



Attitude and Perception to Tattoos and Scarified Skin Marks in Makurdi, North Central Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author PDA designed the research, administered the questionnaire and was involved in the treatment of some of the patients. Author PDA was involved in internet search, analysis of results and group discussion and also wrote the final manuscript. Author CNA did internet search, participated in the analysis of the results and group discussion. Author OB did internet search, participated in the analysis of the results and group discussion. He also proof read and corrected the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aim: Tattoo art which has been practiced all over the world for centuries is undergoing a revolution. Some people like it, others don't. The aim of the study was to estimate the prevalence of tattooing among students and residents of Makurdi, like or dislike, who gave consent before tattooing, symbolism/motive of tattooing and whom to go to for removal of tattoos.

Study Design: A survey research using structured questionnaire as instrument for data collection among students of Benue State University and residents of Makurdi over a period of one month in January, 2017.

Methodology: Views of one hundred and seventy two residents and students in Makurdi, North Central Nigeria, were collated via a pre-tested structured questionnaire and analyzed on the basis of sex, age, like/dislike of tattoos, symbolism, consent given, whether one would tattoo himself if given a chance and what to do when one got tired of tattoos.

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Results: Two hundred and ten questionnaires were administered and one hundred and seventy two were returned giving attrition rate of 18.1%. All returned questionnaires were completely filled. One hundred and seventy two respondents participated in the study comprising 123 males and 49 females giving a male to female ratio of 2.5:1. Twenty one respondents had tattoos giving a tattoo prevalence of 12.2%. One hundred and thirty eight (80.2%) did not like tattoos and forty two (24.4%) indicated that there was no significance to symbolism of tattoos and indeed thirty (17.4%) felt tattoos are a body mutilation. One hundred and fifty one (87.8%) indicated they will not have tattoos when given a chance to do so. Ninety seven (56.4%) believed the best person to go to for tattoo removal is a Plastic Surgeon.

Conclusion: The study showed that majority of students and residents of Makurdi metropolis in Nigeria do not like tattoos and would not like to have one when given a chance to do so. A large scale study involving other parts of Nigeria needs to be done to assess a true like/dislike of tattoos in this environment.

Keywords: Attitude; perception; tattoos.

1. INTRODUCTION

Tattoo art dates back to centuries [1,2,3,4] and has been practiced all over the world [1,4,5,6,7]. Whereas tattoos are designs permanently carved in the skin using needles and inks, scarified skin are cuts made in the surface of the skin, with or without pigment or ink imbedded in them and healing leaves a permanent mark on the skin [6,8,9].

In Nigeria, Makurdi inclusive, tattoos and scarified skin are used interchangeably, but most people here call scarified skin "Tribal marks" or "African tattoos." [3] Some are vehement that the two are different [3]. For this study, tattoos and scarified skin are taken to mean the same thing.

In Africa, tattooing is a heritage [3]. Egypt has a well, documented and preserved history of tattooing dating back to 4,000 BC [1,3,6]. There was a gender predilection and so more Egyptian women compared to men were having tattoos. It was believed to depict fertility.

In Makurdi, tattoo art has been practiced and handed down from generation to generation. In the village set-up, one tattooist was always identified as the best, whose procedure did not carry mishap like disorganized or delayed healing. The tattooist procedure was carried out using razor blades or sharp pen knives. Soot especially from lantern or 'Zaar' (African chimney) was usually embedded into the wound and the patient not allowed washing the face or the body area tattooed until the dry scab heals leaving the permanent pattern.

If pigment was not used, the same procedure of keeping the wound dry by not bathing the area

was adopted until healing occurred leaving the permanent pattern. Some tattooists use certain plant extracts like burnt hot shell of cashew nut which is applied hot in the pattern being designed. Most likely combined chemical and thermal burns of the skin in the marked pattern caused permanent tattoo upon healing of the burn. Nowadays most people do not want these crude methods and so are adopting the tattooing with ink using needles.

With modernization, gender equality and self-assertion of rights by individuals, "Rights NGOs" (Non-Governmental Organizations) and governments, many Nigerians frown at tattoos and especially when they were given at a young age without the persons consent [3]. The parents or relatives claimed the symbolism of tattoos given were to wade away evil spirits, stop febrile convulsions, add beauty to the child or as a mark of tribal identification. During the Nigerian civil war, many children from the middle belt, western and northern parts of Nigeria were tattooed to differentiate them from the Igbo children who never had tattoos and their part of the country was demanding secession. The symbolism was to avoid being caught a prisoner of war. Suffice it to say that even before this, the different tribes had their peculiar tattoo marks that identified them. For example the "abaji" and "kwavdyar" fish tattoos of Tiv people, Egba and Owu marks in Yoruba land, Kanuri marks and so on. On the other hand, some Nigerians believe that tattoo is a form of art signifying ones feelings at a particular time or remembrance of an important event or loved one like husband, parent, or friend and some signified bravery [1].

Many Nigerian celebrities like their counterpart the world over nowadays adorn their bodies with

tattoos, and show them off proudly in photos and their shows, [5] some just have tattoos for fun [2].

This mixed feeling whether to love or hate tattoos cuts across the world. Rio, described by some as “Brazil’s tattoo mecca” has many people tattooing in exotic tattoo parlors now but decades back, it was not much accepted and mainly sailors, musicians and commercial sex workers were having them [10]. The kayabi tribe in the Brazilian Amazon of South America, one of the most tattooed tribes in the whole world have retained this culture and their government and some individuals are trying to preserve these cultures by all means [4].

This study was therefore conducted to assess the attitudes and perceptions to tattoos in Makurdi via a pre-tested structured questionnaire and whether the public would like this art maintained or discarded.

2. METHODOLOGY

A pre-tested structured questionnaire was administered by random sampling to students of Benue State University in various faculties and residents of Makurdi metropolis who included transporters, long distance drivers, food sellers, civil servants, and so on.

The questionnaire contained items which covered socio-demographic data, what the individual considered as a symbolism of tattoos, whether he/she had a tattoo, whether he liked it and who gave consent for him/her to have the tattoo. Other parameters were, in the 21st millennium, whether the respondent felt people should tattoo themselves, whether the respondent liked tattoos generally or whether if he had a chance he will allow his body to be tattooed. Lastly the respondent was assessed what he would do if he got tired of his tattoo or advise someone he knows what to do if the person got tired and wanted the tattoo removed.

2.1 Data Instruments and Collection Strategies

The instruments for the study was a six items with subdivisions multiple choice questionnaire designed, pre-tested on twenty students and staff of University of Agriculture Makurdi and all were well answered with no need to delete items on it. The validity and reliability was assessed through the pre-test. The questionnaires were administered personally and collected

immediately from all respondents over a period of one month in January 2017. The digital tools employed were photo cameras used to take pictures of the tattooed part of the body.

2.2 Data Analysis

The data was coded and entered into a computer. SPSS version 23.0 software was used for analysis. Means and percentages were determined with standard deviation. Data analysis focused on univariate frequency.

The relationships between the means, age, opinions were determined by T-test. $P=0.05$ was considered statistically significant.

3. RESULTS

One hundred and seventy two students and members of the public participated in the research at Makurdi. The age range of the respondents was 18 – 53 years with mean age of 26.9 ± 5.4 years. There were 123 (71.5%) males and 49 (28.5%) females giving a male to female ratio of 2.5:1. By age range, ninety seven, corresponding to 56.4% of the respondents were aged 23 – 27 years (Table 1). Twenty one respondents had tattoos, giving a tattoo prevalence of 12.2%. Out of these, 12 (57.1%) indicated they liked their tattoo. Eight (38.0%) gave consent for the tattoo while for 13 (62.0%), consent was given by various family relatives (Table 2).

Table 1. Age and sex distribution of respondents

Variable	Frequency	Percent
Age (Years)		
18-22	20	11.6
23-27	97	56.4
28-32	35	20.3
33-37	9	5.2
38-42	8	4.7
43-47	1	0.6
≥48	2	1.2
Sex		
Male	123	71.5
Female	49	28.5

Age ranges from 18-53 years with mean age of 26.9 (±5.4) years. Male to female ratio was 2.5:1

Forty two (24.4%) respondents indicated that there was no significance to the symbolism of tattoos. This was followed by 30 (17.4%) who felt that tattoos were a body mutilation (Table 3).

Table 2. Summary of tattoo and consent for tattoo (Question 1a-1c)

Has tattoo	Frequency	Percent
Yes	21	12.2
No	151	87.8
Like the tattoo (n=19)		
Yes	12	57.1
No	9	42.9
Who gave consent for tattoo (n=21)		
Self	8	38.0
Father	5	23.8
Mother	4	19.0
Grandmother	1	4.8
Aunt	1	4.8
Both Parents	1	4.8
Uncle	1	4.8

Of the 21 respondents that had tattoos, seven (24.1%) of them felt cultural/tribal identification was the symbolism of their tattoo. This was followed by five (20.8%) who felt the tattoo enhanced their beauty while two (6.7%) felt their tattoo was a body mutilation (Table 4).

On general likeness of tattoos, 138 (80.2%) indicated they did not like tattoos (Table 5). One hundred and forty nine (86.6%) felt tattooing should not be done in the 21st millennium. One hundred and fifty one (87.8%) indicated they will not have tattoos when offered a chance to do so. Ninety seven (56.4%) respondents felt a Plastic Surgeon should be consulted for removal whenever one got tired of a tattoo (Table 6). Five people (2.9%) indicated that tattoos could be removed using chemicals like acid, herbs or hot iron.

Table 3. Symbolism of tattoo among respondents

Symbolism of tattoo	Frequency	Percent
Enhancement of beauty	24	14.0
Celebrity	27	15.7
Cultural/Tribal Identification	29	16.9
Barbarism	16	9.3
Body mutilation	30	17.4
No significance	42	24.4
Others	4	2.3
Total	172	100.0

4. DISCUSSION

This study shows a low prevalence of tattoos 12.2% and their general dislike 80.2% at Makurdi, Nigeria. Nigerians on the average do not like tattoos as they think it is indecent, could

prevent a woman from marrying and depicts low intelligence quotient (IQ) [1]. This study has collaborated this because majority felt tattoos have no significance and are actually a body mutilation. Cesare Lombroso was the first to statistically document a tattoo prevalence of 10% among 5, 343 criminals in Italy [7]. Our study population is a normal population, but shows a slight increase of 2.2% in the prevalence of tattoos as compared to Cesare's study. A recent study done in Italy among 1200 university students in 2010 showed a tattoo prevalence of 31.7% [11]. Another study in Australia among 8656 adults in 2012 showed a tattoo prevalence of 14.5% [12]. These are higher prevalence compared to our study. Their study populations were also higher and could have captured more people with tattoos. The Italian study showed fashion, artistic and cultural reasons to be the principal reason for tattoo or body piercing [11]. In our study, the symbolism of the tattooed respondents was tribal/cultural identification. Majority of the tattooed respondents' consent for tattooing was given by family relatives in 13 (62%) cases, highlighting a problem of human right abuse.

The negative image and dislike of tattoos cuts across the world as seen in Brazil, [10,13,14] France [7,13,15,16] United States [7] and more recently in China [17] during the "Cultural Revolution" of 1966 – 1976. Maozedong of China banned tattoos during the "Cultural Revolution" years calling them "manifestation of impurity and roguery." [13,17]. Some countries prohibit employment for people with tattoos in their Armed Forces and the Police [3,17]. Corporate organizations are not left out in this prohibition of employment of staff in their firms on the grounds that their customers may be uncomfortable and not patronize their products [13,17]. The Le Chapelier law of 1791 in France banned the craftsman identification through the tattoo on their arms [7]. Hitherto; a butcher for instance tattooed a bull's head on crossed knives on their arm and a gunsmith a pistol. In Nigeria, Osun State House of Assembly passed a law abolishing tattooing of children [3]. Tattoos are also negatively perceived in certain professions like medicine, law and accounting [7,13,18]. The medical doctors actually feel infections like Human Immunodeficiency Virus (HIV), hepatitis, syphilis etc. could be transmitted during the tattoo art especially if aseptic procedure is not followed. A study of 766 university students in US and Australia who had tattoos and body piercing in 1999 showed that 3 cases had

Table 4. Opinion of symbolism of tattoo by tattoo status among respondents

Symbolism of Tattoo	Tattoo status		
	Have tattoo frequency (%)	Don't have tattoo frequency (%)	Total frequency (%)
Enhancement of beauty	5(20.8)	19(79.2)	24(100.0)
Celebrity	2(7.4)	25(92.6)	27(100.0)
Cultural/Tribal identification	7(24.1)	22(75.9)	29(100.0)
Barbarism	2(12.5)	14(87.5)	16(100.0)
Body mutilation	2(6.7)	28(93.3)	30(100.0)
No significance	3(7.1)	39(92.9)	42(100.0)
Others	0(0.0)	4(100.0)	4(100.0)
Total	21(12.2)	151(87.8)	172(100.0)

hepatitis following the procedure [19]. In a nine year study done in Iran comprising 63 patients admitted with tattoos; it was found that four (6.3%) tested positive for hepatitis B, seven (11%) tested positive for HCV, and five (7.9%) tested positive for HIV [20]. Another study in South Eastern Iran in 2005 involving 39 women with tattoos showed three cases (7.6%) positive for hepatitis B, 30.7% were HCV positive and one patient was positive for HIV [21]. All these highlight the risk of infections following tattooing especially when aseptic procedure is not followed.

Table 5. Summary of respondents opinion on current and future practice of tattoo (Question 4-5)

Tattooing in 21 st millennium	Frequency	Percent
Yes	23	13.4
No	149	86.6
Total	172	100.0
General likeness for tattoo		
Yes	34	19.8
No	138	80.2
To tattoo if given the chance		
Yes	21	12.2
No	151	87.8

A positive image is currently developing across the world in favor of tattooing. Some people like tattoos; they feel they enhance their beauty, fashionable and a celebrity show [3,5,14,17,18, 22]. King Edward VII was tattooed in 1862 in Jerusalem. His sons, Prince Albert and Prince George were tattooed by Hori Chyo in Japan, an artist known as “the Shakespeare of tattooing.” [18]. Jean Baptiste Cabri was the first European to participate in exhibitions at fairs as a tattooed man.⁷New York City currently hosts two separate exhibitions of tattoo art history.¹⁸Some celebrities like Betty Broadbent and Nora Hildebrandt made

shows of their tattoos at circuses and other side shows [18]. Musicians like the Grateful Dead and Janis Joplin had tattoos [18]. This has led to the springing up of exotic tattoo parlors across the world [9,13,14,18] examples are the “Caio Tattoo,” “Lucky tattoo” and “Rio tattoo” in Brazil [23]. New York City in USA has several tattoo parlors [18].

Table 6. What to do or advice to give to one tired of tattoo (Question 6)

Variables	Frequency	Percent
See A plastic surgeon for removal	97	56.4
See any doctor (Physician) for removal	32	18.6
Indecisive	27	15.7
Go to the tattoo Man/Woman that put in the first place to remove it	11	6.4
Use chemical like acid to remove it	3	1.7
Use hot iron to remove it	1	0.6
Use herbs to remove it	1	0.6
Total	172	100.0

Top renowned, world tattoo artists also abound and include Daniel Tucci, Marcelo Mordeiti, M.C. Escher, Mildred Hull of New York City and Martin Hildebrandt [18,23]. These artists have masterly of the art, practice aseptic techniques to prevent infection and have partnerships to share ideas. Legislations and permits in favor of tattooing by government officers now exist in several countries. A good example is the SGP Police – Force Quvrière whose trade union representatives won a campaign forcing the government to allow the French Police men have tattoos [24]. The union put a restriction that the tattoos “must not be racist, political, religious or

xenophobic.” Mayor Rudolph Giuliani in 1997 lifted an earlier ban of tattoos by the New York City health department as a result of an epidemic of hepatitis in 1961 [18].



Picture 1. Tattoo of the left arm using needles and ink



Picture 2. “Kwavydyar” African tattoo using pigment

It is heartwarming that the majority of the study population believed that the best person to go to for removal of tattoos was the plastic surgeon (56.4%). The plastic surgeon knows the best removal method for each peculiar tattoo after

assessment [2,25]. Different removal methods are laser surgery(Carbon-dioxide laser or Q-switch ruby laser), excision of tattoo scar which may be in one or serial surgeries depending on the size and complexity of the tattoo, dermabrasion etc.



Picture 3. Facial tribal marks with pigment

It is however surprising that 2.9% of the respondents believed tattoos could be removed by chemicals like acid, herbs or hot iron with attendant complications of chemical and thermal burns. 15.7% of the respondents opted to just do nothing, but tolerate the tattoo on their body in spite of not liking it anymore.

It is important to highlight to prospective tattoo clients that a chemical risk exists on the use of tattoo ink which contain polycyclic aromatic hydrocarbons, aromatic amines, heavy metals like chromium, copper, pigments and preservatives which may be carcinogenic and body irritants [26]. These are our concern for the future even though currently it is not clear whether the chemicals cause or increase the risk of skin cancers.

4.1 Strengths and Limitations of Study

The study population was mostly young and educated people and they were agreeable to answering the questionnaire. The limitation of the study was a low number of respondents which could affect the prevalence of tattoos. Psychosocial assessment of the respondents was not part of this study because the people in this environment do not easily volunteer information on issues pertaining to sex and drug use. It could not therefore be assessed whether the respondents who tattooed themselves or not were risk takers in other aspects of life.

5. CONCLUSION

It is clear from views across the world that tattoo art has a positive and negative image, like or dislike, love or hate depending on the individual, corporate organization and government. Culture is dynamic. For some, tattoo art has moved from a previously perceived primitive culture to something to be adored, imbibed and practiced. For others, tattooing has moved from a previously adored cultural art into something that is primitive, full of health risks, retrogressive and which should be discarded.

This study has thrown a challenge of educating the populace in Makurdi to know that the best place to go to for tattoos removal is the plastic surgeon and not just any physician, going back to the tattoo artist or dangerously using acid, herbs or hot iron to do the job. Prevention of transmission of infections like hepatitis, HIV etc. could be achieved through health education, use of aseptic techniques by the tattoo artists and ensuring the registration and regulations of tattoo parlors by the Federal and State Ministries of Health in Nigeria.

CONSENT

Consent to participate in the research was given by all the respondents while filling the questionnaire. Additional written informed consent to allow the publication of the data and clinical photos was given by the three respondents whose pictures are in the manuscript.

ETHICAL APPROVAL

Hospital Research Ethical Committee of Federal Medical Centre Makurdi gave ethical clearance for the study to be conducted.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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