



Adequacy of Adverse Scarring Consent and Management in Private Cosmetic Piercing Services

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Abstract

Background: Hypertrophic and keloid scarring can occur following cosmetic procedures such as piercings. However, there is no formal guidance on whether prospective clients should be informed of such complications when consenting to the procedure.

Objectives: This cross-sectional study aimed to survey piercing parlour policies regarding awareness of and consent for adverse scarring from cosmetic piercings.

Method: Google™ was searched to identify cosmetic piercing businesses in Sheffield, UK. All were contacted by telephone and invited to participate. Those who agreed were posed a telephone questionnaire. Information regarding consent, operator experience, after care advice and customer demographics was obtained.

Results: Fifteen piercing businesses were identified, with 13 (80%) responding to the study questionnaire. 12 (92%) always obtained generic written consent for piercing: 3 (23%) used a generic form and 9 (69%) a company specific form. Six (46%) discussed hypertrophic/keloid scarring as a complication during consent, whilst 3 (23%) did not routinely discuss any complications. Ten (77%) respondents would recommend a medical review if faced with a hypertrophic/keloid scar, with the remaining 3 (23%) providing inappropriate advice. Whilst 8 (62%) businesses provide generic aftercare leaflets none of those materials handle hypertrophic/keloid scarring.

Conclusion: This study highlights a lack of awareness and appropriate informed consent in cosmetic piercings and a risk of incorrect post procedure advice. An education package in conjunction with local businesses may reduce any public health risk. Education packages could include patient information leaflets and consent forms, formulated with guidance from local plastic surgery units.

Introduction

Hypertrophic scarring is primarily formed from type three collagen with myofibroblasts orientated parallel to the original wound and effects between 5-15% of wounds [1,2]. Keloid scarring has a lower incidence than hypertrophic scarring overall, but has an incidence of 5-16% in individuals of Hispanic or African ancestry [1-3]. Risk factors for adverse scarring include: Fitzpatrick skin types four, five and six; Anatomical area; and age 20-30 years old. As well as the significant cosmetic morbidity associated with adverse scarring they are commonly painful, pruritic and can lead to stricture formation [4].

Any wound, whether it is accidental trauma or an intentional surgical incision, carries the risk of adverse scarring. A cosmetic ear piercing is a common procedure that is carried out on a regular basis in the community, but carries a higher risk of adverse scarring relative to other anatomical sites [5,6]. In the context of cosmetic piercings little evidence exists in the literature of the incidence of adverse scarring and of its disclosure as a risk factor in the consent process.

Public surveys have revealed the significant popularity of cosmetic piercings: Almost half of the female UK population have cosmetic ear piercings according to a lay survey; whilst a cross sectional household study suggests 10% (1049/10,503) of the population have cosmetic piercings elsewhere of the body [6,7]. The public's understanding of piercings and their complications appears lacking however, with one study showing 28.1% (449/1,598) of participants did not know of any

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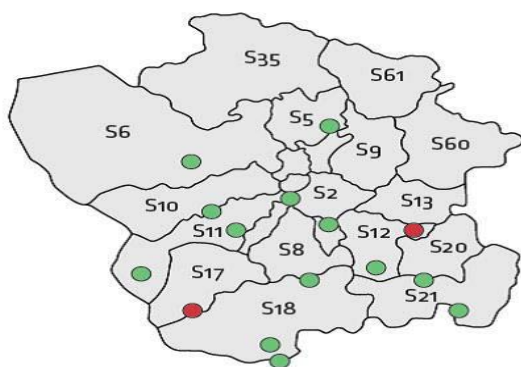


Figure 1: Map of Sheffield by postcode showing the distribution of piercing businesses.

Green denotes participant and red as non-participant.

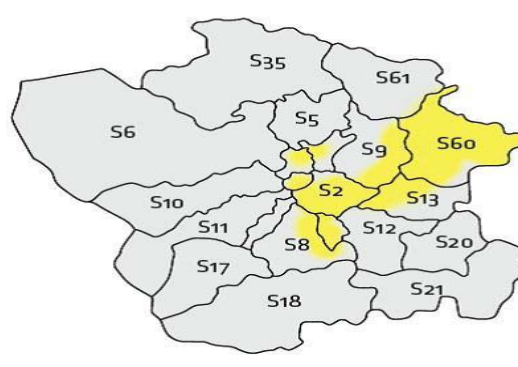


Figure 2: Map of Sheffield by postcode showing the areas of highest concentration of "Black and Ethnic Minority" populous.

non-infectious complications of piercings [8].

Given the high demand for cosmetic piercings and the apparent lack of understanding of adverse scarring as a significant morbidity, this study investigated whether providers of cosmetic piercings informed prospective clients of the risk of adverse scarring in the consent processes.

Methods

A cross sectional survey study was designed to investigate the hypothesis that understanding of adverse scar risk in cosmetic piercing businesses is inadequate. A secondary objective was to explore whether there was variation between geographical areas within the city, given that different ethnic populations have different risks of adverse scarring. It was hypothesised that businesses serving higher risk populations, which in this context are the areas with greater populations of African and Caribbean people, would have better understanding of adverse scarring, based on the premise that their clients will experience adverse scarring more often, and their clients themselves may be better informed of the risk.

Google™ was searched on the 1st July 2014 with the term "Piercing business in Sheffield" to identify piercing companies, and to obtain their contact details. The inclusion criteria were that the business be listed as practising within the city of Sheffield, and performed cosmetic piercings as one of their main services.

All identified piercing providers who met the inclusion criteria were contacted by telephone between the 1st June and 30th June 2014 and invited to participate in a survey. Those who agreed were posed the questionnaire by telephone. The questionnaire was posed to the manager of the business or most senior piercer present. If appropriate staff members were not available, then they were called again on a different day.

A questionnaire (Appendix 1) was designed to capture information from piercing providers on their experience with adverse scarring, consent process and their main client ethnicity. The latter was captured due to the increasing risk of adverse scarring in Fitzpatrick skin types four, five and six, in order to stratify each business with regards to the relative risk of the population it serves. As Sheffield has an ethnically cosmopolitan population, and with geographical variation within the city, a secondary objective was to explore whether there was variation in practice between those serving high risk of adverse scarring populations and those serving low risk

populations.

Responses were recorded in Microsoft Excel for analysis.

Results

Fifteen piercing businesses met the inclusion criteria out of 30 search results, 7/30 did not undertake piercing procedures and 8/30 rarely performed piercing procedures. Thirteen (80%) businesses agreed to participate to the telephone questionnaire and all provided complete responses. The businesses were distributed throughout Sheffield over 13 different postcode areas (Figure 1).

When questioned on their consent process, 12 (92%) routinely obtained written consent in the form of a generic consent form (3/12 (23%)) or a form that was provided by their employing company (9/12 (69%)). None of the consent forms detailed infection or adverse scarring. All consent forms included appropriate demographics, type and location of piercing to be performed and a short past medical history checklist. Six (46%) businesses verbally disclosed adverse scarring during the consent process, 5 routinely and 1 only in the context of the customer reporting a previous adverse scarring experience. Only 4/13 (31%) practitioners routinely discussed infective sequela during the consent process (Table 1).

All 13 centres were able to provide an appropriate lay definition of hypertrophic/keloid scarring, with 10/13 (77%) having seen such adverse scarring as a result of cosmetic piercing. The estimated recalled incidence reported ranged from 1 in 15 years to 2 in 6 years of practice. Other complications reported were infection by 6/13 (46%) and allergy by 2/13 (15%).

When questioned on their management of a customer returning with adverse scarring 10/13 (77%) responded that they would trial simple hygiene instruction and if it did not resolve, propose a medical review. The remaining 3/13 (23%) responded with inappropriate advice including topical vitamin E and simple hygiene instruction only. When asked if they would recommend a medical review they cited a lack of medical treatment for adverse scarring as their reason for not advising a medical review.

Whilst 8/13 (62%) of these companies provided a generic aftercare leaflet on the clinical signs of infection and management thereafter, none covered any aspects of adverse scarring. All businesses reported they would consider using a standardised aftercare leaflet that covered all complications of cosmetic piercing, including adverse scarring if this were provided.

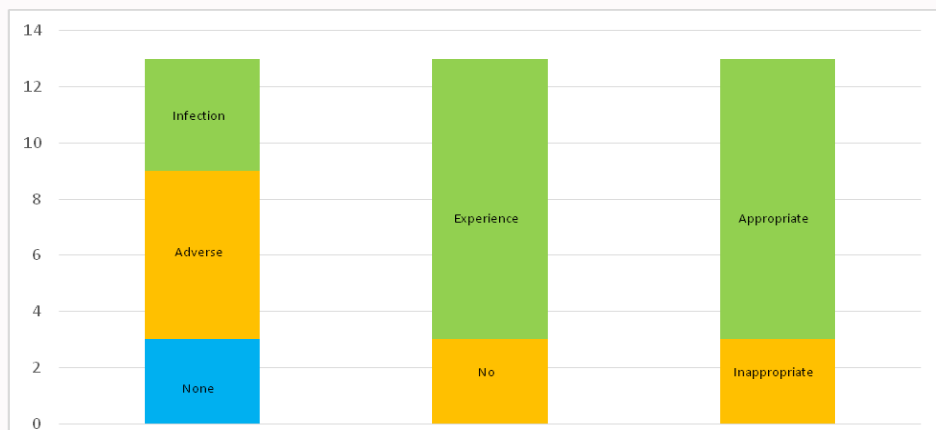


Table 1: Practitioners routinely discussed infective sequela during the consent process.

When asked about the perceived “average customer ethnicity” for their business, 9/13 (69%) responded Caucasian, 2/13 (15%) mixed Caucasian and Caribbean and 2/13 (15%) African and Caribbean. For analysis, these were dichotomised into those serving predominantly Caucasians, and others. Of the 9 serving a predominantly Caucasian population, 8/9 had encountered hypertrophic and keloid scarring in their practice and only 3/9 discussed this at consent. Of the 9 only 2/9 provided adequate immediate advice but 7/9 said they would ensure they reviewed the customer and if there was no resolution then gave adequate advice. Of the 4 businesses serving a predominantly higher risk population; 3/4 had directly encountered hypertrophic and keloid scarring in their practice, 2/4 discussed adverse scarring at consent and 3/4 gave appropriate management advice for such complications. The difference in appropriate management advice between the groups was (not) significant ($p=Z$, Fisher’s Exact test). Due to small sample sizes, no further post hoc analysis of potentially predictive covariates was undertaken. Infection was seen in 4/9 businesses serving a Caucasian population and 2/9 serving a mixed/Afro-Caribbean population, with an allergy complication noticed fairly equally in 2/9 and 2/4 in respective business groupings.

Discussion

Present study findings

This study identified within the piercing businesses of Sheffield there is a good understanding of adverse scarring clinical presentation, but a poor culture of disclosure as part of the informed consent process. Not only is there a deficiency of adverse scarring disclosure, but also other sequelae of infection, allergy and migration. The literature indicates the prevalence of infection, both bacterial and viral, is 27% and allergic reaction is 15% but neither was comprehensively covered in the consent processes [9]. As healthcare professionals we are bound by strict guidance on consent and our duty of candour to disclose risks and side effects for any intervention, which performed without may be construed as clinical negligence and assault under British common law [10]. Certainly the current guidance states “...you should discuss information about: ...risks inherent in the procedure, however small the possibility of their occurrence, side effects and complications” [10]. Given the incidence of these aforementioned adverse events the authors suggest a standardised consent form and process to ensure the customer undergoes an informed consent process prior to receiving a cosmetic piercing.

As previously noted the incidence of hypertrophic and Keloid

scarring is increased in Fitzpatrick skin types four, five and six. Ethnic groups such as Pakistani, Black African, Arab, Indian, Black Caribbean, Bangladeshi and Mixed Black are most likely to have such skin types. The most recent census of Sheffield in 2011 identified 19.2% of the 552,698 residents were of ethnic minorities, with the highest population concentrations of “Black and Ethnic Minorities” shown in Figure 2 [11]. Given that 4/13 (30%) of the surveyed businesses serve a population predominantly of such higher risk groups there should be more onus on awareness, disclosure and appropriate management of adverse scarring. An education package within such “high risk” communities might be warranted to address this.

Although prevention of adverse scarring is more effective than any current treatment, there still exist a number of accepted modalities. Scar massage has long been recommended in varying guises, however a recent review found that although massage appears more effective in post-surgical scarring than traumatic or burn scarring it has a very weak evidence base [12]. Current treatment modalities for adverse scarring include compression therapy with silicone, intra-lesional corticosteroid, cryotherapy and surgical excision [1,12]. Future options for the management of adverse scarring may include anti-neoplastic agents such as Bleomycin and 5-Fluorouracil, but further evidence is needed for their inclusion in standardised practice [12,13]. As this study shows 23% of piercing businesses provide incorrect post procedure advice, thus placing the customer at risk of needless physical and psychological morbidity from adverse scarring. The same 23% would not recommend a medical review because of a perceived lack of medical treatment of adverse scarring, which the authors feel highlights a lack of knowledge of adverse scarring. The authors recommend an education package to within the piercing community to address this.

Limitations of present study

The authors acknowledge this is a small sample group and limited to a single region of a single county. The sample group does represent a wide variety of the population of that region however. Although the authors approached the senior “shop floor” members of each business, there is a risk of selection bias as the knowledge of that individual may not accurately represent that of the rest of the staff.

Relationship to other studies

This appears to be a relatively understudied area, with no directly comparable studies apparent. Quaranta et al. [8] in 2011 looked at public (University freshmen at a single Italian institution) knowledge

of the complications of body piercing [8]. The survey identified that 34.9% (558/1,598) were not aware of any non-infectious complications from piercings or tattooing. The survey found that 25.4% (406/1,598) had a piercing, only 19.3% (89/463) signed a consent form and 74% (342/463) were informed of the complications of the procedure. Our study would purport that consent in our region of the UK is 92%, slightly higher when compared to 74% in Quarantas et al. [8]. The discussion of complications in our study was 46% (adverse scarring) and 31% (infective), whereas Quarantas et al. [8] reports that 74% of participants were told of the complications involved, although there is no information regarding adverse scarring specifically.

Schorzman et al. [13] advises that individuals “with a history of hypertrophic or keloid scars are at extremely high risk of recurrence and should be advised against body piercing.”¹⁴ Meltzer et al. [9] highlights, that similarly to the UK, there is a problem of regulation of piercing businesses [9]. Meltzer also recommends that family physicians retain an impartial role but highlights the risks of cosmetic piercings to individuals with previous adverse scarring who would be at higher risk of recurrence.

The authors feel this study highlights a deficit in informed consent given to the customers of the businesses involved. The UK Chief Medical Officer identified deficiencies in the regulation of cosmetic surgery as well as the public’s understanding of the risks involved for cosmetic surgery. The recent drive by the British Association of Plastic, Reconstructive and Aesthetic Surgeons entitled “Think over, before you make over” is aimed at empowering a public with the tools and knowledge to ensure they undertake cosmetic procedures fully informed and safely. The authors appreciate the above measures were aimed at cosmetic surgery, but would suggest that anyone considering a cosmetic piercing should do so under the same umbrella of “Think over, before you make over” on a national level. Further research is needed to investigate the true prevalence of adverse scarring from cosmetic piercings.

Conclusion

The awareness of adverse scarring in cosmetic piercing practices in Sheffield is good, however the informed consent processes is inconsistent and often inadequate. The authors suggest the development of education packages between local businesses and public health bodies. These education packages should include standardised consent forms, clinical information and management guidelines aimed at the piercing business. The availability of aftercare leaflets in 62% of businesses and their enthusiasm to distribute a standardised form would allow the inclusion of a comprehensive patient information leaflet in the education package.

Key Points

- This study shows that on a regional level there is good awareness, in cosmetic piercing businesses, of adverse scarring.

- This study also shows that there is poor disclosure of adverse scarring during the cosmetic piercing consent process and a deficiency in the aftercare provided thereafter.

- The authors suggest the development of education packages between local cosmetic piercing businesses and public health bodies.

- The authors also suggest the development of standardised consent forms, clinical information and management guidelines aimed at the piercing business, as well as comprehensive patient information leaflets.

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