

The Prevalence of Oral and Perioral Piercings and It's Relation to Psychological State in Riyadh City

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ABSTRACT

In the past few years, a significant increase has been observed in the oral piercing, especially in youth. In order to follow the trends or make their personal statements, teens and young adults are opting oral and perioral piercings. No doubt, the piercing can cause significant implications, mainly with relevant to the psychological state. This research aims to determine the relationship of oral and perioral piercings with the psychological conditions, like depression, anxiety, stress, and oral health of the females in Riyadh, Kingdom of Saudi Arabia (KSA). A cross-sectional study was conducted based on responses obtained from the participants, having 18-30 years of age. A self-administered Depression Anxiety Stress Scales-21 (DASS-21) questionnaire, decayed, Missing, Filled Teeth (DMFT) index, and probing of the gingiva were used to assess the data. The research findings reflected a notable correlation between the subjects' desire to haven oral piercing with depression, anxiety and stress (p -value $<0.0001^*$). Individuals, who desired for oral piercings, are more likely to be suffered with moderate depression, anxiety, stress, and gingival recession.

Keywords: Oral piercing, Depression, Anxiety, Stress

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INTRODUCTION

The word "piercing" relates to an operation usually performed to insert jewellery into a spot punctured into the skin through a needle without anaesthesia [1]. Body piercing has been carried out by several tribes, especially in South America, Asia, and Africa. Recently, for various reasons, the art of body piercing has become popular among young people in the Western world [2]. In modern teenagers, it is usually regarded as a fashion or style expression. Piercing is considered a means of expressing trendy and cool personality, or a method of identification and self-expression, or a bold move, while few people do it for aesthetics or fashion. Nowadays, oral piercing is becoming popular. Oral piercing is to make holes in the oral tissues like lips, tongue, frenum, uvula, or gingiva in order to wear studs, rings, or other jewellery [3]. More and more people are consulting

dentists to wear jewellery inserted into the intra-oral and peri-oral tissues, usually limited to the tongue, but also in anatomic areas like the oral vestibulum, or upper labial frenum, etc. [4]. However, dental professionals are particularly interested in piercing the tongue, uvula, cheeks, lips, or a combination of these parts, of which the tongue is the most common piercing spot [2].

Oral piercings have recently become popular among young adults in the Riyadh, Saudi Arabia. In order to build their image in society, youngsters are opting for oral piercings without considering its impact on their lives. Consequently, dentists must be aware of immediate and delayed complications, inform their patients about the effects, treat potential complications, and identify injuries caused by oral and perioral piercings [5-8].

Some of the reported effects on the patient with oral piercing when examined by the dentist in dental and non-dental settings are chipping of teeth, cracking of teeth, cusp fractures, dental abrasions, galvanic currents, dental infection,

gingival recession, and salivary flow stimulating effects. Some studies show a correlation between depression and the prevalence of piercings and an increase in the DMF for those who have piercings [5,9-11].

More than 20 articles were published on the prevalence of orofacial piercings. However, these articles focused on the multiple complications and various side effects. Three of the articles reported the prevalence of oral piercings ranging from 3.4% to 20.3%, according to studies done at the University of Sharjah, the United Arab Emirates in 2018, but none were conducted in KSA. Additionally, no studies have reported the specific reason for getting the piercing, or if the subjects were aware of the complications associated with them, and very few were done regarding the perception of piercings of those who did not have any [5,6,12,13].

Purpose of the study

Owing to the increasing trend of oral piercing, it is important to determine its implications in detail. This research will assess the relationship incidences of oral and perioral piercing and depression, anxiety, and stress among girls in the Riyadh region, and to assess potential complications and awareness regarding oral and perioral piercings.

MATERIALS AND METHODS

This study was conducted at the Central Riyadh area, which is the capital of the Saudi Arabia. The cross-sectional research method was selected, in order to reach onto the targeted audiences to get the desired outcomes. To obtain the data, the research sample has been selected based on research objectives and available resources. The females based on Riyadh, Saudi Arabia were selected, having ages of 18 to 30 years old and passed with the oral piercing process in the tongue or frenum, such as perioral piercings in the lip or cheek. The responses were obtained from 42 females with a variety of piercings and from different academic levels. Moreover, 20 females were invited to serve as a control group in the research activity. While, the sample did not include the females, who had any medical diseases or were on any medication in the last three months. Also, the lactating and the pregnant women were not selected for getting responses.

In order to get the responses from the selected samples, who fulfil the criteria, the convenience sampling technique was selected. Under which, a post was shared on Twitter, to invite the people in REU dental clinics for clinical examination and fulfil the questionnaire. Moreover, the snowball sampling technique was also applied, where the participants were asked to nominate further people known to them for involving in this activity. This greatly helped in collecting more relevant responses for performing a thorough research.

In this research, all participants received a consent form and a cover letter to explain the study, along with confidentiality clause of keeping the patients identify hidden. The Survey Monkey online site was used to collect and record the participant responses. The questionnaire, used for research, was carefully translated into Arabic language, to allow local participants to give responses easily. Moreover, the pre-validated self-reported Depression Anxiety Stress Scale (DASS) questionnaire was used. It contains 21 various questions, to measure the severity of the anxiety and depression. The DASS allows to evaluate the mental health of the patients, along with focusing on the stress, anxiety, and depression. The test contains a list of 42 symptoms, and each is rated into four-point scale for measuring their incidence during the preceding week.

The data extracted from the Survey Monkey was in the Excel format. The data was imported to Stata/MP version 14 for processing and analysis. Continuous variables were presented as the mean/standard deviation while categorical variables were presented as frequency/percentage. Comparison of characteristics between participants with and without oral/perioral piercings was performed using an independent t-test for continuous data and Fisher's exact test for categorical data. Depression and anxiety were dichotomized (with/without) to allow further analysis.

Multiple logistic regression analysis was performed to determine the association between oral/perioral piercings with depression and anxiety. Two models were created, one for depression and another for anxiety. Potential confounding variables were screened using a cutoff of $p < 0.20$. Model building was performed

by removing each confounder, one by one, based on the change-in-estimate (CIE) criterion. Variables with CIE >10% were retained in the model. P values ≤0.05 were considered statistically significant.

In addition, the clinical oral examination was performed to assess the Decayed, Missing, Filled Teeth (DMFT) index, which is a means to express the prevalence of caries numerically. The third molars were not included in the examination, while only 28 permanent teeth were considered. The sum of those three made up the DMFT value and was recorded on the electronic sheet. And the presence or absence of gingival recession was recorded as yes or no, where the gingival margin is apical in respect to the cement-enamel margin.

FINDINGS

A total of 42 participants were included in the study. Table 1 presents the demographic and clinical characteristics of the participants. Except for one participant, all are aged 18-30 years old. A majority have attained a bachelor's degree. More than half of the participants have

Table 1: Demographic and clinical characteristics of participants (n=42).

Characteristics	n(%)
Age category	
<18 years old	0
18-30 years old	41 (98)
>30 years old	1 (2)
Gender	
Male	0
Female	42 (100)
Education level	
High school	9 (21)
Bachelor's degree	33 (79)
Income	
Less than 3,000	3 (7)
3,000-5,000	9 (21)
6,000-9,999	7 (17)
≥10,000	23 (55)
DMFT index, mean	9.69 ± 6.05
Gingival recession	
Yes	14 (33)
No	28 (67)

Table 2: Depression, anxiety, and stress level of participants (n=42).

	Normal N (%)	Mild N (%)	Moderate N (%)	Severe N (%)	Extremely severe N (%)
Depression	26 (62)	6 (14)	10 (24)	0	0
Anxiety	28 (67)	5 (12)	5 (12)	3 (7)	1 (2)
Stress	32 (76)	8 (19)	2 (5)	0	0

an average family monthly of ≥10,000 SAR. The mean DMFT index is 9.69, Range: 0–33, and one third of the participants have gingival recession (Table 2).

There is no significant difference (p-value<0.0001*) between participants with and without piercings in terms of the following characteristics: age, education, income, DMFT index, awareness about complications, and receipt of advice from a dentist regarding complications. Meanwhile, the proportion of participants with gingival recession is significantly higher among those with piercings compared to those without. None of the participants without piercings showed gingival recession. A significantly higher proportion of participants with piercings have depression compared to those without (71% vs. 5%). A significantly higher proportion of participants

Table 3: Demographic and clinical characteristics by presence of oral/perioral piercing (n=42).

Characteristics	With piercing (n=50) N 9%	Without piercing (n=50) N 9%	P value
Age category			
18-30 years old	20 (95)	21 (100)	1
>30 years old	1 (5)	0	
Gender			
Male	0	0	-
Female	21 (100)	21 (100)	
Education level			
High school	4 (19)	5 (24)	1
Bachelor's degree	17 (81)	16 (76)	
Income			
Less than 3,000	1 (5)	2 (10)	0.052
3,000-5,000	8 (38)	1 (5)	
6,000-9,999	3 (14)	4 (19)	
≥10,000	9 (43)	14 (67)	
DMF index, mean	11.10 ± 7.76	8.29 ± 3.27	0.1341
Gingival recession			
Yes	14 (67)	0	<0.0001*
No	7 (33)	21 (100)	
Aware of oral/perioral piercing complications			
Yes	15 (71)	8 (38)	0.062
No	6 (29)	13 (62)	
Received advise from dentist oral/perioral regarding piercing complications			
Yes	4 (19)	3 (14)	1
No	17 (81)	18 (86)	
Depression			
With	15 (71)	1 (5)	<0.0001*
Without	6 (29)	20 (95)	
Anxiety			
With	13 (62)	1 (5)	<0.0001*
Without	8 (38)	20 (95)	
Stress			
With	9 (43)	1 (5)	0.009*
Without	12 (57)	20 (95)	

with piercings have anxiety compared to those without (62% vs. 5%). A significantly higher proportion of participants with piercings have stress compared to those without (43% vs. 5%) (Table 3). Univariate analysis revealed that depression and anxiety are associated with having oral/perioral piercings. Furthermore, those with depression are 50 times more likely to have piercings, and those with anxiety are about 33 times more likely to have piercings.

DISCUSSION

The present study assessed the relationship between oral and perioral piercing incidence, and depression, anxiety, and stress among girls in the Riyadh region. It also assessed the potential complications and complication awareness regarding oral and perioral piercings in a group of 22 subjects with piercings compared to 20 subjects (control group) without piercings.

The present findings in this study revealed that subjects got piercings for appearance (65.4%), attitude and self-expression (15.9%), and social approval; that is, whether parents or friends approve of the piercing (4.3%).

This is in agreement with previous findings that the main reasons behind the piercing itself were due to individual expression (62%), art (43%) [14], or as a form of celebration, uniqueness, or "being myself" [13-15].

In the present study, there was a significant correlation between the presence of piercings and elevated scores in the DASS-21 test. People with piercings showed more depression, anxiety, and stress with a higher score of decayed, missing, and filled teeth.

This is also in agreement with Ventäet al. [5] who reported a 3.4% prevalence of subjects with oral piercings having significantly elevated scores in Beck's Depression Inventory. However, our findings do not agree with others who found that piercings are not necessarily associated with psychological status, but rather as a proclamation against the attitude and perception of society to piercings. This was consistent with others where they found no difference between pierced and non-pierced subjects about mood or psychological status, which agrees with our results. However, D'ambrosioet al. [16] stated that psychological pathologies were more

prevalent in patients with piercings compared to those without. Moreover, others concluded that individuals with piercings or body alterations expressed more self-destructive behaviours, eating disorders, alcohol dependency, negative quality-of-life (QOL), or reduced social interactions [5,13].

The present study revealed that a significant percentage of pierced subjects were aware of oral health consequences and complications (71%). However, 81% did not receive advice from dentists regarding piercing complications. This could be due to self-awareness or social media. Also, almost 67% of teeth (mainly the canines) which were next to the perioral lip piercing presented with gingival recession. The present study has limitations such as that the sample population was small. Moreover, the sample size involved only females and no males; however, more females have piercings than males in this society. This small sample size was not diverse enough to grasp any possible racial or ethnic differences in the perception of piercings. The characteristics of this population cannot be extrapolated to others. Other limitations could be a lack of information regarding the stem length of piercing tools, the length of time wearing the piercing, oral hygiene methods, and tooth wear in relation to piercing locations. For these reasons, we recommend further investigations in this region. However, the present study gives some insight into the relation of oral and perioral piercings to depression, anxiety, and stress in the region. Data about piercings and their perception was based on self-report instead of objective evaluations.

CONCLUSION

In conclusion, the results of our study are simply small steps towards a better understanding of the inclination towards oral and perioral piercing and its relation to depression and anxiety in Riyadh Saudi Arabia. Girls who had piercings were more likely to have moderate depression, moderate anxiety, or both. Although the study sample was small, it provides a good insight into the growing world of piercings and its multi-factorial etiology.

CONCLUSION

This study has created an awareness among

teenagers about their self defence and protection. This is a time where young girls need to be more independent at the same time be more conscious about their safety. The survey has certainly created an awareness towards the same.

REFERENCES

- Maspero C, Farronato G, Giannini L, et al. The complication of oral piercing and the role of dentist in their prevention: A literature review. *Stomatologija* 2014; 16:99.
- Oberholzer TG, George R. Awareness of complications of oral piercing in a group of adolescents and young South African adults. *Oral Surg Oral Med Oral Pathol Oral Radiol Endodont* 2010; 110(6), pp.744-747.
- DB N, Sumita Banerjee NS, Apana Devi P, et al. Oral piercing and its implications on the health of oral tissues: Aesthetics or mutilation? *Choice* 2018; 1:7.
- Levin LI, Zadik YE. Oral piercing: Complications and side effects. *Am J Dent* 2007; 20:340.
- Ventä I, Lakoma A, Haahtela S, et al. Oral piercings among first-year university students. *Oral Surg Oral Med Oral Pathol Oral Radiol Endodont* 2005; 99:546-549.
- Maheu-Robert LF, Andrian E, Grenier D. Overview of complications secondary to tongue and lip piercings. *J Canadian Dent Assoc* 2007; 73:327-331.
- Hennequin-Hoenderdos NL, Slot DE, Van der Weijden GA. The prevalence of oral and peri-oral piercings in young adults: A systematic review. *Int J Dent Hygiene* 2012; 10:223-228.
- Hennequin-Hoenderdos N, Voor DSN. A PhD completed. Trauma to the gingiva by oral hygiene aids and oral piercings. *Nederlands Tijdschrift Voor Tandheelkunde* 2007; 124:653.
- De Moor RJ, De Witte AM, Delmé KI, et al. Dental and oral complications of lip and tongue piercings. *Br Dent J* 2005; 199:506-509.
- Hennequin-Hoenderdos NL, Van der Weijden GA, Slot DE. Gingival trauma: Tooth brushing and oral piercings. 2017; 3:110-117.
- Junco P, Barrios R, Ruiz MJ, et al. Educational intervention about oral piercing knowledge among dental students and adolescents at schools. *Int Dent J* 2017; 67:294-298.
- López-Jornet P, Camacho-Alonso F. Oral and dental complications of intra-oral piercing. *J Adolescent Health* 2006; 39:767-769.
- Al-Samarai AAS, Fauzi AM, Jassim B, et al. Oro-facial piercings and depression amongst university students in the United Arab Emirates. 2018; 2:68-77.
- Millner VS, Eichold BH. Body piercing and tattooing perspectives. *Clin Nursing Res* 2001; 10:424-441.
- Armstrong ML, Stuppy DJ, Gabriel DC, et al. Motivation for tattoo removal. *Archives Dermatol* 1996; 132:412-416.
- D'Ambrosio A, Casillo N, Martini V. Piercings and tattoos: Psychopathological aspects. *Activitas Nervosa Superior Rediviva* 2013; 55:143-148.