



CORRELATION OF EXERCISING WITH CHRONIC PERIODONTITIS - AN ORIGINAL RESEARCH

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ABSTRACT **AIM:** Aim of this study was to see if there was a correlation of exercising among the people in Patna as majority of the population in the cities have a more sedentary life style.

METHOD: A total of fifty subjects were selected aged between 35 and 60 years who have been exercising or not exercising since more than two years (consistently). Questionnaires were distributed among the participants regarding the frequency and level of exercising. The fifty participants were then divided into two groups –the ones who exercise and the ones who do not exercise. Full mouth periodontal examination was carried out for all the participants.

RESULT: It has been observed that the group that exercises had a lower prevalence of chronic periodontitis than the group that does not exercise. However, the mechanism by which this may occur has still not been clearly explained. More studies for the same have to be carried out in the future.

KEYWORDS : exercise ; chronic periodontitis ; sedentary

INTRODUCTION:

Chronic Periodontitis is known as an immune-inflammatory disease which causes breakdown of the periodontal tissues including alveolar bone and in severe cases leading to tooth loss. It is more commonly observed in older individuals above the age of 35 although may be seen in younger individuals. There is an established evidence linking chronic periodontitis to various systemic diseases such as Coronary heart disease, Diabetes mellitus type 2, Cerebrovascular diseases including stroke, Obesity, Rheumatoid arthritis and also known to cause Preterm Low term Birth weight in infants.

It is also known that exercising has its beneficial effects on the systemic and overall general health of the individual and helps in reducing the incidence of the above diseases.

The common link between Chronic periodontitis and exercising is its relation between the imbalance and balancing of Reactive Oxygen Species and Antioxidants. Chronic Periodontitis is the result of an imbalance while exercising helps to eliminate stress and anxiety leading to more balance.

Hence, this study is an attempt to find out whether the correlation exists between Chronic periodontitis and exercising.

MATERIAL AND METHODS:

The subjects selected were in the age group between 35 to 60 years who were either exercising or not since two years or more. They were divided into two groups ie. Group 1 – subjects who exercised and Group 2 – subjects who did not exercise, based on the response given in the questionnaires. A full mouth periodontal examination was carried out and presence of atleast two or three sites with attachment loss of >3mm and probing depth of > 5 mm was considered as Chronic Periodontitis.

Inclusion Criteria:

- Subjects with a compliment of 20 teeth
- Subjects in the age group between 35 and 60 years
- Subjects who were exercising since a minimum of two years (Group 1)
- Subjects who were not exercising since a minimum of two years (Group 2)

Exclusion Criteria:

- Subjects with any systemic diseases
- Pregnant or lactating subjects
- Subjects who have undergone any periodontal therapy since 2 years

RESULTS:

Prevalence of Chronic Periodontitis was found to be higher among those who do not exercise (69.4%) as compared to those who did

(27%). [Table 1]

Table 1:

		Absence Of Chronic Periodontitis	Presence Of Chronic Periodontitis	Total
Group 1	Count	20	5	25
	%within Row	73%	27%	100%
	%within Column	68.7%	30.6%	50%
Group 2	Count	10	15	25
	%within Row	33%	67%	100%
	%within Column	31.3%	69.4%	50%
Total	Count	30	20	50
	%within Row	53%	47%	100%
	%within column	100%	100%	100%

The above results obtained were then statistically analyzed by chi square test.[Table 2]

Table 2:

	Value	df	Asymp. Sig. (2 sided)	Exact Sig. (2 sided)	Exact Sig. (1 sided)
Pearson Chi Square	7.113(b)	1	.003		
Continuity Correction(a)	5.372	1	.010		
Likelihood Ratio	8.263	1	.003		
Fischer's Exact Test				.010	.005
Linear by Linear Association	8.001	1	.005		
N of valid cases	50				
a Computed for only a 2x2 table					
b 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.00.					

DISCUSSION AND CONCLUSION:

The findings of the present study are in correlation with similar studies conducted in Karnataka and by Merchant et al. A few Cross sectional studies also gave the same result. However a few other studies do contradict this one. Various criterias such as age selection etc. could be responsible for that. Till date there has been no clear mechanism that has been explained. A few explanations may include the possibility of reduced inflammation and Reactive Oxygen Species (ROS) during exercising which may help reduce Periodontal inflammation in turn. Increased exercise is also associated with increased insulin sensitivity and hence prevention of Diabetes mellitus type 2 which is a risk factor for chronic periodontitis. Exercising regularly also prevents obesity which is also a risk factor for chronic periodontitis.

This study suggests that there is a strong correlation between

exercising and Chronic Periodontitis. However, more cross sectional studies with a larger sample size are needed as well as a more detailed study into the mechanism of action.

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