**ORIGINAL ARTICLE** 



# Tongue Piercing: experience of piercees and practice of piercers in Klang Valley, Malaysia

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#### ABSTRACT

To explore the phenomenon of tongue piercing in Klang Valley. Semi-structured in-depth interviews were conducted with piercers and those who had their tongue pierced ("piercees") in Klang Valley. Five piercers and eight piercees were interviewed. Piercees had their tongue pierced at age 16-25 years. Three main reasons for tongue piercing were to enhance appearance, express their individuality, and out of curiosity. They reported that they experienced various immediate and late complications. However, most were aware of and expected the complications. The majority of piercers reported adequate infection control procedures and enquired about the client's health prior to piercing. Although some clients reported problems, such reports were rare. Tongue piercing is an invasive procedure with some risks, but precautions such as proper infection control procedures minimize the likelihood of encountering serious problems. The reasons for tongue piercing varied between individuals. Although the majority of the interviewed piercers reported cross-infection control, their knowledge of the medical risks associated with tongue piercing varied widely.

Keywords: tongue piercing, body piercing, body art, qualitative study

#### Introduction

Body piercing involves the penetration of an ornament into an opening made in the skin or mucosa (1). The common site for intraoral and peri-oral piercings are the tongue and lip, or a combination of both the tongue and lip (2). A conventional tongue piercing is usually on the midline, just anterior to the lingual frenum on the sagittal plane (3).

Typically, the tongue is pierced with straight barbell-style jewelry (4). The basic parts include the stud and the barbell. A stud is button-like object, usually ornamental, and mounted on a shank, and a barbell is a straight bar with a bead (stud) on each end. One or both beads on barbells used in tongue piercing can be unscrewed to permit bead removal or change. Generally, one bead is fixed so that only one bead is used to install or remove jewelry.

In the past, tongues were pierced to express cultural identity or community status, and as a connection to ancestors or gods. For example, in the Aztec and Maya cultures, tongue piercing is a ritual used to honor the gods. In the 1980s, society in general came to know about tongue piercing when the first professional body-piercing studio was established in Los Angeles, California. Since then, tongue piercing has become fashionable (4). Based on the findings of Antoszewski *et al.* (5), people acquire body piercings to enhance individuality (67%), prove their bravery (35%), increase sexual attractiveness (68%), and for other reasons such as aesthetics, peer pressure, and affiliation with subcultures.

It has been reported that diverse complications are associated with the tongue piercing procedure. Early complications (within 24 hours) include tongue swelling (98%), pain (71%), difficulty eating (66%), and speech problems (51%). Similar problems have also been reported up to 1 week after the piercing, but at a lower frequency. For late complications (after 1 week), the most common complications reported were ingestion of jewelry (29%), tooth fracture (28%), plaque and calculus deposit on the jewelry (26%), and piercing hole enlargement (12%), as reported by Stead *et al.* (3) in South West England.

Oberholzer and George (6) reported that some participants experienced soft and hard tissue damage, which includes atrophy of the tongue, scar tissue formation, loss of interdental papilla, and teeth chipping or fracture related to the tongue ornament. Based on their study, 59.4% of the participants had no knowledge of the potential complication risks.

Inchingolo *et al.* (2) studied 108 people with the tongue piercings and determined that the participants experienced enamel abrasion (30%), enamel fractures (30%), gingival recession (25%), erythematous palatal mucosa (15%), dentine hypersensitivity (15%), and that all participants experienced a transient alteration in taste.

inadequate information There is about individuals who carry out tongue piercings. Oral piercings are usually performed by unlicensed persons who may lack clinical and anatomical knowledge and who do not follow proper infection control procedures (6). However, Stead et al. (3) reported that the majority of piercing centers in South West England used an autoclave to sterilize their instruments. The participants also mentioned the use of disposable needles and latex gloves during the piercing, as well as the use of a sharps bin and surface disinfectant, which reflected the piercer's awareness of blood-borne diseases. Their study also revealed that the majority of piercers (86%) analyzed the client's health before carrying out the procedure, including querying clients about whether they had epilepsy, HIV, hepatitis, or other systematic diseases. Inchingolo et al. (2) reported that some piercers also carried out a clinical examination prior to piercing.

To date, there have been numerous case reports on tongue piercing from the Western countries, but little is known about it in Asia. In Malaysia, tongue piercing is not very common as compared to its prevalence in the Western countries. However, there are number of outlets providing the body-piercing services in Klang Valley. Therefore, this study is aimed to explore the experiences of those who had tongue pierced and the practice of piercers in tongue piecing in Klang Valley, Malaysia.

#### Materials and Methods

This study employed qualitative research design. This study was divided into two parts. The first part focused on people with a tongue piercing (piercee), and the second part focused on people who carried out tongue piercing (piercer). Ethical approval has been granted from the Medical Ethics Committee, Faculty of Dentistry, University of Malaya (DFCO1201/0048 (U)). The study has been conducted in full accordance with the Declaration of Helsinki. Verbal consent was obtained from the participants' parents/guardian before the interview was conducted among those below 18 years of age. It was approved by the Ethics Committee.

#### Part 1: Study of pierces

A semi-structured in-depth interview was conducted to obtain information regarding tongue piercing from the piercee's perspective. The interview queried piercees on the reason of piercing, other body piercings they had, problems experienced within and after 24 hours of obtaining a tongue piercing, expectations on potential problems and their source of information, and factors that influenced decisionmaking during piercing studio selection.

Piercees were included if they were Malaysian, have a tongue piercing or had their tongue pierced, and were aged 15-50 years old. The first few participants were identified from the internet. Subsequent participant recruitment were carried out using the snowballing or chain sampling method, whereby existing participants were asked to suggest other potential participants who met the inclusion criteria.

We contacted and invited those identified individuals to participate in this study. Those who agreed and met the inclusion criteria were informed of the aims and objectives of the study. Each participant was provided a written statement about the study (patient information sheet) and written consent was obtained. Both the patient information sheet and consent from were available in two languages: Malay and English.

A face to face interview was conducted following a mutually agreed-upon place and time. The semi-structured interview consists of openended questions and probing questions. Interviews were conducted in Malay or English based on the language preference of the participants. The interview was tape-recorded and transcribed into Microsoft Word for data analysis. We stressed to the pierces that all data would remain private and anonymous. Data were collected until data saturation between all participants was achieved.

#### Part 2: Study of piercers

The second part of the study was designed to obtain information regarding the practice of tongue piercing by piercers. The information obtained include the piercer's background and experience in providing the service, client history-taking, consent procedure, safety measures before and after providing the service, advise to clients following a tongue piercing, common complications reported by clients, and management of a client's complications.

Piercers working in piercing studios in Klang Valley were identified from the internet or from piercees' feedback from the first part of the study. We contacted the piercers and invited them to participate in the study. Those who agreed were informed of the aims and objectives of the study and their written consent was obtained.

A face-to-face interview was conducted at their workplaces using a semi-structured interview that consists of open-ended questions and probing questions. Interviews were conducted in Malay or English based on the language preference of the participant, and audio data were recorded to accurately reflect what the researchers discussed. We stressed to the piercers that all the data would remain private and anonymous. Data were collected until data saturation was achieved.

## Data Analysis

After each interview, the collected audio data were transcribed using Microsoft Word. Data were analyzed using content analysis. The researcher carried out the content analysis for each interview to identify keyword/theme it was then verified by the expert researcher. This was done immediately after each interview. Keywords/theme obtained from each interview were highlighted and compared between participants. Interview was continued until no new keywords/themes emerged (saturation reached).

## Results

#### Part 1: Study of piercees

## Participation

Eight piercees were interviewed to achieve data saturation. Their reported ages at tongue piercing were 16-25 years old. All but one piercee had multiple extraoral piercing sites other than tongue. The majority of the piercees had piercing(s) on the ears (conch, lobes, tragus, helix), lips, nose, septum, navel and nipples. Some mentioned that they had cheek, neck, eyebrow, and genital piercings.

#### **Reasons for piercing**

There were three reasons for tongue piercing: (a) appearance enhancement, (b) expression of individuality, and (c) curiosity. Verbatim extracted from the interviews are as follows:

(a) Appearance enhancement

"The tongue pierce, I just feel... Maybe I just feel that it's cool also and no any special reason."

Piercee B, male

"I simply like how it looks."

Piercee H, female

(b) Expression of individuality

*"I pierced because it give me, because I find piercing interesting."* 

Piercee G, female

"I did it because not many living humans would do that kind of stuff when they're normal... Plus, I've been wanting to do it since after school but my partner won't let me"

Piercee F, female

"Sebab I memang minat bertindik dan bertatoo." ["Because I am interested in piercings and tattoos."]

Piercee D, female

(c) Curiosity

"Why I do my tongue? Because... I don't know. I saw maybe some people look...they look cool. Like you know, sometimes showing. And I also wanna try it. I wanna try it... how is the feeling of the thing."

Piercee A, male

*"Simply of curiosity and I pretty like it. Just want to try."* 

Piercee C, male

"For fun. Then, stress study and boring. Wanna find new stupid stuff to do. Time to out of sudden terfikir nak piercing so I just go alone to Sg. Wang."

["For fun. Then, study stress and boredom. Wanted to find new stupid stuff to do. At the time, I suddenly decided to get a piercing, so I went alone to Sg. Wang."]

Piercee E, female

## **Complications of piercing**

Complications were divided into (a) immediate (occurring within 24 hours after piercing) and (b) late (occurring after 24 hours). Frequent immediate complications were tongue swelling, mastication difficulty, speech difficulty, and tongue pain/soreness. Other less frequent immediate complications were sensitivity to spicy foods, bleeding, pooling of saliva, and accidental biting of the stud.

(a) Immediate complications

"Yeah... hard to eat, hard to talk, and I felt pain because it's swollen. Maybe for 3,4 days... until the swelling reduced."

Piercee A, male

*"For the first 2 days lidah I ok, Cuma nak cakap tu susah sikit."* 

["For the first 2 days my tongue was alright, just that it was a bit difficult to talk."]

Piercee G, female

"Masalah cuma mulut penuh dengan air liur dan pelat selama seminggu. And tak boleh makan pedas."

["The problem was that my mouth was full of saliva and I lisped for a week. And I could not eat spicy foods."]

Piercee D, female

"Erm... I cannot eat spicy foods and I accidentally bite it so many times. It hurts my teeth but nothing serious."

Piercee F, female

"My tongue was a little sore and stiff the next morning I woke up... I accidently chewing or yanking the tongue stud while I'm eating because it still felt foreign to me."

Piercee H, female

(b) Late complications

One piercee reported having fever and pus from the wound one week after the piercing. Other piercees encountered persistent problems of sensitivity to spicy foods and foods sticking to the stud.

"Nak sampai seminggu dia macam bengkak and bernanah sikit sebab I degil tak ikut pantang larang dia. Time tu pun macam demam juga." ["For almost a week, it was swollen and there was a little pus because I stubbornly did not follow the advice. At that time, I felt feverish too."]

Piercee G, female

Selama seminggu je. Tapi sampai sekarang l tak boleh makan makanan yang pedas."

[For a week only. But until now, I cannot eat spicy foods."]

Piercee D, female

"Foods like bihun, meggi get stuck on my stud." Piercee F, female

## Awareness of complications

Information regarding complications from tongue piercing was obtained from (a) personal research on the internet, (b) friends, (c) personal experience with piercing, and (d) explanation from the piercer.

All but one piercee stated that they were well informed about what to expect from a tongue piercing.

"On that time, I don't know at all because there was no any professional piercing studio and that was 14 years ago. It was not easy to find this kind of information"

Piercee C, male

(a) Personal research

"Yes. Before piercing, I do a lot of research. Need to understand what to do before and after piercing."

Piercee B, male

"Yes. I read up on piercing forums before piercing."

Piercee H, female

#### (b) Friends

"Ya, tau. Sebab information dari membermember and net of course tapi still nak buat juga."

["Yes, I knew based on information from friends and the net, of course, but still I went through with it."]

Piercee E, female

"Tau. Kawan-kawan yang dah tindik sebelum I beritahu."

[I knew. My friends with piercings told me."] Piercee D, female

(c) Personal experience

"Yes I know I'll experience all that because all this while I've been so stubborn to follow all the taboos. It happened the same to my ears and nose. But for those two parts it heal much fast because it's at external part."

Piercee G, female

"Yes. Because it's one of the body part that we needed the most every day. In any othwr way... That's the way to put food in our system right." Piercee F, female

(d) Explanation from the piercer "Yes because the piercer told me it will swell. So yeah, I already knew."

Piercer A, male

#### Criteria for piercing studio selection

Five criteria for selecting the studio emerged were (a) professionalism, (b) hygiene, (c) friend's recommendation, (d) cost, and (e) convenience.

(a) Professionalism

"One thing is about talent. Second thing before I got piercing with him, he already did it for 7-8 years and he is a professional piercer."

Piercee C, male

"Because it has reputation to be professional." Piercee H, female

(b) Hygiene

"Sebab cara tindik dia professional dan bersih. Jarum hanya sekali guna sahaja dan dia akan tunjuk jarum yang digunakan itu."

["Because the way he pierced is professional and clean. Needles were single-use and he'll show you the used needle."]

Piercee D, female

"They use a new needle... clean hygiene." Piercee E, female

(c) Friend's recommendation
 "And my friends told me that he is good."
 Piercee A, male

(d) Cost

"Because they offer the cheapest price... RM 100."

Piercee F, female

(e) Convenience

"Actually, just simple find some place and did the pierce."

Piercee B, male

*"I choose that place because kedai tu je depan mata l."* 

["I choose that place because that studio was right in front me."]

Piercee G, female

## Part 2: Study of piercers

#### Participation

We contacted 14 piercing studios in the Klang Valley area by telephone. Five studios did not provide tongue piercing and four did not wish to be interviewed. Five piercers representing five studios eventually agreed to be interviewed.

#### Pre-operative procedure

The three main themes that emerged from these piercers' pre-operative procedure were (a) medical history, (b) consent and age restriction, and (c) infection control procedure.

#### (a) Medical history

Medical history was the most common issue discussed. The majority of the piercers enquired about clients' diabetes, hemophilia, and allergy status. Only one piercer did not enquire about client's health status prior to providing the service. Interestingly, only one piercer routinely queried clients about blood-borne disease such as hepatitis and HIV. Other health problems reported include asthma, heart problems, hypertension, and keloid scars.

"The form... about the information and then need to know about the hepatitis, HIV, and then diabetic, hemophilia, and any allergy... allergy to color, allergy to seafood."

Piercer B

"On the consent form, there is information about health and they must let us know if they have any health problem or allergy... I always want to know if a people on diabetes, hemophilia. Or they got keloid. Their allergy. If they have asthma for as example."

Piercer C

*"If they have any health problem. Erm... like heart attack."* 

Piercer D

"I will take information. First thing, do they have diabetes, high blood pressure, do they have any allergy if anything towards medicine and everything after that."

Piercer E

(b) Consent and age restriction

All piercers required client consent prior to carrying out the procedure. Most of the piercers required written consent; only one piercer required verbal consent from clients.

"After that customer fill the form... need to sign up."

Piercer B

"There is a consent form and shows identification that they could be over 16. Then yeah consent form... then we getting ready to be pierced."

Piercer C

"The form basically... to say that you agree to do the piercing and we're not responsible if anything happen. Then, some contact information. Yeah that's it. Then sign."

Piercer D

Only one piercer asked clients about their age before providing the service. In addition, the minimum age requirement for tongue piercing is 16 years, and parental consent is required for individuals younger than 16 years.

"This is for piercing. Customer needs to sign and they need to photocopy of their identification card (IC) here. If they're underage, they must have their parent to sign for them."

Piercer C

 (c) Infection control procedure
 The cross-infection and hygiene measures used were (i) preparation of instruments and operative area, (ii) personal protection, and (iii) clients' protection.

(i) Preparation of instruments and operative area

All piercing studios followed standard infection control procedures, whereby single-use needle and sterilized jewelry and instruments were used.

"We use a forcep... Yeah there is always a clean sterilized autoclave. So, it's always clean. Then, needles are single used. The needles also sterilized and autoclaved. Jewelries also autoclave and it also packed and sterilized."

Piercer C

"The set up is like... clean the place we using like the chair or the bed. We just clean it and after that sterilize the area... the surface. After that prepares our tools like needle and jewelries."

Piercer B

 (ii) Personal protection
 All piercers reported that they routinely wore latex gloves while piercing.

*"So basically, we're hygiene here. Everything that contact, we use gloves."* 

Piercer A

*"For tongue, we wear the glove and check tongue of the customer."* 

Piercer B

(iii) Clients' protection

For clients' protection, all piercers used mouthwash prior to carrying out the piercing procedure. Additional forms of protection also mentioned by the piercers were the use of antiseptic cream and antibacterial spray.

*"For tongue, we give them to gargle with XXX mouthwash."* 

Piercer A

"Beginning, we have people wash their mouth... mouthwash and after that they get prepared. They sit down and we prepared everything for them. And then, they get pierced. They get prepared. They got washed. And then, we use antiseptic cream."

Piercer C

"We look at the size of the tongue, short or long then make a mark using this marker then pierce. Oh before... We use this spray... Antibacterial."

Piercer D

In addition, one piercer also asks whether clients have eaten before the procedure.

"We will ask the customer whether already taken the lunch. Before the procedure, try to eat something sweet or something with sugar... Because some customer will feel dizzy after the pierce."

Piercer B

## Post-operative procedure

The themes that emerged from this aspect were (a) infection control procedure and (b) post-operative advice.

(a) Infection control procedure "Infection control procedure" refers to the management of used instruments and waste disposal. All piercers reported that they used an autoclave. Additional infection control methods include using an ultrasonic cleaner, antibacterial liquid, boiling, or alcohol wipes.

"First, we using the ultrasonic. Some sort of like... vibration to make blood or anything, the crusty on jewelry... it will automatically clean. Just move away the dirty things. After that we put to... what's that... Some sort antibacterial liquid. And then after some time, we boil it around 15 minutes and then if something can re-used like clamp, we sterilized. Yeah, we boil and second day, we use the package. Seal again and then we use the autoclave machine. The procedure is like... some sort of like high pressure around 126 degree. Pressure on the machine. It can kill all kinds of bacteria, virus, and fungi."

Piercer B

"There is always a forcep that get used part. They get wash. They get around through the ultrasonic, they get packed and they get autoclaved."

Piercer C

*"Wipe the instruments with alcohol then sterilized back. And also we use ultrasonic."* 

Piercer D

For waste disposal management, all gloves and needles were single-use, and they were discarded after each procedure. Two studios used biohazard bins, while the others used ordinary bins. Interestingly, one studio used a special glass container to dispose used needles.

"The needle of course we throw it. We throw it in the biohazard bin. Everything that contact to piercing, throw it."

Piercer A

"Needles and gloves I throw in this special bin and then we send to this company to manage them."

Piercer E

"We put it in special container. Any dangerous things, sharp needle. After that we just throw it away."

Piercer B

#### Post-operative advices

Post-operative advices given by the piercers include (i) maintaining good oral hygiene, (ii) using ice cubes or cold drinks, (iii) avoiding seafood and egg yolks, (iv) avoiding trauma and irritation to the piercing site, and (v) getting enough sleep and food.

(i) Maintaining good oral hygiene

All piercers recommended that their clients regularly gargle with salt water, mouthwash, or saline. They also advised clients to gargle with plain water after every meal, and to brush their tongue and wash their hands before touching their jewelry.

"When in shower or wash the face, try to brush the tongue. Like morning... brush the teeth or cleaning face... brush the tongue to make sure area around the piercing is clean. And after every meal, try to gargle with plain water. Just rinse away the food residue. And after that, can gargle with salt water."

Piercer B

"So after meal, every after meal they have to wash using mouthwash, XXX, or whatever to make it clear. So, it will hygiene. It's all about hygiene."

Piercer E

However, one piercer advised clients to avoid mouthwash.

"And don't use any mouthwash product like XX or XXX. The property is too strong for new wound."

Piercer B

Using ice cubes or cold drinks
 *"If you uncomfortable try to rinse some cold water and if at home, try to put an ice cube on the tongue."*

Piercer B

(iii) Avoiding seafood and egg yolks
 *"If allergy with seafood, try to avoid. Because it will feel itchy."*

Piercer B

"Same thing we have to take care of the hygiene of your own. You are not allowed to have seafood, shellfish exactly with egg yolks."

Piercer E

(iv) Avoiding trauma and irritation to the piercing site

"For the first week, try not to eat any spicy or hot foods. It will irritating the tongue. For round two weeks, try avoid any oral kiss and try avoid going to swimming pool for at least one month. Because the chlorine... and the bacteria."

Piercer B

"And after that, cannot have hot food and must have liquefied food. Other thing from that, be careful while eating, be careful while having any trouble of brushing teeth or whatever, gargling."

Piercer E

"Avoid undue trauma such as excessive motion of the area, playing with the jewelries, and vigorous cleaning."

Piercer C

 (v) Getting enough sleep and food
 "Stay healthy, get enough sleep, and eat nutritious diet. Avoid stress, excessive caffeine, alcohol, and nicotine."

Piercer C

#### **Client feedback**

The complaints the piercers received include (a) tongue redness and swelling, (b) tongue infection, and (c) closed piercing hole.

(a) Tongue redness and swelling

"Some would say... why my tongue looks very red? And the swelling can't go down... And then if you see some pus coming out from the wound, that's normal too. Just that healing for new wound. Erm... for the tongue, no any problem. Just maybe the healing process will be prolong."

Piercer B

- (b) Tongue infection
  "Some maybe... small infection. But if tongue, I never get. I think it usually healed, for tongue."
  Piercer A
- (c) Closed piercing hole "Erm... not really. Maybe there are some who took out the piercing, like they want to change or something... and the hole closed."

Piercer D

# Discussion

Although many health complications are known to occur following tongue piercing, it remains popular. Thus, the present study aimed to explore this phenomenon in modern society in Klang Valley. People pierce their tongue for several reasons. The present study identified three reasons that motivated people to have their tongue pierced; appearance enhancement, expression of individuality, and curiosity. According to Caroll and Anderson (7), the most common reason for tongue piercing was for improvement from an aesthetic aspect. In modern society, some people consider body piercing nothing more than fashionable accessorizing.

Previous studies have reported that complications can follow tongue piercing. In our study, the immediate complications reported during the first 24 hours after piercing were pain, bleeding, tongue swelling, and difficulty speaking and eating. Similar complications have also been reported to occur up to one week following piercing. However, these complications are expected to follow a piercing procedure, as piercing leads to tissue damage and localized inflammatory responses (8). For late complications, only one piercee reported food deposition on jewelry. Surprisingly, one piercee experienced prolonged sensitivity to spicy food. As far as we know, there was no other study in the medical literature that has reported this.

In this era of technological advancement, all information can be obtained easily. Therefore, it is not surprising that piercees in the present study were aware of the complications that could follow tongue piercing. Furthermore, to prevent legal issues, piercers were expected to provide an explanation of the piercing procedure and possible complications before carrying out the procedure. Some believed that the risk is minimal if sufficient care is taken, and one piercee believed that it was possible to obtain a piercing safely.

Similar to decision making in piercing studio selection, most piercees believed that choosing a piercer and studio with care before obtaining a piercing was crucial to reduce the risk of complications (9). Factors that were considered in the selection of a studio were the piercer's professionalism, studio hygiene, friends' recommendations, and finally, cost and convenience.

The present study also found that all piercers appeared to have basic knowledge of safety measures when providing their services. Although majority of the piercers interviewed took note of their clients' health, only one piercer specifically enquired about blood-borne diseases such as hepatitis and HIV, which may endanger an individual. However, the piercers' knowledge regarding serious medical conditions such as valvular heart disease was inadequate, as evinced by four case reports that documented infectious endocarditis following tongue piercing (3).

Currently, neither specific regulations nor guidelines for body piercing are available in Malaysia. This may be due to a lack of data reported on the complications following tongue piercing. In contrast, health regulations are updated periodically in many Western countries because there is more body piercing complications in these countries, which have been reported in the international medical literature (9). Moreover, increased public acceptance of piercing as a mainstream phenomenon in Western society has led to greater awareness of public health and the need for regulations related to body piercing. There are no guidelines for body piercing in Malaysia, and the majority of piercers require client consent only to legitimize their business.

Nevertheless, the cross-infection measures reported by the piercers in our study were commendable. Most of the piercers cited the use of an autoclave to sterilize their instruments, and wore latex gloves while piercing. This concurs with the findings of Stead *et al.* (3) in South West England. In addition, the sterilization of multi-use instruments, similar to the approach taken by healthcare providers, was reassuring, as it reflects professionalism.

This study also demonstrated that all piercers provided good service to their clients. Providing verbal post-care advice to clients, such as emphasizing the importance of good oral hygiene, may reduce the potential complications of tongue piercing. The piercers also stressed the avoidance of certain foods and activities that can impair the healing process. One piercer also routinely reviews clients' conditions following a tongue piercing. Written advice in pamphlet form is useful guidance to the piercees. The piercer who provided such advice reported that clients rarely, if ever, returned with complaints. One piercer also stated that if a serious medical problem arose following tongue piercing, clients were advised to seek medical attention immediately. Problems such as an acute infection may require removal of jewelry. However, it has been reported that the majority of emergency medical staff do not know how to remove the common types of tongue jewelry. Subsequently, this can lead to further tissue trauma (10).

There were several limitations of the present study. The piercee data were subject to recall bias, as the time since piercing in our sample varied widely and some piercees had already removed their tongue piercing. Even though they were assured of information confidentially and anonymity, some piercers might have been suspicious of our purpose and were thus unwilling to participate in this study. Therefore, it was difficult to establish whether any bias was introduced into this part of the present study.

#### Conclusion

Improvement from an aesthetic aspect is the common reason people have their tongues pierced. Most piercees encountered problems such as tongue pain and swelling in the first 24 hours after piercing. Only a few piercees reported long-term consequences following piercing. However, most of the piercees were aware of what to expect after the tongue piercing procedure. Although cross-infection controls in their piercing studios were adequate, the piercers' knowledge of serious medical illnesses such as the risk of bacterial endocarditis to vulnerable individuals was inadequate.

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## **Conflict of interests**

No conflict of interest.

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