THE PREVALENCE OF SKIN-TATTOOING AMONG STUDENTS OF THREE INSTITUTIONS OF HIGHER LEARNING IN ONDO STATE, SOUTHWEST NIGERIA

Abstract

With the huge potential health hazards and dangers associated with skin and sclera tattooing, there is hardly any responsible government anywhere that will not take interest in the rate and manner its populace in general and the youths in particular engage in the practice of skin tattooing and put some form of regulations in place. This study aimed at knowing the prevalence of skin tattooing among the undergraduates of three universities in Ondo State (Southwest, Nigeria) and also determine if any those with tattoos had contacted any blood-borne diseases as a result of this. One hundred each, making a total of three hundred participants were enrolled in the study from the three universities. Five millilitre of blood was collected from each subject and each was screened for the presence or otherwise of antibodies to HIV. The subjects were also asked to complete a structured self-administered questionnaire. The blood samples were screened for HIV using a rapid test-strip DETERMINE®, according to the manufacturer’s instructions. The result revealed a zero sero-prevalence of antibodies to HIV, but a skin tattooing prevalence of 20%, 9% and 0% respectively among the undergraduates of Adekunle Ajasin University, Akungba-Akoko; Achiever’s University, Owo and Federal University of Technology, Akure. Thus representing an overall skin tattooing prevalence of 9.6%. The study also showed that 8.3% of the subjects had a history of blood transfusion, while 7.3% had a history of surgery. It was therefore concluded that skin tattooing was not a statistically significant major risk factor for HIV/AIDS among the undergraduates, though this does not in any way obliter ate the potent
potential risk for the transmission of HIV that is inherent in any practice like skin tattooing that pierces the human skin with sharp or pointed objects

Keyword: Skin Tattooing, HIV, blood transfusion, risk factors, surgery

INTRODUCTION

Though tattooing of the skin has been part of the traditional African culture since time immemorial, its re-emergence in modern day time has many disturbing dimensions and implications (Braverman, 2006; Laumann and Derick, 2006; Braverman, 2012). In traditional African settings, skin-tattooing was practised essentially for the purposes of beauty (particularly among the womenfolk), ethnic identification and sometimes for the preservation of vital personal records (Braverman, 2006). A very good example of the use of skin-tattooing for the last stated purpose is preservation of the record of a child’s date of birth. In those days, very limited areas of the skin were tattooed and also, the most commonly tattooed part of the body, was the arm, even among the sections of the womenfolk that practised skin-tattooing for beauty purposes. Sadly, nowadays, skin-tattooing has become more of a social malady among the youths, who practice it for all sorts of ignoble purposes and equally in extremely despicable manners (Braverman, 2012; Pew, 2009). Some youths go to the extreme of tattooing about 90% of their skin surface area, while yet others practice skin-tattooing for cultist purposes (Armstrong and Murphy, 1997;
Carroll et al. 2002; Brooks et al, 2003; Shannon, 2016). With such dangerous
dimensions to the practice of skin-tattooing and given the fact that the sterility
of the needles and other sharps that they use in such practices cannot be
guaranteed, skin-tattooing has therefore become a health issue and a likely
mode of transmission of communicable diseases, including HIV (Jafari, et al,
any other social or cultural practice where the skin is pierced with sharp or
pointed objects outside the conventional hospital settings, where requisite
facilities for proper sterilisation are available- carries a degree of risk of
transmission of blood-borne diseases including HIV (Kluger, 2012; Kennedy,
2012; AAPCPA, 2006; Tohme and Holmberg, 2012).

Some ladies also have a penchant for tattooing sensitive parts of their bodies
and flaunting same (Mayers, 2002). This is a social malady which started
creeping into the western societies in Europe and the US in the early nineties
but is now more of a global public health issue. By the turn of the millennium it
was estimated that about 36% of Americans between the age-bracket 25-29 had
a least one body tattoo (Heywood et al, 2012; Pew, 2010; The Nation)

MATERIALS AND METHOD

STUDY POPULATION

A total of three hundred undergraduates were enrolled from three tertiary institutions in Ondo
State (Southwest, Nigeria), one hundred individuals from each institution, namely:
1. Adekunle Ajasin University, Akungba-Akoko (state-owned)

2. Achiever’s University, Owo (private university)

3. Federal University of Technology, Akure (federal government-owned)

EXCLUSION CRITERIA

Students who were not schooling in the three participating universities as at the time of the study were excluded from the study.

SAMPLE COLLECTION AND PREPARATION

Four millilitre of whole blood samples were obtained from the participating undergraduates using the venepuncture method. These were collected into Ethylene Diamine Tetra-acetic Acid (EDTA) at 1.5mg/mL concentration. Samples were allowed to separate into plasma and corpuscles on the bench.

SAMPLE TESTING FOR THE PRESENCE OF ANTIBODIES TO HIV

All the samples were screened for the presence of antibodies to HIV using a highly sensitive (100% level of sensitivity) rapid test kit- DETERMINE® (Abbott Diagnostic Division, Netherlands) as described by Amechi et al., (2012). The protective foil cover of the test pouch was removed and 50µL (ie 0.05ml) of plasma was applied to the sample-pad. After waiting for the plasma to migrate through the control and test windows, the result was read according to the manufacturer’s instruction;
ADMINISTRATION OF QUESTIONNAIRE

Data were collected from the subjects through the use of structured self-administered questionnaires, which were then subjected to statistical analysis.

RESULT

The subjects enrolled in the study comprised of 182 (60.7%) males and 115 (38.3%) females. Three (1%) did not disclose their gender. Sixty, 47 and 75 respectively of the males were from Adekunle Ajasin University (hereinafter referred to as AAUA); Achievers’ University, Owo, (hereinafter referred to as AUO) and Federal University of Technology, Akure (hereinafter referred to as FUTA).

Out of the 115 females, 40, 50 and 25 respectively were from AAUA, AUO and FUTA. One hundred and twenty-four (41.3%) of the subjects were 20 years of age or below; 169 (56.3%) were between the 21-30 years age-bracket; 5 (1.67%) were between the 31-40 years age-bracket; while 2 (0.7%) did not disclose their age-group.

An overwhelming majority of the subjects 279 (93%) were single, while 10 (3.3%) of them were married. Eleven (3.7%) did not disclose their marital status.

The overall skin-tattooing prevalence was found to be 9.6%. On an institutional basis, the disaggregated skin-tattooing prevalence was found to be 20%, 9% and
0% respectively for AAUA, AUO and FUTA. Also, antibodies to HIV were not detected in any of the 300 subjects, thus representing HIV sero-prevalence of 0%. Eight point three percent of the subjects had a history of blood transfusion, while 7.3% had a history of surgery.

Table 1: DISTRIBUTION OF THE SUBJECTS BY GENDER

<table>
<thead>
<tr>
<th>School</th>
<th>Male</th>
<th>Female</th>
<th>Undisclosed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAUA</td>
<td>60</td>
<td>40</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>AUO</td>
<td>47</td>
<td>50</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>FUTA</td>
<td>75</td>
<td>25</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>182</td>
<td>115</td>
<td>3</td>
<td>300</td>
</tr>
</tbody>
</table>

Figure 1: Distribution of Subjects by Gender
Legend: AAUA: Adekunle Ajasin University, Akungba-Akoko; AUO, Achievers’ University, Owo; Federal University of Technology, Akure

Table 2: SUBJECTS’ DISTRIBUTION BY AGE

<table>
<thead>
<tr>
<th>School</th>
<th>n=100</th>
<th>≤20</th>
<th>21-30</th>
<th>31-40</th>
<th>≥41</th>
<th>Undisclosed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAUA</td>
<td>25</td>
<td>75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>AUO</td>
<td>50</td>
<td>46</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>FUTA</td>
<td>49</td>
<td>48</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>169</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>300</td>
</tr>
</tbody>
</table>

Figure 2: Subjects’ Distribution by Age
Table 3: Marital Status

<table>
<thead>
<tr>
<th>School</th>
<th>Single</th>
<th>Married</th>
<th>Divorced</th>
<th>Undisclosed</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAUA (n=100)</td>
<td>92</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>AUO (n=100)</td>
<td>90</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>FUTA (n=100)</td>
<td>97</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>279</td>
<td>10</td>
<td>0</td>
<td>11</td>
<td>300</td>
</tr>
</tbody>
</table>

Figure 3: Subjects’ Distribution by Marital Status

Legend: AAUA: Adekunle Ajasin University, Akungba-Akoko; AUO, Achievers’ University, Owo; Federal University of Technology, Akure
Table 4: History of Blood Transfusion, Surgery and Skin-Tattooing

<table>
<thead>
<tr>
<th>School</th>
<th>Blood Transfusion</th>
<th></th>
<th></th>
<th>Surgical Operation</th>
<th></th>
<th></th>
<th>Skin Tattoo</th>
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<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>U/D</td>
<td>I/V</td>
<td>Yes</td>
<td>No</td>
<td>U/D</td>
<td>I/V</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>AAUA</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>91</td>
<td>1</td>
<td>0</td>
<td>20</td>
<td>79</td>
</tr>
<tr>
<td>(n=100)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUO</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>(n=100)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUTA</td>
<td>5</td>
<td>93</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>96</td>
<td>0</td>
<td>0</td>
<td>98</td>
<td>2</td>
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<td>(n=100)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>273</td>
<td>2</td>
<td>0</td>
<td>22</td>
<td>277</td>
<td>1</td>
<td>0</td>
<td>29</td>
<td>268</td>
</tr>
</tbody>
</table>

Figure 4: History of Skin-Tattooing among the Subjects

Legend: AAUA: Adekunle Ajasin University, Akungba-Akoko; AUO, Achievers’ University, Owo; Federal University of Technology, Akure

U/D: Undisclosed; I/V: Invalid
Table 5: Subjects’ HIV Screening Result

<table>
<thead>
<tr>
<th>School</th>
<th>HIV Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td>AAUA</td>
<td>100</td>
</tr>
<tr>
<td>AUO</td>
<td>100</td>
</tr>
<tr>
<td>FUTA</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
</tr>
</tbody>
</table>

Legend: AAUA: Adekunle Ajasin University, Akungba-Akoko; AUO, Achievers’ University, Owo; Federal University of Technology, Akure

**DISCUSSION**

A tattoo is a permanent design, graphic or mark made by a tattoo artist on the skin with an ink, dye or pigment injected into the layer just below the outer surface of the skin. Most people with tattoo on their skin do so for diverse reasons, without minding being aware of the potentially serious health hazards associated with it. Quaranta *et al.*, (2011) in their study among college freshmen in Italy discovered that an overwhelming majority of the undergraduates with tattoos on their skin were unaware of the potential health hazards of skin-tattooing, apart from the risk of contracting HIV. Sixty percent of the students knew they stood the risk of contracting HIV, but only 38%, 34%, 34% and 28% were aware that they stood the risk of contracting hepatitis C, hepatitis B,
tetanus or non-infectious complications respectively. Most of the subjects in this present study also appeared not to be aware of the great health dangers they exposed themselves to by tattooing their skin. Some teenage girls or college ladies tattoo the names of the boyfriends on their skin as a display of their love or their commitment to their boyfriends. For some, the attraction is just the opportunity for self-expression as a decorative art, while some do it to commemorate/celebrate an even or to memorialise the demise of a loved one. In a poll, it was discovered that as many as 30% of Americans who placed tattoos on their skin actually thought it made them feel sexier! Twenty-five percent said it made them feel rebellious, while 21% indicated it made them feel attractive or strong (Shannon-Missal, 2016; Quaranta et al., 2011).

Of the three universities surveyed in this study, Adekunke Ajasin University, Akungba-Akoko tops the list with a skin-tattooing prevalence of 20%. Bravermann (2012) in a poll reported a similar prevalence among adult Americans, whereas Shannon-Missal (2016), few years after Bravermann’s poll, found the prevalence in the US to have risen to 30%.

Often the craze or whatever justification the tattooist may have, make them to ignore or turn a blind eye to the numerous health risks associated with this practice. Risks of allergic reaction, skin infections, psoriasis, dermatitis, tetanus, unsterile equipments, herpes simplex virus, hepatitis virus, syphilis, HIV are among the numerous potential risks associated with every tattooing session.
It has been stated that those who tattoo large portions of their skin surface stand the risk of not being able to benefit from life-saving MRI (Magnetic Resonance Imaging) test should they need one. Centuries ago when people tattooed their skin they used dyes or inks from their natural environment, unlike now that tattoo practitioners use all sorts of heavy metal dyes with its attendant dangers to the human health. An European Commission’s report stated that about 20% of the dyes used in tattooing in Europe contains a carcinogenic aromatic amine. These among other reasons make skin tattooing a potentially dangerous practice that should be discouraged by the society.

REFERENCE


