

Anterior Teeth Mutilation and The Occurrence of Posterior Teeth Attrition in Siberut Island

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Abstract

The Mentawai ethnic group is accustomed to the practice of anterior teeth mutilation on males and females prior to reaching puberty age at the Siberut Island, Mentawai Islands Regency, West Sumatra Province. **Objective;** of this research was to analyze the effects of anterior teeth mutilation on the teeth of the Mentawai ethnic, and prove that there is a correlation between anterior teeth mutilation and posterior teeth attritions. **Material & Method;** There were 179 respondents who contributed to this study by applying accidental sampling method, consist of 96 respondents had anterior teeth mutilations and 83 non-mutilation respondents were found. Among respondents with anterior teeth mutilation, 53.07% of them had posterior teeth attritions. Only 0.56% of the respondent with anterior teeth mutilation did not have posterior teeth attrition. On the other hand, respondent without anterior teeth mutilation who got posterior teeth attrition and without posterior teeth attrition were almost similar (27.93% and 18.44%, respectively). **Conclusion;** the anterior teeth mutilation which is a ritual of Mentawai ethnic group and has been performed for generations, is significantly influent the occurrence of posterior teeth attrition.

Key words: teeth mutilation, attrition.

Introduction

The Mentawai ethnic group who lives in the Siberut Island has a tradition to mutilate their anterior teeth¹. Mutilation is a kind of activity to cut a part or parts of human body². So, teeth mutilation is to cut a part or parts of the teeth. The shape of the anterior teeth which are

mutilated is spike, both on upper and lower jaws, called '*sipiat sot* or *mapiat sot*'. The reasons to forming *sipiat sot* or *mapiat sot* are for beauty, style, mastication, and imitation of wild animal teeth³.

The mutilation of the anterior teeth both on girls and boys are conducted prior to puberty.

The anterior teeth mutilation can cause damage of enamel and dentin. According to the teeth health science, this mutilation is not good and might cause teeth health problem. Enamel layer is the outer part of the teeth which has function to prevent the teeth from the damage. Enamel layer damage can lead to teeth attrition. The occurrence of the teeth attrition is also influenced by mastication and the type of food^{4,5}.

The change of the shape of the anterior teeth which is smaller than the original, caused by the mutilation, can cause the change of the anterior teeth contact. This change causes extra work for the posterior teeth in order to support the anterior teeth function which has been decreased. The high pressure caused by the extra work leads to posterior teeth attrition.

Aims and Objectives

This research will explore and analyze the relationship between the anterior teeth mutilation and the posterior teeth attrition on the Mentawai Ethnic group in Siberut Island.

Materials and Methods

Survey approach was used in this study and clinical examinations. The population was all Mentawai Ethnic group which have passed

puberty phase. Convenience sampling technique (accidental sampling) was employed, because of the difficulties in getting samples by the continuous movement of the Mentawai people. Sample was taken everywhere when a teeth mutilation case was found⁶ which is 10% of Siberut population (\pm 200 people).

Results



Picture 1. Anterior teeth mutilation

Picture 2. Posterior teeth attrition

Table 1. The Distribution of The Mentawai Ethnic Population Based on Gender and Teeth Mutilation in Siberut Island

	Male		Female		Totals	
	N	%	N	%	N	%
Mutilation	57	31.84	39	21.79	96	53.63
Not mutilation	47	26.26	36	20.11	83	46.37
Totals	104	58.1	75	41.9	179	100

Goodman and Kruskal tau: 0.001; p = 0.711

Table 1 indicated that there is no significant relationship between the anterior teeth mutilation and gender.

Table 2. The Relationship Between Anterior Teeth Mutilation and Age Group in Siberut

Age Group	Anterior Teeth Mutilation		
	Mutilation	Not Mutilation	Totals
> 35 years	45 (25.14 %)	11 (6.15 %)	56 (31.28%)
25 – 35 years	36 (20.11 %)	38 (21.23 %)	74 (41.34 %)
< 25 years	15 (8.38 %)	34 (18.99 %)	49 (27.37 %)
Total	96 (53.63 %)	83 (46.37 %)	179 (100 %)

Goodman and Kruskal tau : 0.070 ; p = 0.000

Table 2 indicated that there is a significant relationship between the anterior teeth mutilation and the age group. The teeth mutilation was more frequent on the age group > 35 years old (25.14%)

Table 3. The Distribution of The Mentawai Ethnic Population with Posterior Teeth Attrition Based on Gender in Siberut

Posterior Teeth Attrition	Male		Female		Totals %	
	N	%	N	%	N	%
Attrition	84	46.93	61	34.08	145	81
Not Attrition	20	11.17	14	7.82	34	19
Totals	104	58.1	75	41.9	179	100

Goodman and Kruskal tau : 0.000 ; p = 0.925

Table 3 indicated that there is no significant relationship between posterior teeth attrition and gender. The posterior teeth attrition was more frequent in male than female (46.93% and 34.08%, respectively).

Table 4. The Distribution of The Mentawai Ethnic Population Based on Gender and The Depth of Posterior Teeth Attrition in Siberut

Depth of Attrition	Frequency			Percentage (%)		
	L	P	Total	L	P	Total
Enamel	23	23	46	15.86	15.86	31.72
Dentin	59	38	97	40.69	26.21	66.9
Pulp	2	0	2	1.38	0	1.38
Total	84	61	145	57.93	42.07	100

Goodman and Kruskal tau : 0.009 ; p = 0.256

Table 4 indicated that there is no significant relationship between gender and the depth of posterior teeth attrition.

Table 5. The Distribution of The Mentawai Ethnic Population with Anterior Teeth Mutilation and Posterior Teeth Attrition in Siberut.

	Attrition		Without Attrition		Totals	
	N	%	N	%	N	%
Mutilation	95	53.07	1	0.56	96	53.63
Not mutilation	50	27.93	33	18.44	83	46.37
Totals	145	81	34	19	179	100

Goodman and Kruskal tau : 0.000 ; p < 0.01

Table 5 indicated that there is significant relationship between anterior teeth mutilation and posterior teeth attrition.

Discussion

This research revealed that there is no significant relationship between the anterior teeth mutilation and gender. However, there is a significant relationship between the anterior teeth mutilation and the age group. The teeth mutilation was more frequent on the age group of > 35 years old (25.14%). There is no significant relationship between posterior teeth attrition and gender. The posterior teeth attrition was more frequent in male than female (46.93% and 34.08%, respectively).

The anterior teeth mutilation which can cause damage of enamel and dentin, can lead to teeth attrition. The occurrence of the teeth attrition is also influenced by mastication and the type of food. This research showed that there is significant relationship between anterior teeth mutilation and posterior teeth attrition. The

change of the shape of the anterior teeth which is smaller than the original, caused by the mutilation, can cause the change of the anterior teeth contact. This change causes extra work for the posterior teeth in order to support the anterior teeth function which has been decreased. The high pressure caused by the extra work leads to posterior teeth attrition. There is no significant relationship between gender and the depth of posterior teeth attrition. Less anterior teeth mutilation at young age happened due to foreign influence which makes them not to mutilate their teeth.

Conclusion

The anterior teeth mutilation might cause the posterior teeth attrition in Mentawai ethnic.

Suggestion

It is needed a dissemination about the effect of teeth mutilation on the occurrence of posterior teeth attrition.

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