Prevalence of piercing in a German population

The aim of the present study was to determine the prevalence of piercing in a given German population. Questionnaires were given to 5,000 patients of a private dental practice, two private dermatology practices and the outpatient Clinic of the Department of Dermatology at the University of Regensburg. A total of 4,505 patients were evaluated. We found 389 patients with piercings other than that of earlobes (8.6%). More piercings were found in females (12.9%) than in males (4.1%). The study shows a high prevalence of piercings in a given population. For that reason, dermatologists ought to be aware of the different types of piercings available as well as their short- and long-term complications.

Key words: piercing, prevalence of piercing, complications

Body piercing has become increasingly popular in all age groups in the western world. Although the localisations of piercing and piercing procedures as well as their complications and effects on health care systems have been described and discussed in the medical literature [1-3], little data exists on the prevalence of piercing in European populations. The aim of the present study was therefore to determine the prevalence of piercing in our region.

Methods

Our six-month evaluation included 5,000 patients of a private dental practice, two private dermatology practices and the out-patient clinic of the Department of Dermatology at the University of Regensburg. The questionnaire presented to each patient required information on the age and gender of patients, the prevalence of piercing, the number of piercings, the age at the time of piercing and possible complications. A total of 4,505 patients (2,588 females, 1,917 males) were evaluated.

Results

Since the piercing of earlobes is very common in both women and men (84% and 22% of patients in the present study), this particular localization was excluded from the evaluation. In our study, we found 389 patients (8.6%) with piercings other than that of earlobes. The localization of piercings is summarised in table 1. Most localizations were equally distributed in females and males, but differences could be observed for umbilicus (more females than males), eyebrows (more males than females), nipples (more males than females), and genital areas (more males than females). 310 females with piercings were found (12.0%) and 79 males (4.1%). However, since these figures also included children and patients older than 50 years of age, the prevalence of piercing in the middle age groups was much higher. The group between 15 and 30 years of age, for example showed a prevalence of 27.2%. Furthermore, some patients had more than one piercing (figure 1), hence the total number of piercings amounted to 506.

A large number of piercings (52.8%) were obtained under the age of consent of 18 years (figure 2). No age difference could be detected for the time of piercing regarding individual localisations, but genital areas, nipples, and band of the tongue were pierced at a later age than lips, eyebrows, tongues, and nostrils.

Reports on complications were frequent, 32% of patients reported an intolerance of nickel while 18% of patients had suffered from temporary inflammation and 14% from infections with pus secretion. Patients with piercings of nipples (7 out of 12), umbilicus (26 out of 117) and genital area (4 out of 7) reported more complications compared to patients with other localizations like the concha (36 out of 171).

Table 1. Local distribution of 506 piercings in 389 patients (310 females, 79 males)

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
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<tr>
<td></td>
<td>n</td>
<td>n %</td>
</tr>
<tr>
<td>Concha</td>
<td>171</td>
<td>142</td>
</tr>
<tr>
<td>Umbilicus</td>
<td>117</td>
<td>114</td>
</tr>
<tr>
<td>Nostir</td>
<td>84</td>
<td>72</td>
</tr>
<tr>
<td>Eyebrow</td>
<td>49</td>
<td>25</td>
</tr>
<tr>
<td>Tongue</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>Nipple</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Lower Lip</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Upper Lip</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Frenulum</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Genital area</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Septum of nose</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Chin</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Tragus</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Neck</td>
<td>1</td>
<td>0</td>
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<tr>
<td></td>
<td>506</td>
<td>417</td>
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</table>

Discussion

The rather high prevalence of piercings present in the population of our region corresponds with a report from Australia. In a random sample survey of individuals aged 14 years and over, Makkai and McAllister found 8% of the population to have piercings [4]. In contrast, Mayers et al. [5] established a 51% prevalence of body piercing in university undergraduates. In agreement with this study we found the highest numbers of pierced patients in this age group. Interestingly, more than 50% of patients were pierced under the age of consent. Therefore, the legal aspects of such a physical injury ought to be discussed as well as the many possible complications of piercing. A recent US-study showed that 14% of women and men aged 18 to 50 years had piercings [6].

The fact that 32% of patients reported an intolerance/allergy to nickel is noteworthy since patients remain allergic to nickel their whole life which presents serious implications for their private and professional lives. According to McDonagh et al. [7], the increase in the frequency of nickel sensitivity in women with pierced ears compared to those with unpierced ears was highly significant.

Furthermore, more recent reports have combined an increased incidence of nickel and cobalt allergy in pierced versus unpierced male subjects [8, 9] and in patients with multiple piercings [6]. Jewellery, especially ear-piercing, is also one of the most predisposing factors for nickel allergy in children [10].

Since nickel-containing costume jewellery is nowadays forbidden in Germany and the European Community, the number of nickel allergies is expected to drop in the near future. A special variant of contact reaction to piercings are sarcoidal granulomas at the pierced site [11-13].

Although severe or life threatening complications were not reported in our study group, physicians should be aware of medical complications, such as bleeding, tissue trauma as well as bacterial and viral infections (HIV, hepatitis) [14-16].

In a recent study from Poland, 45.6% of pierced patients reported complications after piercing like bleeding (12.25%), local infection (25.5%), tissue tearing (5.88%) and hypertrophic scars (1.96%) [17].

Complications also depend on individual locations, for instance, keloids are more likely to develop when ears are pierced after the age of 11 than before [18], whereas mastitis may occur after nipple piercing [19].

Oral piercings mainly involve tongues and lips. As the tongue is a very vascularized organ, tongue piercings may lead to complications like extensive haemorrhage that might even necessitate hospitalisation. Furthermore, extensive edema and infections including abscess formations have been reported after tongue piercing, due to the large number of bacteria in the oral cavity [20, 21]. Tracheotomy has been described as necessary treatment in a case of LUDWIG’s angina caused by anaerobic bacteria [20]. Another infection resulted in a bifid tongue, i.e. the division of the tongue along the anterior midline [22]. In the long run, tongue piercings may cause gingival recessions lingually, while lip piercing may result in recession buccally, mainly in the adjacent lower front teeth (figure 3). Loss of periodontal attachment was associated. Furthermore, diastemata in the upper and lower jaw as well as chipping and tooth fractures including both enamel and dentin have been described after tongue piercing [23-30]. In some cases, parts of the piercing ornament became buried in the deeper tongue tissues and had to be removed surgically [31]. Oral piercing has finally been reported to stimulate saliva production and to impede vocalization, mastication, swallowing and speaking [32]. It also interferes with radiographic examinations of the oral cavity, e.g. with panorama techniques. Therefore, temporary removal of oral piercings during dental treatment has been recommended.

**Figure 3.** Recession caused by lip piercing.

**Conclusion**

The study presented proves the high prevalence of piercing. Since diseases of the oral mucosa are an integral part of dermatology, we should also be familiar with the different types of oral piercings available as well as their short- and long-term complications.

**Acknowledgements.** Financial support: none. Conflict of interest: none.

**References**