ORIGINAL RESEARCH PAPER

Volume-8 | Issue-2 | February-2019 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

STUDY OF THE ASSOCIATION BETWEEN CRIME AND PARAFUNCTIONAL HABITS IN A GROUP OF CHILDREN RESIDING IN A JUVENILE HOME IN JAIPUR DISTRICT

Dental Science

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ABSTRACT

OBECTIVE: To study the association between the nature of crime and level of stress and anxiety in the juvenile delinquents by examining signs and symptoms of bruxism and other parafunctional habits.

METHODOLOGY : 40 healthy children of age between 14-16 years residing in a Juvenile home in Jaipur city were examined for the presence of clinical features of parafunctional habits.

RESULTS: 31 out of the 40 subjects taken in the study exhibited bruxism .Nail biting habit was found to be present more in first and second time prisoners and almost absent in three or more timers with a significant value (p=0.009). Results showed a level of significance (p=0.008) indicating more bruxism in crime against person as compared to crime against property. Also, bruxism was significantly correlated to the emotional state of anger (p = 0.006).

CONCLUSION: It was concluded that nature of crime and duration of stay in the prison was significantly associated with the development of parafunctional habits even in the juveniles involved in criminal activities.

KEYWORDS

Bruxism, Juvenile delinquents, Parafunctional habits.

INTRODUCTION

Bruxism is defined as a parafunctional grinding of teeth consisting of involuntary rhythmic or spasmodic nonfunctional gnashing, grinding or clenching of teeth other than chewing movements of the mandible, which may lead to occlusal irregularities and periodontal break down.[1] It leads to damage of the teeth, periodontium and oral mucosa, pathology of the muscles constituting the masticatory system, headache and cervical pain, temporomandibular and hearing disorders, if left untreated for a long time.[2] Bruxism is connected to anxiety and there is an association between Neuroticism and bruxism and other stress-related oral health symptoms.[3] Psychological problems are believed to be the most common cause of the development of Parafunctional habits like Bruxism, Lip biting, Nail biting etc which in turn can affect the oral health (Dentition and Periodontium etc.).[4] Bruxism is seen to be more severe during periods of heightened stress and anxiety.[3]Thus, individuals with stress and/or specific personality traits tend to release the tension accumulated during the day through bruxism and these traits of neuroticism may result in reactions of anxiety and anger.[5]

Signs and Symptoms:

Bruxism is characterized by -

Signs:

1. Abnormal tooth wear and occlusal trauma
2. Tongue or cheek indentation
3. Linea alba along the biting plane
4. Gum recession
5. Presence of torus maxillaries and /or mandibularis
6. Increase in muscle activity
7. Presence of masseter muscle hypertrophy on voluntary contraction

SYMPTOMS:

1. Grinding of the teeth accompanied by a characteristic sound
2. Headache (especially in the temporal zone when the patient wakes up in the morning)
3. Pain, clicking or locking of temporomandibular joint
4. Pain in the masticatory and cervical muscles
5. Tooth or teeth hypersensitive to cold air or liquid
6. Excessive tooth mobility
7. Poor sleep quality, tiredness[6]

In India, prisoners have always been a disadvantaged, socially marginalized and underserved population that needs special attention. They contain disproportionately high numbers of people from ethnic minorities, poorer backgrounds and groups with lower literacy rates. Usually people from criminality are the people who are educationally and socioeconomically deprived.[7]

Children of the age 18 years and less than that are kept in special prisons called as Juvenile homes for their character rehabilitation. These children are called as Juvenile delinquents.

A very less number of studies have been conducted in the past to study the level of stress in prisoner population by examining parafunctional habits in them .None of such work has been done on young prisoner population. The present study was an attempt to correlate the bruxism and other parafunctional habits with the nature of crime and emotional state in the juvenile delinquents.

METHODOLOGY

40 healthy children of age between 14-16 years residing in a Juvenile home in Jaipur city were examined for the presence of clinical features of parafunctional habits. A self-compiled questionnaire was prepared consisting of 13 questions related to education level, parental status, number of times in prison, emotional state during stay in prison etc-The questionnaire was delivered to the subjects by a trained researcher, with the assistance of the juvenile home authorities. Prior to the study, permission from juvenile home authorities and clearance from ethics committee were obtained. Before questionnaire administration, all the subjects were informed about the purpose of the study and ensured that the data they provided was anonymous and would be reported only in an aggregate form. Each juvenile delinquent gave informed consent before the start of the study. Questionnaires were distributed among the 40 subjects to be filled by them. Any subject who was not able to understand any question or was not able to answer was provided proper assistance by the operator. Clinical examination of all the subjects was done under day-light using mouth mirrors and probes. All the data was recorded and was put to statistical analysis.

INCLUSION CRITERIA:

- Prisoners who were present on the day of examination were included in the study.
- Prisoners who agreed to give the consent for participation in the study.

EXCLUSION CRITERIA:

- Prisoners with the history of systemic disease like epilepsy etc.
- Mentally or physically challenged prisoners.
- Those prisoners who are not willing to take part in the study.
- Prisoners absent on the day of study.

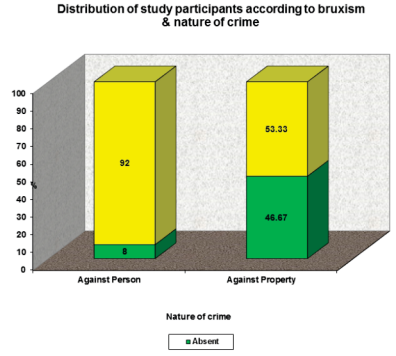
RESULTS

All the delinquents in the age group of 14-16 years present in the juvenile home participated in the study.31 out of the 40 subjects taken in our study exhibited bruxism. According to the level of education,

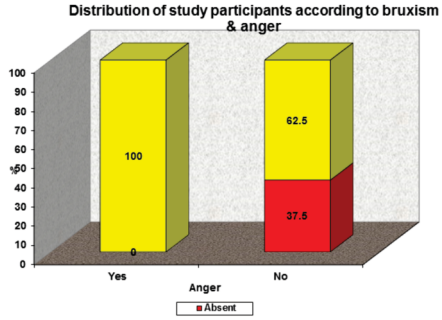
Bruxism was found to be present more in the illiterate and primary education groups as compared to the secondary education group. Although the results were not found to be statistically significant (p value>0.05) which was attributed to the small size of the sample.

According to the number of times in prison, more bruxism was present in those who were first and second timers(p value =0.014) as compared to third or multiple timers in the prison.

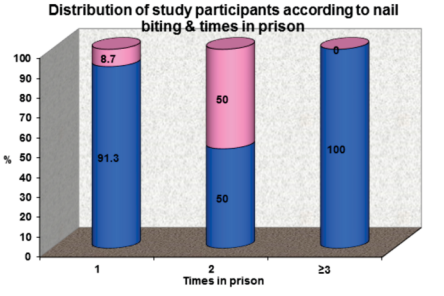
Nature of crime was categorized under crime against person and crime against property. Results showed a level of significance (p=0.008) which indicated more bruxism in crime against person as compared to crime against property.



Emotional status of anger, insecurity and guilt were compared among all the 40 subjects on the basis of the questions asked. On applying Fisher exact test, value of significance(p=0.006) was obtained for the group showing anger which proved that bruxism is significantly correlated to the emotional state of anger.



Among other parafunctional habits, only one subject out of the 40 was found to exhibit thumb sucking habit .Nail biting habit was found to be present more in first and second time prisoners and almost absent in three or more timers with a significant value (p=0.009).These matched with the results found with bruxism.



DISCUSSION

The present study was conducted with an aim to find the association between the nature of crime and level of stress and anxiety in the juvenile delinquents by examining the clinical signs and symptoms of bruxism and other parafunctional habits.

In 1985, Pavone studied the "Bruxism and its effect on the natural teeth" and summarized that bruxism is one of the most common, complex and destructive dental functional disorders. It was said that bruxism is difficult to identify because most of the patients are unaware of it during the early stages. Many factors contribute to the etiology of the disorder, but, none could be considered accurate.[8] In 1957, Nadler said that it affected large percentage of the population and all age groups. The etiology may be of local, systemic, psychological, or occupational in nature but the major etiological factor is psychological. Bruxism includes all abnormal grinding and clenching habits like chewing gum, pencil biting and clenching foreign objects. Bruxing in some patients may be considered as an attempt to cope with frustration and tension.[9]

The grinding of teeth has long been held as one physical manifestation of stress and anxiety.

Individuals who grind their teeth tend to report more symptoms of anxiety and depression than non-bruxers[10,11]. Compared to non-bruxers, those who grind their teeth tend to report greater life stress and are more likely to suffer from DSM-defined depression and anxiety disorders.[12].

Most of the oral health surveys conducted worldwide has mainly targeted children, adolescents, and adults from the general population. Several epidemiological studies suggest remarkable disparities in the oral health of economically poor families and disadvantaged groups of people with "special" health care needs. Prisoners are among these disadvantaged groups and their number continues to increase dramatically.[13,14] Prisoners are a group of persons who are held in custody, captivity, or a condition of forcible restraint, or those who are simply deprived of freedom of expression or action(Agrawal etal 2014)[15].It's a common finding in various surveys that the prisoner populations exhibit high levels of insomnia, self-inflicted harm and injury, suicidal thoughts and attempts, and exposure to sexual, physical and emotional abuse. The prevalence of Bruxism is also found to be more in children (14% to 20%) and a decline is noted over age (Lavigne etal 2000)[16]. Bruxism has been commonly reported in pediatric patients, with an incidence that varies between 7-15%.[17] Depression, anxiety and substance dependence occur frequently in the prisoner population. Prisoners may have feelings of guilt or shame about the offences they have committed, the fact that they have been imprisoned and the effects of their behaviour on other people, coupled with anxiety about how much of their former lives will remain intact after release(Cavallo etal 2014)[18].Psychological factors are also considered as the most common cause of development of parafunctional habits like bruxism, nail biting, tongue thrusting etc. and prisoners are more vulnerable to periodontal diseases due to the above mentioned factors (Singh etal 2014)[4].

In our study, 31 out of the 40 subjects exhibited bruxism. Bruxism was found to be present more in the illiterate and primary education groups as compared to the secondary education group but the results were not statistically significant (p value>0.05). According to the number of times in prison, more bruxism was present in first and second timers(p value =0.014) as compared to third or multiple timers .Nail biting habit was found to be present more in first and second time prisoners and almost absent in three or more timers with a significant value (p=0.009). Results showed a level of significance (p=0.008) indicating more bruxism in crime against person as compared to crime against property. Also, bruxism was significantly correlated to the emotional state of anger (p = 0.006).

CONCLUSION

Juvenile delinquents face a number of challenges like- no rehabilitative programs by the society, rejection from the society and family and system. All these conditions favour to make them more mentally stressed. Psychological stress affects both general and oral health as indicated by the presence of bruxism. It is essential for the juvenile homes to take steps so as to provide a better living environment which is free from stress and anxiety. Emotional support should be provided so that they don't feel guilt or insecurity while in the prison and their character rehabilitation should be done in a friendly manner. They must be engaged in purposeful activities and should be given time for relaxation and reflection.

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