ORAL HEALTH STATUS OF DRUG ADDICTS IN THE CZECH REPUBLIC

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ABSTRACT

Over the last decade, illicit drug use has become a very pronounced problem in the Czech Republic. Some branches of medicine such as psychiatry, internal medicine and neurology have tried to confront the situation by joint treatment of addicted patients. Dentistry has so far remained outside this multi-disciplinary care despite the fact that the status of dental and other tissues in the oral cavity influences general health and *vice versa*. The aim of the survey on the oral health of drug addicts that was conducted in the Czech Republic from 2000 to 2002 was to collect data to help dental professionals contribute to the complex care of drug addicts. The number of addicted persons examined was 400 and the subgroup of drug addicts consisted of 217 subjects (mean age 23.87 yrs, SD 6.70), all being treated in long term hospitals. Among other oral health features observed, the DMFT and CPITN indices are presented in this paper. The results show severe dental and periodontal tissue destruction in young addicts and two case reports are included. The above survey indicates that dental treatment should become a part of standard care for addicted patients in long-term hospitals. Furthermore, if severe oral tissue impairment in young persons whether in dental practice or during autopsy is encountered a drug addiction should be suspected. If so, the treatment of the person or examination of the dead body should accordingly be adjusted.
J Forensic Odontostomatol 2003;21:36-9)

Keywords: Oral epidemiology, oral health status of drug addicts, DMFT, CPITN, semi-lunar caries

INTRODUCTION

Following the change in the political system in 1989, the Czech Republic has become both a transportation route and a target market for drugs which have become easily accessible and resulted in an increased abuse of drugs.[1] In addition, the misuse of alcohol has increased.

Medical professionals have responded to this situation by promoting complex care for those trying to be rehabilitated and get back to normal life. Several branches such as psychiatry, internal medicine and neurology have joined in this common effort and a methadone program has been implemented to help some addicts in their re-socialization. Dentistry has unfortunately so far been left outside this complex of care, despite the fact that the status of dental and other oral tissues is closely related to the general state of health where dental caries, apical infections, gingivitis and periodontitis can impair dietary intake because of discomfort and pain. As a result a project was initiated in the year 2000 to monitor the oral health of drug and alcohol addicted persons with the aim to collect data on the oral health of drug and alcohol abusers in the Czech Republic and thus establish a database in this field. Moreover, it aimed to promote the inclusion of dental treatment as part of the multi-disciplinary therapy developments and to prevent further destruction of dental and other oral tissues.[2] When the project began, only the most severe oral health problems, such as acute pain or other diseases affecting overall health were treated.

METHODS

In the years 2000-2002, 400 drug and alcohol dependent subjects from long-term hospitals in all regions of the Czech Republic were examined but in this report only data of 217 drug addicts with a mean age of 23.87 (SD 6.70) are presented. The addicted persons were examined by two dentists and the

Table 1: *DMFT values of individual age groups with different duration of addiction.*

Age Groups	DT		MT		FT		DMFT		Duration of addiction	Mean number of erupted teeth per person
	mean value	SD	mean value	SD	mean value	SD	mean value	SD		
15-19	2,77	3,43	0,14	0,41	3,60	3,20	6,51	4,37	4,71	28,29
20-24	3,57	3,87	0,73	1,28	4,63	3,64	8,93	5,45	6,21	30,69
25<	3,67	3,45	2,99	5,26	6,13	4,57	12,79	6,70	6,64	31,00

following indices were used for oral health status evaluation: DMFT (Decayed, Missing and Filled Teeth) for caries experience, DI-OHI (Debris Index – Oral Hygiene Index) for oral hygiene status, PMA (Papilla, Marginal gingiva, Attached gingival inflammation), CPITN (Community Periodontal Index and Treatment Need) for periodontal status and RI (Restorative Index) for restorative treatment need assessment. A salivary screening test for AIDS* was used. If the patients were restricted to the hospital an ART (Atraumatic Restorative Treatment) was conducted. This treatment was accompanied by a questionnaire, which mapped the type of drug, duration of addiction and attitudes of the addicts towards dental care.

Data processing

The end data were processed using standard statistical tools: means, standard deviations, variance and Student t- test. The results in percentages express frequency of persons according to particular CPITN score.

RESULTS

For the purpose of statistical analysis, the patients were divided into two groups - drug addicts and alcohol addicts. In this paper, only the data on oral health of drug addicts are presented with special reference to the DMFT and CPITN indices. The number of drug-addicted persons was 217 and Table 1 shows caries experience and dental health status of individual age groups with different average duration of addiction. In the age group 15-19 yrs (43 persons), a mean DMFT value of 6.51 per person was found while average duration of addiction was 4.71 years. In the age group of 20-24 yrs (104 persons) a mean DMFT of 8.93 per person was found while average addiction was 6.21 years. In the last group of 70 persons (subjects older than 25 yrs), the mean DMFT value was 12.79 with an average addiction of 6.64 years. It is obvious from the data in Table 1 that the major proportion of DMFT values is formed by decayed and missing teeth.

The CPITN periodontal index observations are presented in Table 2. CPITN score of 0 (healthy periodontal tissues) was found in 8.76 % of subjects, CPITN 1 (bleeding on probing) was found in 8.76 % of examined persons, calculus (i.e. CPITN score 2) in 72.35 %, shallow pockets were found in 4.15 % and deep pockets in 0.92 %. Non-measurable sextants were found in 5.07 % of subjects.

DISCUSSION

The oral health status of drug and alcohol addicts has been discussed and studied extensively in countries that have faced the problem of drug addiction for many years. The dental health of drug addicts has been described in Italy,[3] in the Netherlands[4] and in Denmark[5] and the attitudes of drug addicts towards dental care were reported by Sainsbury in Australia[6] and Scheutz in Denmark.[7] In the Czech Republic, on the other hand, very little attention has been paid to the issue of drug addiction[8-10] because the problem has only recently become

Table 2: *CPITN values of individual age groups of examined patients.*

CPITN score	Number of persons	Respective percentage proportions
0	19	8.76
1	19	8.76
2	157	72.35
3	9	4.15
4	2	0.92
x	11	5.07

* *SDS International Company*

Fig.1: 23 year old male

Fig.2: 28 year old woman

severe. The aspect of our project described in this paper contains information on oral health of drug addicts reflected in the two most relevant indices, DMFT and CPITN, commonly used in epidemiological studies. While the results shown in the tables represent the mean values or percentage proportions of patients with different stages of periodontal disease, the case reports reflect the fact that the patient, for example, who is epidemiologically characterized with DMFT 5, which could be quite favourable (e.g. five fillings), is in reality more likely to have 5 apical abscesses or root remnants and may include atypical semi-lunar caries typical of drug addicts.[11] Similarly, percentage proportions of persons with particular periodontal impairment do not reflect a real picture of what a dentist can encounter in the surgery.

Two cases of oral health status of drug addicts follow and in both cases the state of the dental or periodontal tissues do not correspond with the age of the patient.

Case reports

Case 1

The oral health status of a 23 year-old man is shown in Fig. 1. There has been abuse of alcohol and cannabis from the age of 14 yrs and heroin since age of 17 yrs, and difficulties related to heroin misuse were the reason why he started withdrawal treatment. In the upper jaw the atypical semi-lunar caries was present on the teeth 13, 12, 11, 21 and 22, while tooth 23 was fractured due to the progress of the caries in totally encircling the tooth. Similarly, in the lower jaw this type of caries was found on teeth 34, 33, 43 and 44, the DMFT value was 25 and the gingival margins were inflamed (CPITN of 1-2).

Case 2

Fig. 2 presents the oral health status of a 28 year-old woman addicted to cannabis since the age of 18 yrs and to heroin since age of 22 yrs. The remnants of the dentition are decayed, the upper jaw was edentulous and in the lower jaw the roots of teeth 44 and 43 and the decayed remnants of teeth 31, 41 and 42 remain. The DMFT value was 27, the teeth are covered with plaque due to the lack of oral hygiene and the attached gingivae were inflamed (CPITN, where the sites could be measured, was 3 and 4).

CONCLUSION

The results of the survey indicate that patients being treated for drug addiction in long-term hospitals should undergo dental treatment in order to reduce inflammation and pain and to prevent further destruction of teeth and periodontal tissues in order to restore masticatory function. It is unacceptable to delay dental treatment until the patient leaves the hospital as withdrawal treatment usually takes several months or a year or even longer. The authors suggest that whenever an extreme case of destruction of dental and periodontal tissues or atypical semi-lunar caries is found in young patients the cause may be drug addition. It is also suggested that treatment in a private practice, or examination of a dead body during autopsy be focussed to take into consideration the nature of the case. When examining a dead body, the pattern of oral disease can be indicative of a factor within the history or even in the cause of death.

ACKNOWLEDGEMENT

The Internal Grant Agency of the Ministry of Health of the Czech Republic No.NK/6246-3 is acknowledged for the financial support of this study.

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