RESEARCH ARTICLE

INVESTIGATION OF UNHEALTHY BEHAVIOURS IN RELATION TO PIERCING APPLICATION

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Abstract

Introduction: The application of piercing creates concerns, about the hygiene applied in the various parts of the body and the information of users about the dangers it poses for their health. **Purpose:** The quantitative measurement of the microbial load at the points of application of piercing, as well as the investigation of the level of knowledge about various aspects of piercing application, among the academic community of the University of West Attica. **Material and Method:** The research was conducted in the facilities of the University of West Attica, with the use of questionnaires of 40 questions each, to incoming participants with piercings. We also, conducted a quantitative measurement of the microbial load at the points of piercing, with the use of a luminometer. **Results:** The results of the research, showed a statistically great correlation (p= 0.049), between the way of choosing the piercing center and the bleeding at the point of the tongue, as well as between the point of the piercing, in relation to the consumption of alcohol before the piercing application (p= 0.009). Moreover, a statistically significant correlation (p= 0.007), was found between the piercing point and the gender, as well as between the actions that must be performed on the skin by the piercer prior to piercing and the transmission capability of Hepatitis C (p= 0.021). **Conclusions:** The biggest percentage of the people we questioned had no knowledge, about the problems caused by piercings to their health, as well as the ways of prevention of potential infections.

Keywords: Piercing, Unhealthy behaviors, Molecular charge, Questionnaire, Diseases, Luminometer

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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

ΔΙΕΡΕΥΝΗΣΗ ΑΝΘΥΓΙΕΙΝΩΝ ΣΥΜΠΕΡΙΦΟΡΩΝ ΣΕ ΣΧΕΣΗ ΜΕ ΤΗΝ ΕΦΑΡΜΟΓΗ PIERCING

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Περίληψη

Εισαγωγή: Η εφαρμογή του piercing θέτει προβληματισμούς, αναφορικά με την υγιεινή που εφαρμόζεται στα διάφορα σημεία του σώματος και την πληροφόρηση των χρηστών για τους κινδύνους που ενέχει για την υγεία τους. **Σκοπός:** Η ποσοτική μέτρηση του μικροβιακού φορτίου στα σημεία εφαρμογής του piercing, καθώς και η διερεύνηση του επιπέδου γνώσεων, σχετικά με διάφορα ζητήματα που αφορούν το piercing, μεταξύ της ακαδημαϊκής κοινότητας του Πανεπιστημίου Δυτικής Αττικής. **Υλικό και Μέθοδος:** Η έρευνα πραγματοποιήθηκε στις εγκαταστάσεις του Πανεπιστημίου Δυτικής Αττικής, με τη χρήση ερωτηματολογίου 40 ερωτήσεων σε διερχόμενους συμμετέχοντες με piercing. Διενεργήθηκε επίσης, ποσοτική μέτρηση του μικροβιακού φορτίου στο σημείο του piercing με την χρήση λουμινόμετρου. **Αποτελέσματα:** Τα αποτελέσματα της έρευνας, έδειξαν στατιστικά σημαντική συσχέτιση (p= 0,049), μεταξύ του τρόπου επιλογής του κέντρου piercing και της αιμορραγίας στο σημείο της γλώσσας, όπως επίσης και μεταξύ του σημείου piercing, σε σχέση με την κατανάλωση αλκοολούχων ποτών πριν από την εφαρμογή του piercing (p= 0,009). Ακόμη, βρέθηκε στατιστικά σημαντική συσχέτιση (p= 0,007), μεταξύ του σημείου piercing και του φύλου, καθώς και μεταξύ των ενεργειών που πρέπει να γίνουν στο δέρμα πριν το piercing από τον ειδικό, σε σχέση με την ικανότητα μετάδοσης της Ηπατίτιδας C (p= 0.021). **Συμπεράσματα:** Το μεγαλύτερο ποσοστό των ερωτηθέντων δεν κατέχουν γνώσεις, αναφορικά με τα προβλήματα που προκαλεί το piercing στην υγεία τους, καθώς και με τα ενδεδειγμένα μέτρα πρόληψης ώστε να αποφευχθούν τυχόν μολύνσεις.

Λέξεις κλειδιά: Piercing, Ανθυγιεινές συμπεριφορές, Μικροβιακό φορτίο, Ερωτηματολόγιο, Ασθένειες, Λουμινόμετρο

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Introduction

Body piercings have been used by humans since ancient times and is one of the broadest categories of human rescues.[1, 2] It has a long history and it is well known from various cultures in Africa, Asia, America, and Oceania.[3]

This has undergone resurgence in recent years, but overall figures for prevalence vary worldwide. Piercing tends to be more common in women than men with up to a third of piercings being self-inflicted.[4] The main causes of this wide spread of piercing, can probably be found in cultural commercialism spread by the media, that comes along with a significant alteration in symbolic function, which suggests that such body modification, does not necessarily mean the integration to a certain subculture anymore. [3]

The reasons for piercing can vary. Some people have body piercing for religious or political reasons while some others for self – expression.[5] Nowadays, piercings are often used as fashionable accessories, while other motivations include the creation of individuality and the need for overcoming personal limits, by testing the own threshold of pain endurance. It is suggested that piercings, are also possessed by an addictive character, due to the release of endorphins, associated with the painful penetration of the body and anesthetizing process.[3]

The most common places for piercing in the head area are the ear cartilage, the eyebrows, the lips, the nose, the tongue and the rest of the body, the navel, the nipple and the genitals.[6]

But there are many risks involved in piercing, for example contamination and allergies. Responsible factor for the serious impacts on health, is the failure to comply with hygiene rules (poor sterilization, not change needle, wrong antisepsis of hands).[7]

Microbes, viruses and fungi are the responsible micro-organisms that can cause from simple local infections to severe systemic diseases.[8] As the spread of body piercings continues, so will numbers of clients who seek care for treatment, due to adverse effects.[9]

Purpose

The purpose of this research was to explore the knowledge of the University of West Attica students, about the unhealthy behaviors and unwanted consequences of piercing on their health and their realization, through the quantitative measurement of the molecular charge, at the points of its application. Moreover, the research investigated their general knowledge about various matters, concerning the facilities of piercing application, as well as the diseases transmitted through piercing.

Material and Method

Design, setting, and period of the study

This study, was designed by the Health and Safety at Work Laboratory, of the Department of Public and Community Health, of the University of West Attica of Greece. In addition, the study was conducted in the time of 27 – 31/03/2017, hours 10.00am – 14.00pm, during the program "Open Days 2017", at the facilities of the University of West Attica.

Sample of the study

The sample consisted of 136 participants (39 men and 97 women), who belonged at the community of the University of West Attica. As for the inclusion criteria, all participants: a) were above 18 years old, and b) had a piercing, at a visible, or at least at a convenient spot on their bodies. Thus, people: a) who were below 18 years old, and b) people with genital piercings, or no piercings at all, were excluded from the study.

Data collection and procedure

The data was collected, through the use of an anonymous, self-written questionnaire, consisted of 40 questions, given to each participant. The questionnaire (Ta-

ble 9), was designed in accordance to the global literature standards, and included items (questions) such as:

Socio-demographic characteristics:

- Gender
- Age
- Status
- Educational level

Participants information about:

- The existence of emotional disorders
- Allergies
- Their body area, in which they had a piercing
- The manifestation of infections due to piercing and its further impacts

Attitudes and perceptions of the participants, concerning:

- Their willingness to do another piercing
- Piercing centers, and their choosing criteria
- Coverage in the case of a health damage
- Dangerous materials used in piercings
- Health condition, in relation to piercing application
- Alcohol consumption before piercing
- Diseases transmitted through piercing, and their probability
- Infection probability through piercings
- Necessary procedures performed by the Piercer
- Dangers and effects of piercing application
- Procedures and behaviours, before and after piercing application

Instrument

As for the equipment used, an AccuPoint luminometer device was used, for the quantitative measurement of the molecular charge, at each participant's piercing area. "AccuPoint Advanced Sanitation Verification System", is a handheld ATP (Adenosine Triphosphate) reader, that accurately detects ATP from surfaces and rinse water samples. ATP, is present in all animal and plant matter, including most food waste, bacteria, fungi and other micro-organisms. The measurement of ATP is done, through the use of an enzyme reaction, that occurs naturally in glow worms.[10]

Ethical considerations

This study, was carried out, in accordance to the Research Protocol, submitted by the researchers, and approved by the Department of Public and Community Health, of the University of West Attica. The complete anonymity of all participants was ensured, in every step of the study.

Statistical analysis

The results of this research, are presented in absolute numbers "N" and percentages %. The whole procedure of the statistical analysis, was made with the use of the SPSS (Statistical Package for Social Sciences) application.

Results

Socio-demographics

Among the participants, the 71.3% (97) were women, while the 28.7% (39) were men (Table 1).

Also, the 73.5% (100) of the participants were between 18-23 years old, the 11.8% (16) were between 23-28 years old, the 7.4% (10) were under 18 years old, a 4.4% (6) were 33 years old and above, while just a 2.9% (4) were between 28-33 years of age (Table 2).

As for the status, 117 participants (86.0%) were students, 12 participants (8.8%) were workers, 4 participants (3.0%) were pupils and only 3 participants (2.2%) were unemployed (Table 3).

Moreover, considering the body parts with the applied piercings, consisted of 12 (8.8%) participants with lip piercings, 48 (35.3%) participants with ear piercings, 7 (5.1%) participants with eyebrow piercings, 43 (31.6%) participants with nose piercings, 15 (11.0%) participants with navel piercings, 3 (2.2%) participants with nipple piercings, 2 (1.5%) participants with tongue piercings and finally 6 (4.4%) participants with mouth piercings (Table 4).

Questionnaire results

The 64.1% of the participants, stated that the piercing of the tongue causes bleeding, although they select the piercing facility.

In contrast, higher was the percentage (70.4%) of those who did not answer that the piercing of the tongue causes bleeding and that they select the piercing facility though.

In addition, an 18.3% of the participants who select the facility randomly, do not believe that the piercing of the tongue causes bleeding, in comparison to the corresponding lower of 9.4%.

Also, the majority of the participants (44%) that had an ear piercing, believe that the consumption of alcohol before the procedure is dangerous, as well as a large part of those who had a nose piercing (36%), in comparison to those who had piercings on other parts of their bodies.

Furthermore, the 51.3% of men have an ear piercing, while second comes the nose piercing with a percentage of 15.4%. In contrast, the majority of women (38.1%) have a nose piercing, followed by ear piercings (28.9%).

Finally, the 94.9% of men believe that piercing equipment is constructed out of dangerous materials, in comparison to the lower 76% of women, who believe the same as men.

Molecular charge measurements

No clear limits have resulted from the bibliographic research about piercing, but taking into consideration the limits given to us by the food industry about an infected surface on which we count cfu, the highest accepted limit is set at 2000 cfu.

Of the measurements we received, the most were on the earlobe (50), while the least were on those at the tongue (2). Of the measurements from all the body parts, the highest value was on the lips (52533 cfu), while the lowest was on the navel (0 cfu). From the 136 measurements, 101 were within limits, while 35 were not.

Correlations (statistical significance)

A statistically significant difference, was found between the way the sample selects a piercing center, and the fact that the tongue piercing can cause bleeding on the tongue (p= 0.049). Specifically, 64.1% of the participants who stated that tongue piercing leads to bleeding, also choose the piercing center through a known person's suggestion. On the other hand, a higher percentage (70.4%) was observed, of those who answered negatively about whether the tongue piercing can cause bleeding on the tongue, and who also choose the piercing center through a known person's suggestion. In addition, 18.3% of the participants who randomly choose the piercing center, do not believe that tongue piercing can lead to bleeding, compared to the corresponding lower percentage of 9.4% (Table 5).

Furthermore, a statistically significant difference was found (p= 0.009), regarding the answers of the participants about whether they believe that the alcohol consumption is dangerous prior to piercing, in relation to the point where their piercing has been done. The majority of the sample (44.0%) who have ear piercings, believes that the consumption of alcohol before piercing is dangerous, as well as a high percentage (36.0%) of those who have piercings at other parts of their body (Table 6).

In addition, the 51.3% of men had an ear piercing, followed by the 15.4% with a nose piercing. In contrast, the majority of women (38.1%) had a nose piercing, followed by those with an ear piercing (28.9%). Therefore, a statistical significance was found (p= 0.007), between gender and piercing point (Table 7).

Finally, the majority of the participants (64.2%) who stated that before piercing, the piercer must perform

antisepsy on the skin, also believe that Hepatitis C, can be transmitted through piercing. Therefore, a statistical significance was found (p= 0.021), between this question and the transmission capability of Hepatitis C through piercing (Table 8).

Discussion

The application of piercing sets some problems, concerning the hygiene applied to various parts of the body and the awareness of the users about the dangers it poses to their health. According to research published by Lester, head of dermatology at the University Northwestern of Feinberg School of Medicine, in Chicago, around 20% of all piercings, lead to bacterial infections. "Piercing is more dangerous than most people believe", stated Lester.

"There are times when these 'punctures' of the body can cause various complications. These might cause temporary issues, such as interfering with examinations using X-rays and the magnetic tomography but also more serious complications, e.g. broken teeth or damage of the gums from a puncture of the tongue. Some could prove to be fatal, as they can be responsible for infections that reach the heart or other vital organs".[11]

"A 23% of the population of the USA, had at least one puncture of the body in 2010, apart from the earlobe", stated the Centre of Research Pew. That was 23 times higher than it was in the 'Baby boom' generation, in which only 1% had a body piercing. The most popular areas, apart from the earlobe include the nose, the eyebrows, the tongue, the nipples, the navel, and the genitalia, as also shown in our research.[11]

Some areas of the body, are more vulnerable to infections, because they are slow to heal. While the piercing of the earlobe heals quickly, the one on the nipple or scrotum and the lips though, can take months. The navel piercing, for example, can take up to 12 months to heal fully.[12]

"While the perforation is still in the stage of healing, the infection can enter the bloodstream and reach vital organs", states Laumann. "Diabetics and people with weakened immune systems, are especially vulnerable to infection after perforation. Furthermore, on the spot of perforation, people with dark skin are more likely to develop (keloids), or even unsightly scars", reports Dr. Laumann.[12]

The piercing of the genitalia, can render the use of condoms ineffective, during sexual activity. In women, it might cause problems during pregnancy. For men, the list of adverse effects of "Prince Alberts" (Penile piercing), compete with those found on instructions manuals of medication, prescribed in cases of erectile dysfunction. Among others, piercing can lead to issues related to the urinary system, such as incontinence.[9]

In a research that was conducted in 2002 by Mayo Clinic, with title "Proceedings in University Undergraduates and Incidence of Medical Complications", it was discovered that the incidence of medical complications of piercing was 17%, and these complications included bleeding, tissue trauma, and bacterial infections.[13] In our research, infections were observed, in a 37.5% of the students of the University of West Attica, who were suffering from infections caused by piercings, from which we took samples. Also, a 29.4% of them used medical treatment, while 1 had surgery in order to surpass this complication. These answers, confirm our fears for the dangers that exist, when someone carries out a piercing.

In another research that was conducted in 1999 by J Greif, it was discovered that during the traditional college time of 18 to 22 years of age (69%), was when they obtained their tattoo (73%) and/or body piercing (63%). Meanwhile, in our research it was discovered that 91.2% of the participants were university students, 4.4% were high school graduates, 2.2% were junior high school graduates and 2.2% were primary school graduates.[14]

In addition, a research that was conducted in 2013 by Greif et al.,[13] discovered that the majority of interviewed subjects (88.0%), prefers to undergo body art

practices in a qualified center. [13] In our research, the majority of 66.9% choose the facility by suggestion of a friend, a 14% by luck, a 10.3% through the internet, an 8.1% based on the piercer's appearance and a 0.7% did not respond. The choice of piercing center by the help of an acquaintance, is a negative indication, that young people who have acquired a piercing, have adopted unhealthy behaviors in their lives.[2]

Participants with body piercings, are more likely to appear risky behaviors at a greater degree, than those without. Indicatively, a 58-question survey that was held in 2002, based on the 1997 Centers for Disease Control and Prevention Youth Risk Behavior Survey, showed that the presence of body piercings, is associated with greater risk-taking behaviors, in terms of alcohol consumption, drug use, sexual activity, suicide, violence and eating disorders. These behaviors increase, as the number of body piercings increases as well.[15] There are reports of individuals being under the influence of alcohol or drugs, while acquiring their piercing, thus having or remembering, no specific reason for doing it.[3]

In addition, the Armstrong Team Piercing Attitude Survey (ATPAS), proved that the overall risk-taking behaviors of the pierced group, in terms of sexual activity, alcohol consumption, cigarette smoking and drug use, were found increased, compared to the non-pierced group, as well as their self-perception of riskiness. Yet, little (15%) alcohol or drugs were reported before the piercing.[16]

Also, among the pierced group, almost all (99%) still like their piercing(s), and many would repeat a piercing again (62%). From them, many participants had wanted their piercing for a long time (46% M/49% F), while others needed just a few minutes for the decision (21% M/12% F).[16]

To summarize, the presence of such behaviors, should alert parents, teachers, and health care providers, so that the appropriate care should be implemented.[15]

Conclusions

The majority of the participants, have no knowledge concerning the problems caused by piercing on their health, as well as for the appropriate safety measures to avoid any infections. Also, the authorities have not given the necessary amount of attention, which is obvious by the lack of legislation, including the stores and facilities that perform perforation, as well as to the necessary training of the piercer, who essentially performs a surgery using instruments, such as needles. In a country where the youth follow fashion trends, these areas of interest mentioned above, should be covered by the appropriate legislation.

References

1. Waugh M. Body piercing: where and how. Clin. Dermatol. 2007; 25(4): 407-411.
2. Mayers LB, Judelson DA, Moriarty BW and Rundell KW. Prevalence of Body Art (Body Piercing and Tattooing) in University Undergraduates and Incidence of Medical Complications. Mayo Clin. Proc. 2002; 77(1): 29-34.
3. Wohlrab S, Stahl J and Kappeler PM. Modifying the body: Motivations for getting tattooed and pierced. Body Image. 2007; 4: 87-95.
4. Anderson W. Piercings: Body Piercings. In Encyclopedia of Forensic and Legal Medicine. 2nd Edition. Elsevier. 2016: 667-676.
5. Wormser M. Piercing the veil of corporate entity. In Colum. L. Rev.1912; 12: 496.
6. Perkins CS, Meisner J and Harrison JM. A complication of tongue piercing. Br. Dent. J. 1997; 182(4): 147-148.

7. Caplan J, Jones C, Gustafson M, Macquarrie C, Rosecrans J, Fleming J et al. Written on the body: the tattoo in European and American history. Reaktion, 2000: 1-16.
8. Ferguson H. Body piercing. BMJ. 1999; 319(7225): 1627-1629.
9. Armstrong ML, Caliendo C and Roberts AE. Genital Piercings: What Is Known and What People with Genital Piercings Tell Us. Urol. Nurs. 2006; 26(3):173-179.
10. Neogen. AccuPoint Advanced Reader. Available from: https://foodsafety.neogen.com/en/accupoint-advanced. Assessed: 10/02/2019.
11. Cheng TK. Form and substance of the doctrine of piercing the corporate veil. Miss. L. J. 2010, 80: 497-585.
12. Laumann, AE and Derick AJ. Tattoos and body piercings in the United States: a national data set. J. Am. Acad. Dermatol. 2006; 55(3): 413-421.
13. Greif J, Hewitt W and Armstrong ML. Tattooing and Body Piercing: Body Art Practices among College Students. Clin. Nurs. Res. 1999; 8(4): 368-385.
14. Majori S, Capretta F, Baldovin T, Busana M and Baldo V. Piercing and tattooing in high school students of Veneto region: prevalence and perception of infectious related risk. J. Prev. Med. Hyg. 2013; 54(1): 17-23.
15. Carroll ST, Riffenburgh RH, Roberts TA and Myhre EB. Tattoos and Body Piercings as Indicators of Adolescent Risk-Taking Behaviors. Pediatrics. 2002; 109(6): 1021-1027.
16. Armstrong ML, Roberts AE, Owen DC and Koch JR. Contemporary College Students and Body Piercing. J. Adolesc. Health. 2004; 35: 58-61.

APPENDIX

Table 1: **Sample's distribution, based on gender.**	
Gender	N (%)
Male	**39 (28.7%)**
Female	**97 (71.3%)**
Total	**136 (100.0%)**

Table 2: **Age distribution, among the participants.**	
Age	N (%)
<18	**10 (7.4%)**
18 – 23	**100 (73.5%)**
23 – 28	**16 (11.8%)**
28 – 33	**4 (2.9%)**
>33	**6 (4.4%)**
Total	**136 (100.0%)**

Table 3: **Status allocation, among the participants.**	
Status	N (%)
Unemployed	**3 (2.2%)**
Worker	**12 (8.8%)**
Student	**117 (86.0%)**
Pupil	**4 (3.0%)**
Total	**136 (100.0%)**

Table 4: Distribution of body parts with piercings, among the participants.	
Body part	**N (%)**
Lip	12 (8.8%)
Ear	48 (35.3%)
Eyebrow	7 (5.1%)
Nose	43 (31.6%)
Navel	15 (11.0%)
Nipple	3 (2.2%)
Tongue	2 (1.5%)
Mouth	6 (4.4%)
Total	136 (100.0%)

Table 5: How participants choose a piercing center, in relation to whether tongue piercing causes bleeding

Bleeding:		How do you choose a piercing center?			
		Through a known person	Through the internet	By the piercer's appearance	Randomly
Yes	N (%)	41 (64.1%)	8 (12.5%)	9 (14.1%)	6 (9.4%)
No	N (%)	50 (70.4%)	6 (8.5%)	2 (2.8%)	13 (18.3%)

Table 6: Piercing point, in relation to whether the alcohol consumption is believed to be dangerous prior to piercing

Do you believe that the alcohol consumption prior to piercing application is dangerous?		Piercing point:							
		Lips	Ear	Eyebrow	Nose	Navel	Nipple	Tongue	Mouth
Yes	N (%)	6 (12.0%)	22 (44.0%)	0 (0.0%)	18 (36.0%)	0 (0.0%)	0 (0.0%)	1 (2.0%)	3 (6.0%)
No	N (%)	6 (7.1%)	24 (28.6%)	7 (8.3%)	25 (29.8%)	15 (17.9%)	3 (3.6%)	1 (1.2%)	3 (3.6%)

Table 7: Piercing point, in relation to gender

Gender:		Piercing point:							
		Lips	Ear	Eyebrow	Nose	Navel	Nipple	Tongue	Mouth
Male	N (%)	4 (10.3%)	20 (51.3%)	4 (10.3%)	6 (15.4%)	0 (0.0%)	1 (2.6%)	1 (2.6%)	3 (7.7%)
Female	N (%)	8 (8.2%)	28 (28.9%)	3 (3.1%)	37 (38.1%)	15 (15.5%)	2 (2.1%)	1 (1.0%)	3 (3.1%)

Table 8: Actions believed that must be performed on the skin by the piercer prior to piercing, in relation to the transmission capability of Hepatitis C through piercing

What actions must be performed on the skin, prior to piercing by the piercer?		Transmission capability of Hepatitis C through piercing:	
		Yes	No
Cleaning	N (%)	12 (44.4%)	15 (55.6%)
Decontamination	N (%)	20 (37.7%)	33 (62.3%)
Antisepsy	N (%)	34 (64.2%)	19 (35.8%)
Nothing	N (%)	0 (0.0%)	2 (100.0%)

Table 9: The questionnaire used for the purposes of this research

Question	**Answers**
1. What is your age?	<18 18-23 23-28 28-33 >33
2. What is your gender?	Male Female
3. What is your status?	Pupil Student Worker Unemployed
4. What is your educational level?	Primary school Secondary school High school University
5. Are you prone to an emotional disorder (anxiety, depression, etc.)?	Yes No
6. Do you have allergies?	Yes No
7. If so, in what?	Materials Cosmetics Medicines Food Dust Pollen
8. At which part of your body have you had a piercing?	Nose Mouth Tongue Eyebrow Ear Genitals Nipple Navel
9. Are you planning to do another piercing?	Yes No I don't know
10. If so, when?	After 3 months After 6 months After 1 year After 5 years
11. Have you ever had an infection due to piercing?	Yes No
12. If so, where?	(Free to answer by the participants - no options provided)
13. If so, how was it treated?	Medication Surgery
14. Did you have to remove it?	Yes No

Table 9: The questionnaire used for the purposes of this research

Question	Answers
15. Do you think that there are dangerous materials from which piercings (earrings) are made?	Yes No
16. If so, which ones?	Gold and platinum Platinum and titanium Steel and plastic Silver and nickel
17. Do you think that piercing centers have a legal license?	Yes No I don't care
18. How do you choose a piercing center?	Through a friend / known person Via internet By the piercer's appearance / physiognomy Randomly
19. How are you covered in a case of health damage due to piercing?	Personal relationship (with the piercer) Through the receipt Nothing (not at all)
20. In what health condition should you be when you have a piercing?	Healthy With a cold With toothache With skin diseases It doesn't matter
21. Do you believe that alcohol consumption prior to piercing application is dangerous?	Yes No
22. You believe that it will affect your health if you pierce an area of skin where they exist:	Scratches Burns Pimples Allergic reactions None of the above
23. Is it prohibited for someone who has had a piercing to become a blood donor?	Yes No
23a. If so, for how long since one had a piercing?	1 year 5 years Forever
24. What diseases do you think are transmitted through piercing?	Hepatitis A Hepatitis B Hepatitis C AIDS Leprosy Psoriasis Cholera Syphilis
25. Do you need to get a tetanus vaccine before you have a piercing?	Yes No
26. Do you think that people with a history of heart disease are more prone to developing heart disease after a piercing?	Yes No
27. If so, in which body part?	Nose Mouth Tongue Eyebrow Ear Genitals Nipple Navel
28. What actions must be done on the skin prior	Cleaning Decontamination Antisepsy None

Table 9: The questionnaire used for the purposes of this research

Question	Answers
to piercing by the specialist?	
29. Which area of the body do you consider the most prone to infection? (first choice)	Nose Mouth Tongue Eyebrow Ear Genitals Nipple Navel
30. What image should the piercing spot have?	Crust Redness Pimples Shrinkage Nothing
31. Is it necessary to avoid swimming in the pool or in the sea until the piercing spot heals?	Yes No
32. What do you believe that a tongue piercing can cause?	Teeth decay Speech and breathing difficulty Tongue cancer Bleeding Pain Taste loss Drowning Tongue shrinkage Poor circulation and tongue necrosis Nothing
33. Can an eyebrow piercing cause a health effect?	Yes No
34. If so, what kind of health effects?	Scar Tearing Eyelid necrosis Complications in vision
35. Is the tip of the nose different from the other piercing spots?	Yes No
36. If so, why?	(Free to answer by the participants - no options provided)
37. What can lip piercing cause?	Gum shrinkage Tooth loss Damage on dental seals due to friction Skin cancer Nothing Other
38. Are you planning to do another piercing?	Yes No I don't know
39. If so, where?	Nose Mouth Tongue Eyebrow Ear Genitals Nipple Navel
40. Measurement of the microbial load at the participant's point of piercing (in cfu):	(Number completed by the researcher)