

Assessment of the state of dentition and oral hygiene in 16-25-year-old young people with mild and moderate mental disability

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Abstract

Purpose: The purpose of the research is to assess the state of dentition and oral hygiene in 16-25-year-old young people with mild and moderate mental disability in comparison with a control group of healthy young people at the same age.

Material and methods: The research was carried out in a special School and Tutelary Centre in Lublin. A group of 144 young people aged 16-25 with mild and moderate mental disability (group I) among them 75 girls and 69 boys participated in the research. A group of 50 healthy young people aged 16-25 (group II) among them 24 girls and 26 boys was a control group. Determined: frequency of dental caries, DMF number, dental caries treatment index (DTI), oral hygiene index (OHI), percentage of traumatic injuries of teeth, percentage of sealed teeth.

Results: The frequency of dental caries in both groups was 100%. The average DMF was 11.96 (group I) and in the control group II: 6.58. The largest number of teeth with active caries – 8.21 teeth with caries per person was found in group I, but 2.72 in group II. Dental caries treatment index (DTI) was 0.24 in group I and 0.59 in the control group II.

Oral hygiene index OHI in group I was 1.78, in group II this index was 0.34, 0.29 in girls and 0.38 in boys.

Conclusions:

1. The state of dentition in 16-25-year-old young people with mild and moderate mental disability is unsatisfactory.
2. Higher values of OHI index were in group I.
3. The obtained results of the state of dentition and

oral hygiene in the group of young people with mental disability are at the same level both in the girls and boys.

4. The above mentioned results suggest the need for special dental care for young people with mild and moderate mental disability.

Key words: state of dentition, oral hygiene, mild and moderate mental disability.

Introduction

According to the Health World Organization a disabled person is a person who for a longer time was excluded from full participation in the normal activity of their age group.

WHO distinguishes 5 groups of the disabled people:

Group I: the blind and visually impaired people

Group II: the deaf and poorly hearing people

Group III: people with a reduced intelligence quotient (IQ):

a. mild mental disability // = 67-52

b. deeper mental disability

moderate // = 51-36

considerable // = 35-20

c. severe mental disability // = 19-0

Group IV: socially non-adapted people

Group V: disabled children due to physical impairment and chronic diseases and thus disabled in a smaller or greater degree.

A constantly increasing number of the disabled in the contemporary world is worrying. This phenomenon is connected with the development of our civilization which causes on the one hand the improvement of life but on the other hand it impairs the inner (mental) balance of the man (acc. to Dubois). The simultaneous progress in medicine causes the decrease of natural selection. It manifests itself among others by the occurrence of mental diseases.

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Table 1. State of dentition and oral hygiene in examined persons with mental disability (group I) and in the control group (group II)

	Caries frequency	DMF number	D	M	F	Treatment Index DTI	Percentage of person with teeth injuries (%)	Percentage of person with sealed teeth (%)	OHI
Investigated group (group I)	100%	11.96	8.21	1.07	2.68	0.24	4.13	4.16	1.78
Control group (group II)	100%	6.58	2.72	0.00	3.86	0.59	4.0	12.0	0.34

Table 2. State of dentition and oral hygiene in examined persons with mental disability considering sex (group I)

Gender	Frequency	DMF	D	M	F	DTI	OHI
Girls	100%	10.89	8.30	0.89	1.70	0.17	1.57
Boys	100%	12.53	8.10	1.27	3.16	0.29	1.97

Table 3. State of dentition and oral hygiene in the control group considering sex (group II)

Gender	Frequency	DMF	D	M	F	DTI	OHI
Girls	100%	6.33	3.00	0.00	3.33	0.52	0.29
Boys	100%	6.80	2.46	0.00	4.34	0.64	0.38

Mental disability is the functioning of the intellect at the lower level than average. Mild disability occurs when an IQ is within 52-67. Such disabled people do not differ in appearance from their peers. But with a closer observation disorders in the motor activity, lack of precise movements and a deviation in maturation and learning are seen. Moderate disability means a lower level in the functioning of the intellect within 36-51 manifesting itself in the reduction of social maturity [1-3].

Described mental limitations are a great obstacle in the contact with a patient in the dental surgery. They make it impossible to take a detailed case history and to carry out a planned dental treatment.

Purpose of the research

The purpose of the research is to assess the state of dentition and oral hygiene in 16-25-year-old young people with mild and moderate mental disability in comparison with a control group of healthy young people at the same age.

Material and methods

The research was carried out in a special School and Tutelary Centre in Lublin. A group of 144 young people aged 16-25 with mild and moderate mental disability (group I) among them 75 girls and 69 boys participated in the research. A group of 50 healthy young people aged 16-25 (group II), among them 24 girls and 26 boys living in a boarding school in Lublin was a control group. Clinical examinations were carried out in a dental surgery in the artificial light with the use of a diagnostic kit (a dental mirror and a probe).

The states of the following were taken into consideration during the examination:

- hard tissues of the teeth
- oral hygiene considering bleeding from gingival pockets

On the basis of clinical examination the following data were determined:

- frequency of dental caries
- DMF number
- dental caries treatment index (DTI)

- oral hygiene index (OHI)
- percentage of traumatic injuries of teeth
- percentage of sealed teeth.

The results were statistically collated using Mann-Whitney test in Statistica 6.0 programme, group I and the control group II were compared considering sex of the examined people.

Results

The frequency of dental caries in both groups was 100%. The average DMF number in mentally disabled people (group I) was 11.96 and in the control group II: 6.58. The largest number of teeth with active caries – 8.21 teeth with caries per person was found in group I, but 2.72 in group II. The number of extracted teeth due to dental caries was on average 1.07 in group I and 0.00 in group II. The number of fillings was on average 2.68 in group I and 3.86 in group II. DMF number was 10.89 in girls and 12.53 in boys in group I. In group II this number was 6.33 in girls and 6.80 in boys.

Dental caries treatment index (DTI) was 0.24 in group I and 0.59 in the control group II.

The percentage of injuries was 4.13% in group I and 4.0% in group II.

The percentage of persons with sealed teeth was 4.16% in group I and 12% in group II.

Oral hygiene index OHI in group I was 1.78, 1.57 in girls and 1.97 in boys.

In group II this index was 0.34, 0.29 in girls and 0.38 in boys.

The above mentioned research results are collated in *Tab. 1-5 (Tab. 1)*.

Analysing the obtained results in the group of young people with mild and moderate mental disability and comparing them with the results obtained in the control group significantly statistical dependences of the state of dentition and hygiene index OHI in shown both groups. The level of statistical significance was <0.05.

The obtained dependences are depicted in *Fig. 1-2*.

Considerably significant statistical differences were stated in the assessment of the level of oral hygiene in pupils from School and Tutelary Centre (group I) in comparison with healthy young people from the boarding school (group II).

Table 4. Statistical analysis of investigated parameters determining the state of dentition and oral hygiene in both groups

GROUP I-Young people with mental disability	N valid	Average	Median	Statistical deviation
OHI number	144	1.78472	2.00000	0.765636
D number	144	8.20833	8.00000	4.235836
M number	144	1.07639	0.00000	1.718187
F number	144	2.68056	2.00000	2.669833
DMF number	144	11.96528	11.00000	4.111068
Group II-Healthy young people	N valid	Average	Median	Statistical deviation
OHI number	50	0.34000	0.00000	0.478518
D number	50	2.72000	3.00000	1.829910
M number	50	0.00000	0.00000	0.000000
F number	50	3.86000	4.00000	2.878563
DMF number	50	6.58000	6.50000	2.556225

Table 5. Value differences of investigated parameters determining the state of dentition and oral hygiene between group I (young people from School and Tutelary Centre) and the control group II (healthy young people)

	Sum. rang	Sum. rang	U	Z	Level p	Z	level p	N valid	N valid
Index OHI	1817.000	17098.00	542.000	-8.94014	0.000000	-9.33515	0.000000	50	144
D number	2150.500	16764.50	875.500	-7.96515	0.000000	-7.99032	0.000000	50	144
M number	3225.000	15690.00	1950.000	-4.82382	0.000001	-5.73102	0.000000	50	144
F number	5763.500	13151.50	2711.500	2.59755	0.009389	2.63312	0.008461	50	144
DMF number	2115.000	16800.00	840.000	-8.06893	0.000000	-8.09489	0.000000	50	144

Figure 1. Values of DMF number

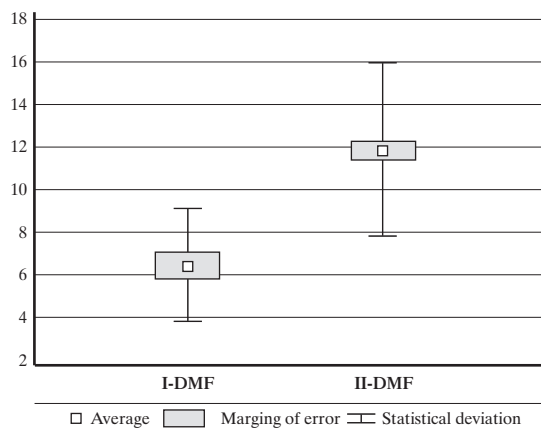
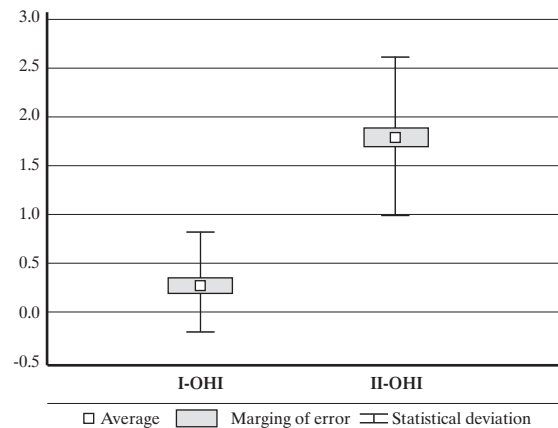


Figure 2. Value of index of oral hygiene OHI



OHI index determining the state of oral hygiene has considerably higher values in group I than in the control group II the level of statistical significance was <0.05 .

That is confirmed by considerably more frequent occurrence of bleeding from gingival pockets in pupils from group I (young people with mild and moderate disability) than in the control group II (healthy young people).

Discussion

The state of dentition in 26-25-year-old young people with mild and moderate mental disability is unsatisfactory, which is manifested by 100% frequency of dental caries and a greater number of teeth with active caries.

Mielnik-Błaszczak et al. obtained similar results of the state of dentition in children and young people with special needs and of their assessment of permanent teeth health in children and young people from School and Tutelary Centre in Krosno [4,5].

Borysewicz-Lewicka et al. assessing the state of dentition in pupils from a special needs school also found a high frequency of caries which is connected with unsatisfactory primary dental care of children with special needs [6].

Similar conclusions are drawn by authors of Scandinavian publications concerning research carried out in specialist centres for children and young people with a various degree of mental disability. They clearly show the need for prophylactic activities among mentally disabled children and young people and for the creation of dispensary groups with intensified dental care [7-9].

Andruszkiewicz-Salek proposes a model of dental care for patients with cerebral palsy which would consider early prophylaxis of dental caries and periodontal disease [10].

The results of our own research show that health awareness and oral cavity hygienic habits are lower in mentally disabled young people than in the healthy ones. It shows the need to work out a similar model of prophylactic and therapeutic activities for those under the charge of School and Tutelary Centres.

Conclusions

1. The state of dentition in 16-25-year-old young people with mild and moderate mental disability is unsatisfactory. It is manifested by 100% frequency of dental caries and a higher number of teeth with active caries compared with the group of healthy young people.

2. Higher values of OHI index and a more frequent bleeding from gingival pockets in young people from School and Tutelary Centre indicate a worse state of oral hygiene compared with the control group of healthy young people.

3. The obtained results of the state of dentition and oral hygiene in the group of young people with mental disability are at the same level both in the girls and boys.

4. The above mentioned results suggest the need for special dental care for young people with mild and moderate

disability and to work out a special prophylactic and therapeutic programme for this group of patients.

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