasoning behind piercing in ancient times varied widely depending on the part of the world. Piercings were usually an initiation ritual for a certain age or into a social group, but with the increase in its popularity, some people have reported it as a fashion trend while others believe it has a deeper psychological meaning [18]. Some studies have reported the motivation for body piercing as the creation and maintenance of self-identity, expression of individuality or personal values and experiences such as a deliberate reclamation of the body after a traumatizing experience as a self-healing effect

[15,18]. Other possible reasons include the signifying of association with a certain social circle, as a form of protest against parents or society, body beautification or no specific personal reason. The rationale for genital or nipple piercings ranged from expressing sexual affection, as a decoration or for direct sexual stimulation [1,18].

However, literature has also reported the psychodemographic features of body modification such as higher chances of involvement in crimes and more emotional and psychological problems [19]. There have also been reports of a positive correlation between participation in body piercing and drug use, alcohol abuse, smoking, eating disorders and self-harm [19]. It has also been associated with aggressive behaviour, and low social status [19]. Therefore, there is a need to elucidate the reasons or motivations for engaging in body piercing.

This practice is associated with potential health risks derived from the procedure, the personnel who performed the piercing, the piercing instrument used, the environment where it is done, and the location of the body piercing [20]. The complications experienced could also be short-term or long-term. Examples of short term complications include: bleeding, haematoma formation, allergic reaction, delayed healing, nerve damage, localized infections (perichondritis, abscess formation), and systemic infections such as sepsis, bacterial endocarditis, tetanus. Long term complications include traumatic rupture, tearing of skin or membrane, hypertrophic scarring, keloid formation, scarring, delayed localized infection, and systemic infections with a late manifestation such as hepatitis B, and C, and HIV [21]. These risks are higher when piercings are conducted by unprofessional piercers within unclean and unsupervised [14]. The risk of acquisition of these infections during piercing is minimized by the regulation of the piercing industry as persons providing the piercing services are trained on best practices and monitored to ensure compliance [12,17]. However, the piercing industry in Nigeria is unregulated as there are no policies or laws to guide the practice; thereby allowing both professionally trained and quack (lay people) piercers to thrive [16]. The practice by quacks with no understanding of anatomy, sanitation or precautions to take during the procedure increases the risk of these infections and other piercing-associated complications among their clientele.

The risk is further worsened when the piercing occurs in unhygienic places or shops where the equipment used in the piercing is contaminated with pathogen-infected blood and not properly sterilized. This can be prevented by instituting public health education and regulating the body piercing industry. Information about motivations and practices can enhance planning effective health promotion strategies. However, there is limited data on body piercings in Nigeria to inform, educate or sensitize the populace about the health implications of body piercing [16,21–23].

This study aimed to provide insight into the trends, motivations, and complications of body piercing among undergraduate students with piercings at a private university in Southwestern Nigeria. The information obtained from this study provides insight into improving piercing practices and sets the stage for future studies in public health and sociology as well as policy development [24].

2. METHODOLOGY

2.1 Study Design and Study Setting

The study was a descriptive, cross-sectional study carried out among undergraduate students with body piercings at Babcock University, a private university owned by the Seventh-Day Adventist Church in Ogun State, Southwestern Nigeria. The university has a student population of about 10,000. The study was conducted over 6 months, from August 2022 to January 2023.

2.2 Sample Size and Sampling Method

The sample size was determined using the Fisher's formula:

$$\text{Sample size (N)} = Z^2pq/d^2$$

The calculated sample size was 135.

The research participants were selected using convenience sampling.

2.3 Study Population

The study was conducted among undergraduate students of Babcock University with body piercings.

2.4 Inclusion Criteria

Undergraduate students of Babcock University with body piercings were included in the study.

2.5 Exclusion Criteria

Individuals who refused to sign the consent form and post-graduate students were excluded from the study.

2.6 Ethical Considerations

Ethical approval was obtained from the Babcock University Health Research and Ethics Committee. The study was explained to participants, participation was voluntary, and written informed consent was obtained from participants before data collection. Confidentiality and anonymity of responses were ensured.

2.7 Data Collection

Semi-structured questionnaires were self-administered to consenting participants. The questionnaire obtained participants' demographic data, piercing-related characteristics such as the number and sites of piercings; reasons/motivation for piercing; piercing-related practices such as personnel who performed piercing, the type of instrument used for piercing, and sterilization of the piercing instrument before its use; and complications associated with piercing.

Body piercing has been defined as "a form of body modification which involves the creation of a fistula-like opening by inserting a large-bore needle through the skin or cartilage for the placement of jewellry." Because earlobe piercing shortly after birth among females for beautification and female-gender identification is a common practice in Nigeria, for this study, we refined the earlier definition of body piercing among females to any piercing of the earlobe excluding that performed in childhood or decided by their parents [7]. For males, body piercing was defined as piercing any part of the body including the earlobe.

2.8 Data Analysis

Data was analysed using IBM_SPSS Statistics for Windows version 20 (IBM, Armonk, New York, USA). Frequency distributions, means, standard deviations and ranges were used to describe the demographic characteristics of the participants. A Series of Chi-square analyses were performed to determine differences between the body piercing-related characteristics, the body piercing-related practices, the reasons/motivation for body piercings and the complications associated with body piercing. The confidence interval (CI) of 95% was reported and the statistical significance level was considered at a p-value (p) of 0.05.

3. RESULTS

One hundred and thirty-seven undergraduate students participated in the study. There were 81 (59.1%) females and 56 (40.9%) male participants. The average age of the participants was 19.43 years (range = 15 – 24; SD = ± 1.52 years). The majority (50.3%) of participants were between the ages of 19 and 20 years (Table 1), while participants between the ages of 23-24 constituted the lowest proportion of participants (2.2%). The School of Computing and Engineering Science had the highest proportion of participants (26.3%), while Law and Security Studies had the least (1.4%). A higher proportion of the participants (41.6%) were in the fourth year of study. Most (96.4%) of the participants were single.

Table 1. Socio-demographic characteristics of participants

Variables	Frequency	Percentage
Gender		
Female	81	59.1
Male	56	40.9
Age (years)		
15-16	4	2.9
17-18	33	24.1
19-20	69	50.3
21-22	28	20.4
23-24	3	2.2
Faculty/School		
Computing and engineering science	36	26.3
Education and humanities	8	5.8

Variables	Frequency	Percentage
Health and medical science	23	16.8
Law and security studies	2	1.5
Management science	20	14.6
Nursing science	4	2.9
Public and allied health	10	7.3
Science and technology	3	2.2
Social science	31	22.6
Level		
100	10	7.3
200	31	22.6
300	33	24.1
400	57	41.6
500	6	4.4
Religion		
Islam	11	8.0
Christianity	124	90.5
Others	2	1.5
Marital status		
Single	132	96.4
Married	2	1.5
Separated	2	1.5
Divorced	1	0.7

3.1 Piercing-related Characteristics

The number of body piercings among the participants ranged from 1-9, with a majority (43.8%) having 2 body piercings (Table 2). The mean number of piercings was 2.61 ± 1.62. The ear was the commonest site of body piercing with the ear lobe and other parts of the ear accounting for 66.1% and 30.1% of body piercings respectively. Smiley piercing and piercing of the frenulum were the least frequent sites (0.7%) each. Other sites pierced included nose (24.3%), tongue (10.3%), navel (8.8%) and genitals (2.2%).

Males were more likely to have piercings in revealing body parts (eyebrows, nose, ears and lip) than females (59.1% vs. 40.9%). Males were more likely to have their noses pierced than females (37.5% vs. 14.8%) and it was statistically significant (*P* = .002, OR = 3.450, 95% CI = 1.523-7.814). A higher proportion of males had their tongues pierced compared to females (12.5% vs. 8.6%, *P* = .46, OR = 1.510, 95% CI= 0.499-4.574). A higher proportion of females reported genital piercing than males (2.5% vs. 1.8%, *P* = .79, OR = 0.718, 95% CI = 0.064-8.117). Similarly, more females reported navel piercing than males (13.6% vs. 1.8%) and it was statistically significant (*P* = .02, OR = 0.116, 95% CI = 0.014-0.924).

Only male participants had their eyebrows pierced (3.6%, *P* = .09) and only females reported having their nipples pierced (3.7%, *P* = .14). A majority (51.8%) participants had their last piercing within 6 months before the study.

3.2 Motivation/reasons for Piercings

The motivation/reasons for piercings ranged from fashion (40.0%), self-expression (36.2%), creative expression (21.5%), prestige (6.9%), and peer pressure (1.5%) to showing commitment to a group (0.8%) (Table 3).

Upon comparison on the motivation/reason for piercing between males and females, male participants were more likely to report motivation/reasons such as self-expression (39.3% vs. 30.9%, X^2 =1.042, *P* = .31, OR = 1.449, 95% CI = 0.710-2.960), creative expression (32.1% vs. 12.3%) and it was statistically significant (X^2 = 7.980, *P* = .005, OR = 3.363, 95% CI = 1.412-8.008), Males were also more likely to get piercings for fashion (42.9% vs. 34.6%, X^2 = 0.966, *P* = .33, OR = 1.420, 95% CI = 0.705-2.858), for prestige (8.9% vs. 4.9%, X^2 = 0.859, *P* = .35, OR = 1.887, 95% CI = 0.484-7.365), for sex appeal (5.4% vs. 3.7%, X^2 = 0.216, *P* = .64, OR = 1.472, 95% CI = 0.286-7.571), to feel independent (3.6% vs. 1.2%, X^2 = 0.844, *P* = .36, OR = 2.963, 95% CI = 0.262-33.493), to be more acceptable (1.8% vs.

1.2%, X^2 = 0.70, *P* = .79, 95% CI = 0.089-23.752), to feel mature and due to peer pressure (3.6% vs. 0%, X^2 = 2.936, *P* = .09, OR = 1.037, 95% CI = 0.986-1.091) each, and to be like a friend (1.8% vs. 0%, X^2 = 1.457, *P* = .23, 95% CI = 0.983-1.055) among others.

Female participants were more likely to report motivation/reasons such as "just like how it looks" (30.9% vs. 25.0%, X^2 = 0.559, *P* = .45, OR = 0.747, 95% CI = 0.347-1.608), to be different (3.7% vs. 3.6%, X^2 = 0.002, *P* = .97, OR = 0.963, 95% CI = 0.156-5.958), to show commitment to a group and to remember a life event (1.2% vs. 0%, X^2 = 0.696, *P* = .40, 95% CI = 0.964-1.012) each and "I really do not know" (6.2% vs. 1.8%, X^2 = 1.522, *P* = .22, OR = 0.276, 95% CI = 0.031-2.432).

Table 2. Piercing related characteristics among the participants

Variables	Female (%)	Male (%)	Total (%)*	X^2	*P* value	95% CI
Age (mean ±SD)	18.95 ± 1.55	20.12 ± 1.19				
Number of piercings						
1	15 (18.5)	12 (21.4)	27 (19.7)	5.400	.61	0.601-0.757
2	33 (40.7)	27 (48.2)	60 (43.8)			
3	12 (14.8)	10 (17.9)	22 (16.1)			
4	12 (14.8)	4 (7.1)	16 (11.7)			
5	2 (2.5)	1 (1.8)	3 (2.2)			
≥6	7 (8.6)	2 (3.6)	9 (6.6)			
Sites of piercings (n=198)						
Earlobe	56 (69.1)	37 (66.1)	93 (66.1)	0.143	.71	0.420-1.798
Other parts of the ear	25 (30.9)	16 (28.6)	41 (30.1)	0.083	.77	0.424-1.892
Nose	12 (14.8)	21 (37.5)	35 (24.3)	9.318	**.002**	**1.523-7.814**
Tongue	7 (8.6)	7 (12.5)	14 (10.3)	0.537	.46	0.499-4.574
Eyebrow	0 (0.0)	2 (3.6)	2 (1.5)	2.936	.09	0.986-1.091
Lip	1 (1.2)	1 (1.8)	2 (1.5)	0.070	.79	0.986-1.091
Nipple	3 (3.7)	0 (0.0)	3 (2.2)	2.121	.14	0.923-1.005
Navel	11 (13.6)	1 (1.8)	12 (8.8)	5.763	**.02**	**0.014-0.924**
Genitals	2 (2.5)	1 (1.8)	3 (2.2)	0.072	.79	0.064-8.117
Others	2 (2.5)	0 (0.0)	2 (1.5)	0.696	.40	0.964-1.012
Last piercing (in months)						
< 7 months	40 (49.3)	31 (55.4)	71 (51.8)	33.336	.10	0.005-0.068
7 – 12 months	22 (27.2)	11 (19.70)	33 (24.0)			
13 – 18 months	12 (14.8)	1 (1.8)	13 (9.5)			
>18 months	7 (8.6)	13 (23.3)	20 (14.6)			

**Multiple responses, so that total is > 100%*

Table 3. Motivations/Reasons for piercings among the participants

Reason for piercing	Female	Male	Total (%)*	X^2	*P* value	95% CI
For fashion	28 (34.6)	24 (42.9)	52 (40.0)	0.966	.33	0.705-2.858
For self-expression	25 (30.9)	22 (39.3)	47 (36.2)	1.042	.31	0.710-2.960
Just like how it looks	25 (30.9)	14 (25.0)	39 (28.5)	0.559	.45	0.347-1.608
For creative-expression	10 (12.3)	18 (32.1)	28 (21.5)	7.980	**.005**	**1.412-8.008**
For prestige	4 (4.9)	5 (8.9)	9 (6.9)	0.859	.35	0.484-7.365

Reason for piercing	Female	Male	Total (%)*	X^2	*P* value	95% CI
For sexual appeal	3 (3.7)	3 (5.4)	6 (4.6)	0.216	.64	0.286-7.571
To be different	3 (3.7)	2 (3.6)	5 (3.8)	0.002	.97	0.156-5.958
To feel independent	1 (1.2)	2 (3.6)	3 (2.3)	0.844	.36	0.262-33.493
To be more acceptable	1 (1.2)	1 (1.8)	2 (1.5)	0.700	.79	0.089-23.752
To feel mature	0 (0.0)	2 (3.6)	2 (1.5)	2.936	.09	0.986-1.091
Peer pressure	0 (0.0)	2 (3.6)	2 (1.5)	2.936	.09	0.986-1.091
To imitate a role model	1 (1.2)	1 (1.8)	2 (1.5)	0.070	.79	0.089-23.752
To show commitment to a group	1 (1.2)	0 (0.0)	1 (0.8)	0.696	.40	0.964-1.012
To be like a friend	0 (0.0)	1 (1.8)	1 (0.8)	1.457	.23	0.983-1.055
To remember a life-event	1 (1.2)	0 (0.0)	1 (0.8)	0.696	.40	0.964-1.012
I really do not know	5 (6.2)	1 (1.8)	6 (4.6)	1.522	.22	0.031-2.432
Others	6 (7.4)	1 (1.8)	7 (5.4)	2.158	.14	0.027-1.942

**Multiple responses, so that total is > 100%*

3.3 Piercing-related Practices

A majority (50.0%) of the participants had piercings done by staff in a professional piercing shop (Table 4). Males were more likely to have the piercing done at a professional piercing shop than females (53.6% vs. 44.4%, $X^2 = 1.105$, $P = .29$, OR = 1.442, 95% CI = 0.728-2.858). In like manner, males were also more likely to patronize piercing shops in malls compared to females (19.6% vs. 14.8%, $X^2 = 0.552$, $P = .46$, OR = 1.406, 95% CI = 0.571-3.458) Males were more likely to get piercing by a friend than females (23.2% vs. 19.8%, $X^2 = 0.238$, $P = .63$, OR = 1.228, 95%CI = 0.537-2.808). Females were more likely to have a piercing done in a hospital compared to males (11.1% vs. 0%, $X^2 = 6.660$, $P = .01$) and females were also more likely to have the piercing done by a parent compared to males (3.7% vs. 1.8%, $X^2 = 0.430$, $P = .51$, OR = 0.473, 95% CI = 0.048-4.665). Males were more likely to carry out piercing on themselves than females (3.6% vs. 1.2%, $X^2 = 0.844$, $P = .36$, OR = 2.963, 95% CI = 0.262-33.493).

The commonest instrument used for piercing was the piercing needle (42.6%). Most (79.6%) of the participants reported sterilization of the piercing instrument before use while 15.3% reported that the piercing instrument was not sterilized before its use. A higher proportion of males reported sterilization of piercing instruments before use compared to females (92.9% vs. 0.4%) and it was statistically significant ($X^2 = 10.296$, $P = .006$, 95% CI = 0.000-0.022). Males were more likely to receive instructions after piercing compared to females (85.7% vs. 74.1%, $X^2 = 3.074$, $P = .21$, 95% CI = 0.189-0.336)

Table 4. Piercing-related practices among the participants

	Female	Male	Total (%)*	X^2	*P* value	95% CI
Personnel who performs the piercing						
Staff of a professional shop	36 (44.4)	30 (53.6)	66 (50.0)	1.105	.29	0.728-2.858
Staff of a piercing shop in a mall	12 (14.8)	11 (19.6)	23 (17.4)	0.552	.46	0.571-3.458
Healthcare worker in a hospital	9 (11.1)	0 (0)	9 (6.8)	6.660	**.01**	**0.823-0.960**
Parent	3 (3.7)	1 (1.8)	4 (3.0)	0.430	.51	0.048-4.665

	Female	Male	Total (%)*	X^2	*P* value	95% CI
Friend	16 (19.8)	13 (23.2)	29 (22.0)	0.238	.63	0.537-2.808
Self	1 (1.2)	2 (3.6)	3 (2.3)	0.844	.36	0.262-33.493
Others	2 (2.5)	0 (0.0)	2 (1.5)	1.403	.24	0.942-1.010
Instrument used for piercing						
Piercing needle	35 (43.2)	20 (35.7)	55 (42.6)	0.774	.38	0.362-1.473
Piercing forceps	22 (27.2)	17 (30.4)	39 (30.2)	0.166	.68	0.552-2.478
Piercing gun	22 (27.2)	25 (44.6)	47 (36.4)	4.490	**.03**	**1.054-4.440**
Others	5 (6.2)	1 (1.8)	6 (4.7)	1.522	.22	0.031-2.432
Sterilization of instrument before use						
Yes	57 (70.4)	52 (92.9)	109 (79.6)	10.296	**.006**	**0.000-0.022**
No	18 (22.2)	3 (5.4)	21 (15.3)			
No idea	6 (7.4)	1 (1.8)	7 (5.1)			
After care instructions						
Yes	60 (74.1)	48 (85.7)	108 (78.8)	3.074	.21	0.189-0.336
No	18 (22.2)	6 (10.7)	24 (17.5)			
No idea	3 (3.7)	2 (3.6)	5 (3.6)			

**Multiple responses, so that total is > 100%*

3.4 Piercing-related Complications

The majority (91.2%) of the participants did not report piercing-related complications, however, 8.8% reported complications which ranged from post-piercing bleeding (2.2%), and haematoma formation (4.4%) to tearing of skin (2.2%). Female participants reported more complications than male participants (12.3% vs. 3.6%, X^2 = 3.189, *P* = .07, 95%, CI = 0.055-1.250). A higher proportion of female participants reported haematoma formation compared to males (4.9% vs. 3.6%, X^2 = 4.569. *P* = .21, 95% CI = 0.176-0.321) while bleeding and tearing of skin were reported by female participants only.

Considering the sites of piercings, complications were reported in those with pierced navel (16.7%, X^2 = 1.029, *P* = .31, OR = 2.300, 95% CI = 0.442-11.976), tongue (14.3%, X^2 = 0.596, *P* = .44, OR = 1.883, 95% CI = 0.369-9.618), other parts of the ear (12.2%, X^2 = 0.864, *P* = .35, OR = 1.766, 95% CI = 0.526-5.929) and ear lobe piercing (9.7%, X^2= 0.306, *P* = .58, OR = 1.464, 95% CI = 0.376-5.699).

The highest proportion of complications was reported among participants who had piercings done by a friend (13.8%, X^2 = 1.166, *P* = .28, OR = 2.000, 95% CI = 0.557-7.177). Complications were also common among the participants who reported piercings being done at a professional piercing shop (9.1%, X^2 = 0.018, *P* = .89, OR = 1.083, 95% CI = 0.331-3.542).

Participants who had piercings done using piercing forceps reported the highest complication rate (12.8%, X^2 = 1.125, *P* = .29, OR = 1.912, 95% CI = 0.568-6.433). Complications were also reported among participants who had piercings done using a piercing gun (8.5%, X^2 = 0.006, *P* = .94, OR = 0.953, 95% CI = 0.272-3.347) and among those who had piercings done using a piercing needle (3.6%, X^2 = 3.017, *P* = .08, OR = 0.272, 95% CI = 0.057-1.292).

A higher complication rate was reported among the participants who had no idea whether the piercing instrument was sterilized before its use compared with those who reported prior sterilization of the piercing instrument (57.1% vs. 6.4%) and it was statistically significant (X^2 = 21.669, *P* = .000, 95% CI = 0.000-0.022). In addition, participants who reported receiving no aftercare instructions after piercing reported a higher rate of complications compared with those who reported receiving aftercare instructions after piercing (12.5% vs. 8.3%, X^2 = 0.925, *P* = .63, 95% CI = 0.679-0.824).

4. DISCUSSION

This study provides an insight into the trends, motivation and medical complications associated with body piercings among undergraduate students in Nigeria. The results show that body piercing was commoner in females (59.1%) and

commonest within ages 19-20 years (50.3%). This is similar to observations from other studies whereby a higher proportion of females had body piercings than males [5,9,10,19,25] and the age group 19-20 years also had the largest proportion of participants with piercings. Similarly, a study by Gold et al also reported that piercings were commoner in adolescents older than 18 years than those under 18 [26].

In this study, the majority (43.8%) of participants had 2 piercings, this is lower than a report by Antoszewski et al, who reported a majority (54.7%) of the participants had 3 piercings [19]. The commonly pierced sites were the ears (96.2%), nose (24.3%), tongue (10.3%) and navel (8.8%) in descending order with <7% reporting piercings in other sites: nipple (2.2%), genitals (2.2%), eyebrows (1.5%), and lips (1.5%). This is similar to the report by Gold et al, who reported similar sites as the commonly and less commonly pierced sites in the same order [26]. However, Bone et al*.,* in a study in England reported the navel as the commonest site of piercings; however, the study excluded the piercing of the ear lobe [10]. Hence, this might account for the disparity in the commonest site pierced.

The motivations or reasons provided by the participants for engaging in the practice of body piercing varied and they ranged from fashion, self-expression, creative expression, prestige, sex appeal, “to remember a life event” to “no idea”. This is similar to the findings of several studies which reported reasons ranging from self-expression and identity, to be fashionable, to catch attention, to be different, to be daring, “like the way it looks”, parental influence, to religious reasons among others [11,26]. Sajjad and Jafree [27] in a study among Pakistani youths reported that youths participated in body modification as a way of gaining control of their body, a way of connecting with themselves, gaining confidence and a coping mechanism against anxiety and depression. Other reasons were to be different or have their identification as a means of rebelling against traditional societal norms; to imitate a rock star, and fascination with body modification. In addition, some of the participants reported participation in body modification under peer pressure as a means of showing commitment to a group. This report is different from the observation in our study and it may be due to cultural differences. In this study, females were more likely to get piercings for aesthetic reasons than males, which was similar to the finding by Gold et al [26].

In this study, the majority (65%) of the participants obtained their piercings at a piercing shop, with 48.4% patronizing professional piercing shops and 16.8% from piercing shops in malls. It is similar to the report by another study whereby body piercing shops accounted for the most common place visited to obtain piercings (49%) next was the piercing shops in malls (30%) [26]. Bone et al also reported that about 80% of participants in England obtained piercings from piercing and tattoo shops [10]. This is contrary to the report by Binkhamis et al. whereby 70 % of females with ear piercings in Ridyah obtained it from a nurse or doctor [6].

A low prevalence of complications was reported among the participants. This is similar to the observations of some studies [26]. However, other studies have reported a higher rate of complications among individuals with piercings. Complications reported include bacterial infection, bleeding, allergic reactions, bruising, cysts, keloids, severe oedema, abscess, itching, pain, fever, skin warmth, scar formation split tongue, and “nipple ring ripped out” [6,9,26]. None of the participants reported bacterial infection, this is contrary to reports by Mayers et al who reported bacterial infection among 8% of the participants [9], possibly due to improvements in personnel training, piercing technique and the sterilization of the instruments used.

In this study, participants who had piercings done by a friend reported the highest number of complications. This is contrary to the observation by Gold et al who reported higher rates of complications among persons who obtained piercings from professional piercing shops [26]. The prevalence of complications was highest in persons who used piercing guns compared to other instruments. This is similar to reports by Binkhamis et al reported more complications compared to those who used other instruments [6]. Despite the low prevalence of complications, the increasing trend of body piercings and the possibility of complications occurring long after the piercing might place a considerable burden on health services. It is important that health professionals are aware of the possible complications of body piercings and the appropriate management.

More research is needed to determine the prevalence of piercings, their association with risky behaviours, awareness and perceived risk of possible complications and factors that

increase complications should be explored. This information can be used to raise awareness among piercers, their clients and health services and to improve the safety of body piercing.

5. LIMITATIONS

There are some limitations associated with this study. First, the mode of sample selection was convenience sampling and might be prone to selection bias. Although the questionnaires were self-administered to avoid embarrassment concerning intimate piercings some recall bias remains possible. Furthermore, information about piercings was not objective measurements but rather these were based on self-reports. In addition, complications among participants with multiple piercings were not thoroughly explored and the detail of each complication was not captured. Data on the date of piercing and date of complication were not obtained so it was difficult to estimate the risk properly. Complications of piercings based on body site were also not explored in this study.

6. CONCLUSION

In conclusion, females were the most commonly involved in body piercing with the ear lobes being the most pierced site. Males were more likely to pierce their noses while females were more likely to pierce their navels. Reasons for piercing were mainly for self-expression, creative expression and aesthetics with males more likely to get piercings for creative expression while females were more likely to get piercings for aesthetics.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Authors hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

CONSENT

The study was explained to participants, participation was voluntary, and written informed consent was obtained from participants before data collection. Confidentiality and anonymity of responses were ensured.

ETHICAL APPROVAL

Ethical approval was obtained from the Babcock University Health Research and Ethics Committee (BUHREC706/22) before the commencement of the study.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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