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Needs for dental treatment in handicapped children

The issue of dental treatment in handicapped children is still live and poses many problems. The number of patients in need of complex dental treatment is increasing (1,3, 4,5-11). A big proportion of patients require procedures performed under general anaesthesia, though it is contraindicated in certain cases (1,2,3). Therefore it is so important to undertake preventive measures and treatment early.

The purpose of the study was to evaluate the state of deciduous and permanent teeth and identify treatment needs in handicapped children.

MATERIAL AND METHODS

In 2002 The Department of Developmental Age Dentistry, Medical University of Lublin handled 151 handicapped patients aged 3–17 years. Handicapped children suffered from mental impairment, infantile cerebral palsy, Down's syndrome, epilepsy, Duchenne's muscular dystrophy, haemophilia, autism, heart defects leukemia, arthrogryposis, schizophrenia, sclerodermia, mucoviscidosis, diabetes. Some were generally healthy but hyperexcitable, which excluded ambulant treatment. Table 1 lists patients seen at the clinic. Since the number of children with insulin-dependent diabetes who sought dental treatment was big, that group is not included in the present study. Another paper will discuss the issue in that group separately.

A clinical study covered 96 children. The frequency of tooth decay in deciduous teeth, dmf value and its individual components: decayed teeth (d), missing (m) and fillings (f) and the frequency of tooth decay in permanent teeth, DMF value and its components: decayed teeth (D), missing (M) and fillings (F), dental treatment index in deciduous and permanent teeth were calculated.

All children underwent complex dental treatment: under general anaesthesia – 45.83% and ambulant treatment – 54.17%. In the group treated under general anaesthesia 19 children were mentally handicapped, 9 were with infantile cerebral palsy, 6 with Down's syndrome, 2 with epilepsy, 2 with autism, 2 with heart defects and 4 were generally healthy though hyperexcitable.

Tab. 1. Children examined

Systemic disease	No. of patients examined
Mentally handicapped	23
Infantile cerebral palsy	19
Down's syndrome	12
Epilepsy	10
Duchenne's dystrophy	6
Haemophilia	7
Autism	2
Heart defects	3
Ectodermal dystrophy	3
Leukemia	2
Arthrogryposis	1
Schizophrenia	1
Scleroderma	1
Mucoviscidosis	1
Late post-irradiation complications	1
Diabetes	55
Children generally healthy with hyperexcitability	4

RESULTS AND DISCUSSION

The results are presented on figures 1–3 and tables 2 and 3. The results found that 53 patients had deciduous teeth and 81 patients had permanent teeth present. The frequency of decay in deciduous teeth was 98.11% and in permanent teeth 97.92% (Fig 1). Mean dmf was 6.19, most numerous were decayed deciduous teeth (d) – mean 6.13 (Fig. 2). Mean DMF was 7.95; here also decayed permanent teeth, were most numerous (D) – mean 7.25 (Fig. 3). Decay treatment index was found at a very low level, 0.006 and 0.007 for deciduous and permanent teeth, respectively (Fig 4).

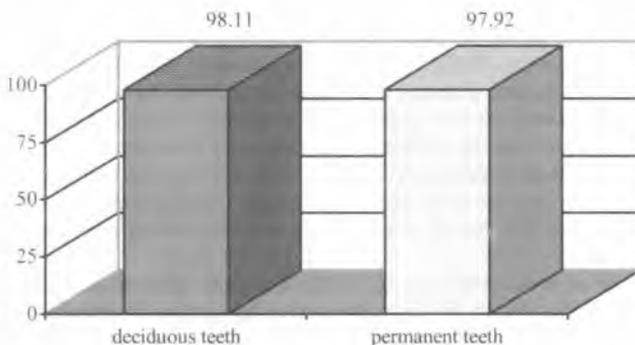


Fig. 1. Frequency of dental caries

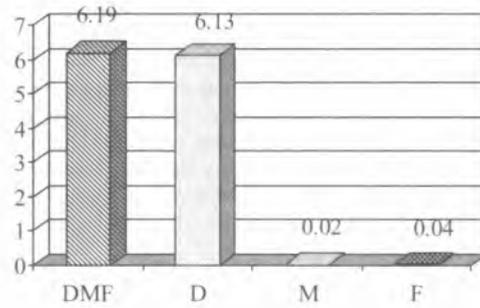


Fig. 2. Mean dmf and its components in the group of patients examined

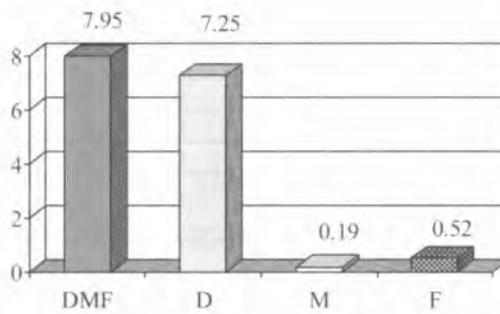


Fig. 3. Mean DMF and its components in the group of patients examined

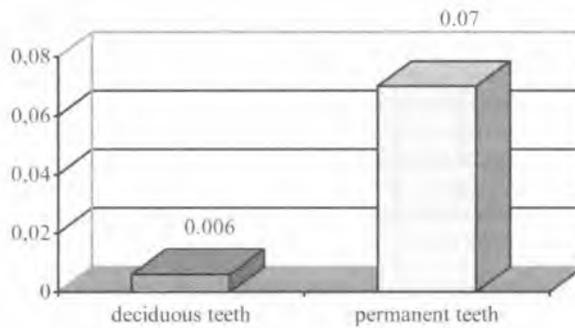


Fig. 4. Dental treatment index for deciduous and permanent dentition

The development of tooth decay in particular systemic diseases is presented in Table 2 for deciduous teeth and Table 3 for permanent dentition. Table 2 implies that children with systemic diseases had most milk teeth with active caries; the biggest number of decayed milk teeth (d) was found in children with infantile cerebral palsy, mean 8.0, and in children with epilepsy, mean 6.6. The dmf value was the highest in the group with cerebral palsy – 8.15 and epilepsy – 6.6.

In the group of children with Down's syndrome, epilepsy, Duchenne's dystrophy, autism and generally healthy children with hyperexcitability the decay treatment index for milk teeth was 0. In children mentally handicapped mean 0.08 fillings were detected (Table 2).

Table 2. Mean dmf and its components and dental treatment index for deciduous teeth in children with chosen systemic diseases

Systemic disease	No. of examined children	d	m	f	dmf	Dental treatment index
Mentally handicapped	14	4.93	0	0.08	5.00	0.01
Infantile cerebral palsy	13	8	0.08	0.08	8.15	0.01
Down's syndrome	7	6.57	0	0	6.57	0
Epilepsy	5	6.6	0	0	6.6	0
Duchenne's dystrophy	2	5	0	0	5	0
Autism	1	5	0	0	5	0
Generally healthy with hyperexcitability	1	4	0	0	4	0

Table 3. Mean DMF and its components and dental treatment index for permanent teeth in children with chosen systemic disease

Systemic disease	No. of examined	D	M	F	DMF	Dental treatment index
Mentally handicapped	23	9.13	0.09	0.32	9.61	0.03
Infantile cerebral palsy	12	4.19	0	0.75	5.66	0.13
Down's syndrome	8	6.37	0.25	0.37	5.09	0.05
Epilepsy	6	5.75	0	0.62	8.5	0.09
Duchenne's dystrophy	6	5.5	0	0.5	6	0.08
Autism	2	11.5	0.5	0	12	0
Generally healthy with Hyperexcitability	4	9.25	2	1	12.25	0.01

Table 3 also implies that frequency of decayed permanent teeth was high. The DMF value was the highest in the group of generally healthy but hyperexcitable children – 12.25. The mean number of decayed permanent teeth (D) among them was 9.25. The decay treatment index was also low – 0.01.

Tooth decay was also frequent among children with autism where the DMF value was 12.0, and in children mentally handicapped – 9.62. It is worth emphasising that children with autism did not have their teeth treated at all, which is expressed by dental treatment index = 0 (Tab. 3).

In the group of mentally handicapped children, with Down's syndrome, Duchenne's dystrophy and generally healthy children with hyperexcitability the dental treatment index was very low (Tab. 3).

CONCLUSIONS

1. The frequency of tooth decay was high both in deciduous and permanent teeth.

2. Mean dmf and DMF values were high.

3. Dental treatment index was very low, especially for deciduous teeth.

4. Handicapped children need intensified dental care, including preventive measures.

5. Parents of handicapped children need education as to the necessity of early prevention and treatment.

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SUMMARY

The study covered 96 handicapped children, 3–17 years old. Complex dental treatment was performed in all children: under general anaesthesia in 45.83% and ambulant treatment in 54.17%. The study found high frequency of dental caries both in deciduous and permanent teeth. Mean numbers of tooth decay, extractions and fillings (d, m, f and D, M, F for deciduous and permanent teeth, respectively) were high. The dental treatment index was low, unsatisfactory especially in deciduous teeth. Dental care provided for handicapped children needs to be intensified, with special attention paid to preventive measures. It is important to make the parents of handicapped children with systemic disease aware of early prevention and treatment.

Stomatologiczne potrzeby lecznicze u dzieci specjalnej troski

Badaniem objęto 96 dzieci specjalnej troski w wieku od 3 do 17 lat. U wszystkich dzieci wykonano kompleksowe leczenie stomatologiczne. U 45,83% dzieci wykonano zabieg w znieczuleniu ogólnym, a 54,17% dzieci było leczonych ambulatoryjnie. Stwierdzono wysoką frekwencję choroby próchnicowej zarówno w uzębieniu mlecznym, jak i stałym. Średnia liczba puw i PUW była wysoka. Wskaźnik leczenia choroby próchnicowej był bardzo niski. Szczególnie niezadowolający był w uzębieniu mlecznym. Istnieje potrzeba zintensyfikowania opieki stomatologicznej dzieci specjalnej troski ze szczególnym uwzględnieniem profilaktyki. Należy uświadamiać rodziców dzieci ze schorzeniami ogólnymi co do konieczności wczesnego podejmowania działań zarówno profilaktycznych, jak leczniczych.