Dental caries prevalence among 12–15-year-olds in Lithuania between 1983 and 2005

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Summary. Objective. To analyze the dynamics of prevalence and severity of dental caries among 12- and 15-year-old schoolchildren in six regions of Lithuania.

Material and methods. A total of 5910 schoolchildren aged 12 and 15 years were examined. Dental caries was diagnosed according to the criteria of World Health Organization. The prevalence of dental caries was calculated by dividing the number of children with caries by the number of all children examined and expressed as percentage. Severity of dental caries was described by DMF-T index. DMF-T indices of individual persons as well as each age group were determined. Oral hygiene was evaluated by a simplified oral hygiene index. Fluoride concentration in Kretinga was 1.6–2.2 ppm; in the other regions, it varied between 0.2 to 0.4 ppm.

Results. The prevalence of dental caries among 12-year-olds was 88.4% in 1983 and 85.5% in 2005; among 15-year-olds, it was 95.5% and 92.9%, respectively. Mean DMF-T score decreased from 4.5 (in 1983) to 3.7 (in 2005) among 12-year-olds and from 6.4 (in 1983) to 5.6 (in 2005) among 15-year-olds. Oral hygiene index decreased from 1.69 in 1983 to 1.34 in 2005 among 12-year-olds and from 1.46 to 1.22 among 15-year-olds, respectively.

Conclusions. A tendency towards decrease in the prevalence and severity of dental caries was observed, when caries prevention program was running. Correlation between oral hygiene and DMF-T was observed in both age groups. Decreased prevalence and intensity of dental caries among 12- and 15-year-olds were associated with improved oral hygiene, usage of fluoride toothpaste, and fluoride content in drinking water.

Introduction

Dental caries is the main reason of tooth loss among young population in Lithuania. Tooth loss is related to impaired aesthetics, psychological and emotional problems, family budget, and general health problems. Results of the epidemiological studies among different age groups of the population show high caries prevalence and severity for a long time (1–3).

Prevalence and severity of dental caries among 12–15-year-olds according to the findings of the previous studies vary within the countries, and a tendency to decline is observed. A decline in DMF-T indices from 5.0 to 0.9 in the period from 1980 to 2002 was observed among 12-year-olds in Denmark; in Sweden – from 3.1 to 0.9 during 1985–2001. In Great Britain during the period of 8 years, the DMF-T indices have declined from 3.1 to 0.9 (4). DMF-T index among Latvian 12-year-old children declined from 4.2 to 3.9 during the 3-year period (5). Caries

prevention program was carried out between 1996 and 2002 in Belarus. The DMF-T index decreased from 5.3 to 2.6 among 12-year-olds and from 7.1 to 5.7 among 15-year-olds (6). A decline in the DMF-T index from 5.1 to 3.8 was found in Poland during 1991–2000 (7). These changes in dental caries experience were determined by different factors; however, the most important ones were preventive measures applied by the implementation and performing of preventive programs at schools.

Dental caries prevention in Lithuania, as in many Eastern European countries, was neglected. However, "Prevention of Oral Diseases Among Children and Adolescents" program was implemented in 1983 (8). The program was running for 6 years. Later, because of political and economical changes (Lithuania became an independent country), it was discontinued and renewed in 1994 by the agreement of the Ministry of Health of the Republic of Lithuania. Inconsistent

performing of the program was mainly caused by the financial problems. Epidemiological studies in selected areas of Lithuania were performed when the prevention program was going on. Unfortunately, continuous data concerning oral health status are not available; therefore, the prognosis concerning variation in caries experience among Lithuanian children, evaluation of prevention programs, and analysis of their effectiveness are complicated. At present, a reform of health care system is in process. Unfortunately, children's access to qualified oral health care is still limited, despite an increasing number of the dentists.

The aim of the present study was to analyze the prevalence and severity of dental caries in the period from 1983 to 2005 among 12- and 15-year-old schoolchildren in six regions of Lithuania.

Material and methods
The study was carried in six administrative regions of Lithuania (Kaunas, Kretinga, Joniškis, Kupiškis, Kaišiadorys, and Varėna). A total of 5910 schoolchildren aged 12–15 years were examined in 1983, 1988, 1995, 2000, and 2005. Regions were selected from different areas to cover all country. Four schools were selected in every region, and participants were randomly selected from each school. Number of participants in each group varied from 91 to 104. The reasons of the variation were willingness to participate or not, not arriving for the examination in time. The exact numbers of the participants enrolled by year is presented in Table 1.

Oral health status was evaluated according to the criteria of World Health Organization (WHO) (9). All erupted permanent teeth were examined with a mouth mirror and a blunt probe. The treatment need was evaluated for every examined tooth. The prevalence of dental caries was calculated by diving the subjects with caries by the number of all subjects examined, and it was expressed as percentage. Severity of dental caries was evaluated by the DMF-T index. DMF-T indices of individual participant, all participants, and every age group (12- and 15-year-olds) were calculated. Oral hygiene levels were estimated using a simplified oral hygiene (OHI-S) Greene-Vermillion index (10).

Fluoride concentration in drinking water was measured in every region. Data were provided by public health care centers. High fluoride content (1.6–2.2 ppm) in drinking water was determined only in Kretinga region. Fluoride concentration in drinking water in other regions varied from 0.2 to 0.4 ppm. Seasonal variation in fluoride content was negligible.

In the studies carried out in 2000 and 2005, the interexaminer agreement in DMF-T scores was measured by applying the κ (kappa) statistic. Twenty randomly selected schoolchildren were reexamined. The average interexaminer kappa value was 0.74 in 2000 and 0.8 in 2005. The agreement was considered satisfactory.

Data analysis was conducted using Statistical Package for the Social Sciences (SPSS) and included descriptive and analytical methods. Mean values of DMF-T indices in different age groups were assessed by t test. Correlation between oral hygiene and DMF-T was evaluated by Pearson's correlation coefficient. Qualitative interrelation between indicators was analyzed by asymptotic chi-square test. Mean values between groups were analyzed by ANOVA analysis. Pair-wise comparisons between mean values of the indicators in both groups were analyzed by Bonferroni test. Statistical significance was assumed when $P<0.05$.

Table 1. **Numbers of 12- and 15-year-old schoolchildren who participated in surveys in 1983, 1988, 1995, 2000, and 2005 in Lithuania**

Region	Number of examined schoolchildren (N=5910)									
	1983		1988		1995		2000		2005	
	12-year-olds	15-year-olds	12-year-olds	15-year-olds	12-year-olds	15-year-olds	12-year-olds	15-year-olds	12-year-olds	15-year-olds
Kaunas	100	100	101	101	101	100	104	100	101	102
Kaišiadorys	96	102	99	102	104	100	94	100	94	100
Kretinga	99	100	100	100	100	100	101	100	100	100
Joniškis	103	100	96	96	100	100	101	98	98	96
Kupiškis	94	91	100	96	101	97	95	94	94	95
Varėna	95	96	100	97	101	96	94	95	94	95
Total	587	590	596	592	607	593	589	587	581	588

Results

The findings of epidemiological surveys showed that the prevalence of dental caries among 12-year-olds in Lithuania during the period of 23 years did not change significantly (Table 2).

A decline in the prevalence of dental caries was registered in four regions and an increase in two. DMF-T index decreased in five regions and increased in one. A significant decrease was observed in Kaunas, Kaišiadorys, and Joniškis between 1983 and 2005 ($P<0.05$). More significant decline was observed in Kretinga ($P<0.001$). The variation of prevalence was less pronounced in other regions, and statistical significance was observed only during some periods (Table 2).

A significant decline in caries prevalence during the 23-year period among 15-year-olds was observed only in Kretinga ($P<0.01$) (Fig. 1).

Changes in the DMF-T indices among 12-year-olds in six regions of the country are presented in Table 3. The decline was observed until 2000; later a tendency to increase was observed. Statistically significant differences were found during some periods such as 1983–1988 ($P<0.001$) and 2000–2005 ($P<0.01$).

Prevalence and severity of dental caries was increasing with an age (Tables 2–4, Fig. 1).

DMF-T index decreased significantly among 15-year-olds in the period from 1983 to 2005 ($P<0.001$) (Table 4). However, it varied within regions. Only in Kaunas, a tendency to decrease was observed, and starting 1995, it was statistically significant ($P<0.05$). Similar tendency was observed in Kaišiadorys, while in Joniškis, Kupiškis, and Varėna, variations in the DMF-T indices were inconsistent, and significant differences were observed only for some periods.

Oral hygiene among 12-year-old schoolchildren was improving over the time. It was showed by a decrease in OHI-S from 1.7±2.2 to 1.4±1.4 ($P<0.05$). The same tendency was observed among 15-year-olds with some variations over the time (Table 5).

Correlation between dental caries (DMF-T) and oral hygiene (OHI-S) was observed in Kaunas among the subjects of both age groups ($r=0.5$, $P<0.01$) (Figs. 2 and 3). The same tendency was observed in other regions as well.

Table 2. **The prevalence (%) of dental caries among 12-year-old Lithuanian schoolchildren, 1983–2005**

Region	Year				
	1983 1	1986 2	1995 3	2000 4	2005 5
Kaunas	n=100 92.0%	n=101 85.1%	n=101 89.1%	n=104 81.7%	n=101 81.2%
	$P_{1-4}<0.05$; $P_{1-5}<0.05$				
Kaišiadorys	n=96 94.8%	n=99 82.8%	n=104 87.5%	n=94 82.9%	n=94 84.04%
	$P_{1-2}<0.01$; $P_{1-4}<0.01$; $P_{1-5}<0.01$				
Kretinga	n=99 71.7%	n=100 73.0%	n=100 62.0%	n=101 63.9%	n=100 65.0%
	$P_{1-3}<0.001$; $P_{1-4}<0.001$; $P_{1-5}<0.001$				
Joniškis	n=103 84.5%	n=96 83.3%	n=100 85.0%	n=101 91.1%	n=98 93.8%
	$P_{1-5}<0.05$; $P_{2-4}<0.01$				
Kupiškis	n=94 91.6%	n=100 90.0%	n=101 95.04%	n=95 96.8%	n=94 94.6%
Varėna	n=95 97.9%	n=100 91.0%	n=101 94.05%	n=94 92.5%	n=94 94.6%
	$P_{1-2}<0.05$				
Total	n=587 88.4%	n=596 83.9%	n=607 87.0%	n=589 84.8%	n=581 85.5%
	$P_{1-2-4}<0.05$				

	1983	1988	1995	2000	2005
Kaunas	96	94.1	96	95	94.1
Kaišiadorys	94.8	93.5	91	92	94
Kretinga	89.5	91	86	81	78*
Joniškis	97	95.8	96	94.9	96.87
Kupiškis	97.5	97.9	96.9	93.4	96.6
Varėna	97.9	96.9	98.96	94.7	97.8
Total	95.45	94.86	94.1	91.8*	92.9
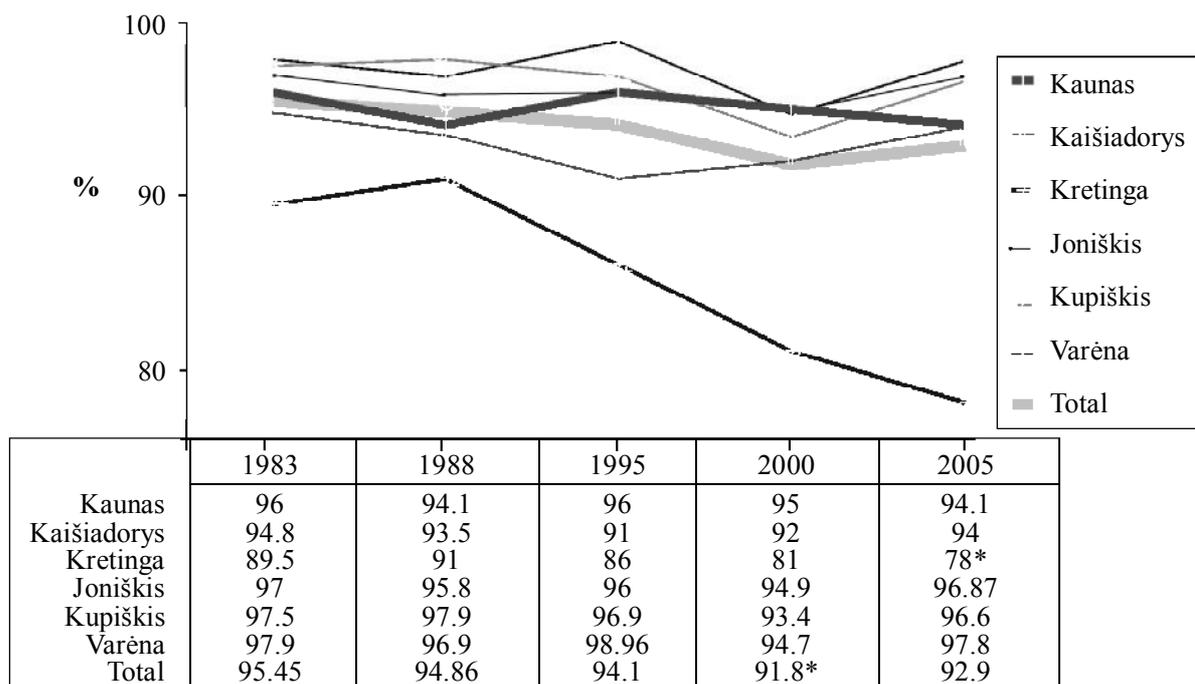
Fig. 1. **The dynamics in prevalence of dental caries among 15-year-old**
Lithuanian schoolchildren in 1983–2005
*P<0.05 comparing to 1983.

Table 3. **Dynamics of DMF-T index among 12-year-old Lithuanian schoolchildren, 1983–2005**

Region	Year				
	1983 1	1988 2	1995 3	2000 4	2005 5
Kaunas	n=100 4.96 (3.2)	n=101 3.87 (2.8)	n=101 3.66 (3.2)	n=104 3.2 (2.33)	n=101 3.42 (2.04)
	$P_{1-3}<0.01$; $P_{1-4}<0.001$; $P_{1-5}<0.001$				
Kaišiadorys	n=96 5.16 (3.2)	n=99 3.35 (2.5)	n=104 4.26 (3.3)	n=94 3.8 (2.42)	n=94 3.62 (2.45)
	$P_{1-2}<0.001$; $P_{1-3}<0.05$; $P_{1-4}<0.01$; $P_{1-5}<0.001$				
Kretinga	n=99 2.27 (2.2)	n=100 2.11 (2.0)	n=100 1.98 (3.6)	n=101 1.72 (1.98)	n=100 1.75 (1.43)
	$P_{1-4}<0.05$; $P_{1-5}<0.05$				
Joniškis	n=103 4.10 (3.1)	n=96 3.28 (2.4)	n=100 3.78 (4.1)	n=101 4.2 (2.56)	n=98 4.35 (2.8)
	$P_{1-2}<0.05$; $P_{2-4}<0.05$; $P_{2-5}<0.001$; $P_{3-5}<0.05$				
Kupiškis	n=94 4.75 (3.4)	n=100 3.94 (2.4)	n=101 4.52 (3.4)	n=95 4.43 (2.45)	n=94 4.25 (2.8)
Varėna	n=95 5.92 (3.5)	n=100 4.52 (3.0)	n=101 5.71 (3.6)	n=94 5.02 (1.76)	n=94 4.96 (3.1)
	$P_{1-2}<0.001$; $P_{1-4}<0.05$; $P_{2-5}<0.01$; $P_{4-5}<0.05$				
Total	n=587 4.52 (1.5)	n=596 3.51 (2.7)	n=607 3.94 (3.8)	n=589 3.73 (2.33)	n=581 3,72 (2.6)
	$P_{1-2}<0.001$; $P_{1-3}<0.001$; $P_{1-4}<0.001$; $P_{1-5}<0.001$; $P_{2-5}<0.001$; $P_{1-4-5}<0.01$				

Data are expressed as means (standard deviation).

***Table 4.* Dynamics of DMF-T index among 15-year-old Lithuanian schoolchildren, 1983–2005**

Region	Year				
	1983 1	1986 2	1995 3	2000 4	2005 5
Kaunas	n=100 8.1 (4.9)	n=101 7.35 (4.0)	n=100 6.61 (3.6)	n=100 5.87 (3.9)	n=102 5.02 (3.4)
	$P_{1-3}<0.05$; $P_{1-4}<0.001$; $P_{1-5}<0.001$				
Kaišiadorys	n=102 5.7 (3.7)	n=102 5.34 (3.4)	n=100 4.56 (3.2)	n=100 4.15 (2.9)	n=100 4.26 (3.2)
	$P_{1-3}<0.05$; $P_{1-4}<0.01$; $P_{1-5}<0.01$				
Kretinga	n=100 3.77 (3.1)	n=100 4.56 (3.4)	n=100 3.08 (2.4)	n=100 3.1 (2.1)	n=100 3.2 (2.1)
Joniškis	n=100 6.91 (4.2)	n=96 5.97 (3.5)	n=100 6.44 (3.2)	n=98 5.82 (3.25)	n=96 6.65 (3.1)
	$P_{1-4}<0.001$				
Kupiškis	n=91 6.53 (3.6)	n=96 7.57 (3.5)	n=97 7.15 (3.0)	n=94 6.56 (3.7)	n=95 6.9 (3.3)
	$P_{1-2}<0.05$				
Varėna	n=96 7.49 (4.4)	n=97 6.22 (3.2)	n=96 8.57 (3.6)	n=95 6.8 (3.4)	n=95 7.5 (2.8)
	$P_{1-2}<0.05$; $P_{3-4}<0.001$; $P_{3-5}<0.05$; $P_{2-4}<0.001$; $P_{2-5}<0.01$				
Total	n=590 6.41 (4.1)	n=592 6.16 (3.6)	n=593 6.07 (3.1)	n=587 5.39 (2.46)	n=588 5.58 (2.96)
	$P_{1-4}<0.001$; $P_{1-5}<0.001$; $P_{2-4}<0.001$; $P_{2-5}<0.01$; $P_{3-5}<0.01$				

Data are expressed as means (standard deviation).

***Table 5.* Oral hygiene index (OHI-S) among 12- and 15-year-old Lithuanian schoolchildren,
1983–2005**

Age group	Year				
	1983 1	1986 2	1995 3	2000 4	2005 5
12-year-olds	n=587 1.69 (2.2)	n=596 1.30 (2.7)	n=607 1.59 (2.0)	n=589 1.42 (0.7)	n=581 1.34 (1.4)
	$P_{1-2-5}<0.01$; $P_{3-5}<0.05$				
15-year-olds	n=590 1.46 (2.9)	n=592 1.62 (1.9)	n=593 1.48 (1.7)	n=587 1.23 (1.2)	n=588 1.22 (1.4)
	$P_{2-5}<0.001$; $P_{3-5}<0.01$				

Data are expressed as means (standard deviation).

Discussion

The different DMF-T levels among 12-year-olds in Lithuania were observed in 1983 when the first survey was carried out (Table 2). These variations might be explained by different fluoride concentration in drinking water and different quality of oral hygiene. Based on the study findings, caries preventive program was implemented. The importance of healthy lifestyle was delivered via mass media (television, radio programs, newspapers, journals). Caries preventive
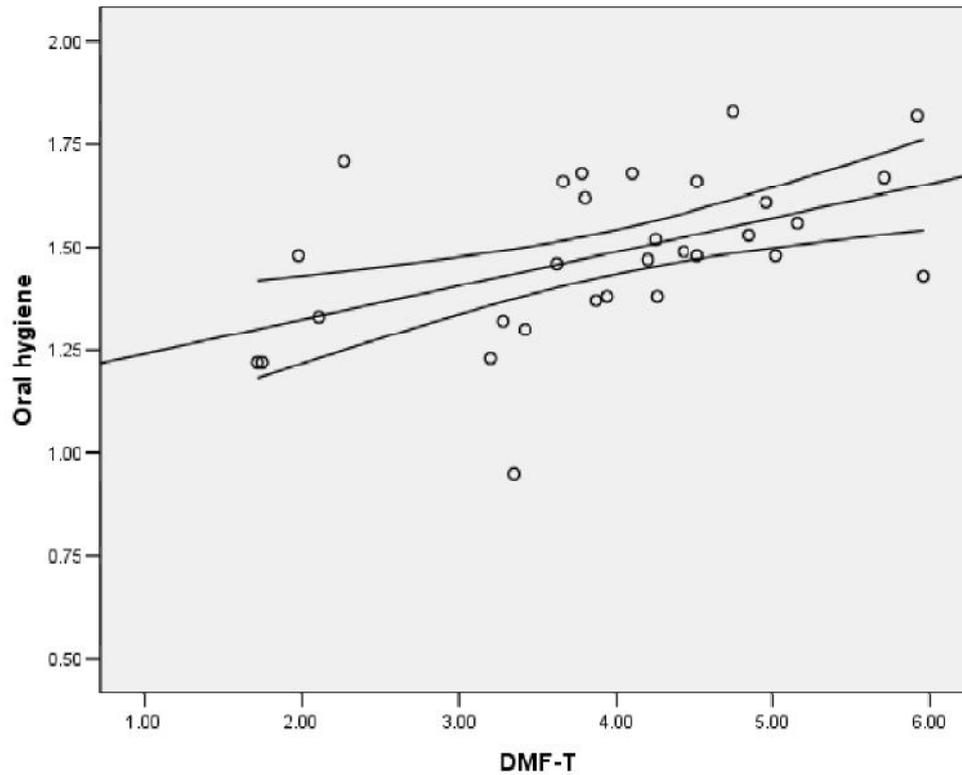
Fig. 2. **Relationship between oral hygiene (OHI-S) and caries experience (DMF-T)
among 12-year-olds in Kaunas in 1983**
r=0.5; *P*<0.01.
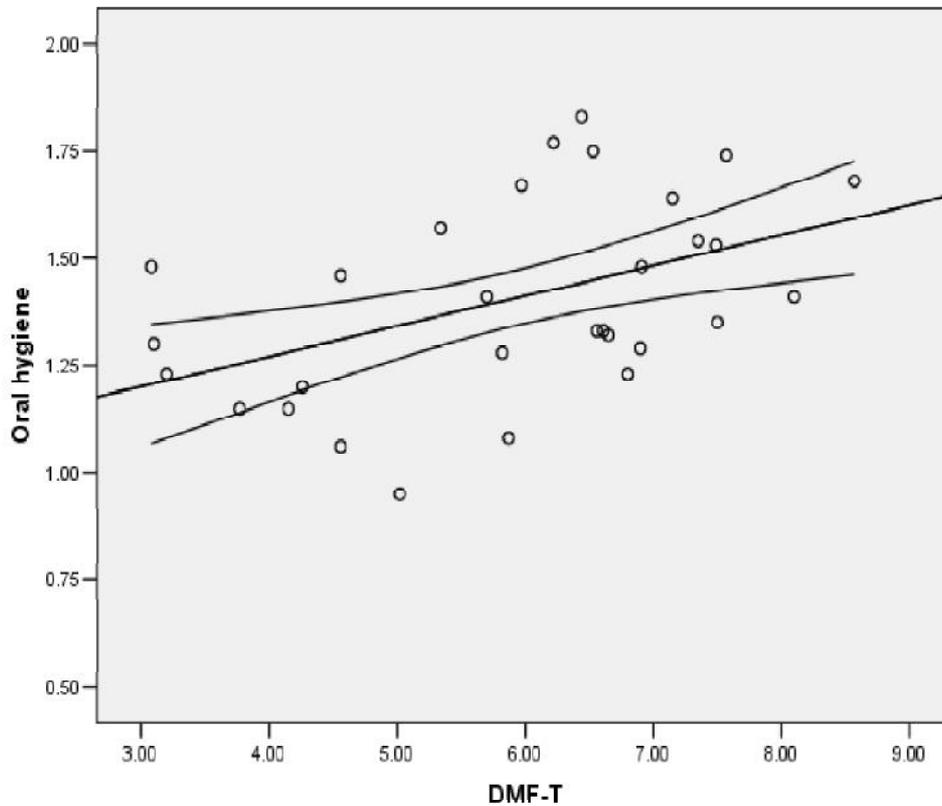
***Fig. 3.*** **Relation between oral hygiene (OHI-S) and caries experience (DMF-T)
among 15-year-olds in Kaunas in 1983**
r=0.5; *P*<0.01.

measures such as supervised toothbrushing with fluoride toothpaste and topical fluoride applications were applied. Program was running for the period of 5 years. The findings of the epidemiological survey showed a statistically significant DMF-T increase from 4.5±1.5 to 3.5±2.7 ($P<0.001$).

The program was discontinued in 1989 and started again only in 1994. The same preventive measures were applied. Additionally sealant application on the first molars for the 6–7-year-olds was included. Results of the survey carried out in 2001 showed an increase in DMF-T index among schoolchildren of both age groups. These changes confirm the importance of caries preventive measures.

What was the other reason having an impact on caries development among adolescents? No doubt, it was appropriate oral hygiene. Oral hygiene was improved significantly among 12-year-olds during the period from 1983 (OHI-S, 1.7±2.2) to 2005 (OHI-S, 1.4±1.4) ($P<0.05$). Among 15-year-old children, a tendency towards the improvement of oral hygiene was observed as well, but it was not significant. OHI-S was 1.5±2.9 and 1.2±1.4, respectively.

Unfortunately, the improvement of oral hygiene was not significant. Deficient oral hygiene habits were confirmed in the study by Zaborskis et al. (11). The study was performed in 35 countries. Regular toothbrushing (more than once a day) among Lithuanian schoolchildren was reported by 32% of boys and 47.6% of girls aged 11, 13, and 15 years. Relationship between the frequency of toothbrushing and consumption of fruits, vegetables, and sweets was found. It might be concluded that the development and arrestment of dental caries among 12–15-year-olds was determined by the proper oral hygiene, using fluoride toothpaste, and diet. Fluoride-containing toothpaste has become available on the market since 1991. At present, 95% of toothpastes contain fluoride. We think that the main reason for a decrease in caries prevalence was daily toothbrushing with fluoride-containing toothpaste.

Aleksiejūnienė et al. (12) in the study on dynamics of dental caries among schoolchildren in nine areas in the period of 1993–2001 reported a 30% decline in the DMF-T indices. It was concluded that DMF-T values were related to fluoride content in drinking water, oral hygiene, residency place, and year of examination.

The findings of the studies in other countries also showed changes in caries experience during a certain period. Szocke et al. (13) in the study among Hungarian 12-year-olds observed a DMF-T decline from 5.0 to 4.3 during the 6-year period. That decline was predisposed by the implementation of caries preventive program at schools in the period of 1985–1990. The study in Portugal confirmed the importance of caries preventive programs to positive changes in caries dynamics (14).

In Slovenia, caries preventive program was based on toothbrushing with fluoride toothpaste. During the period of 10 years, DMF-T dropped from 5.1 to 1.8 among 12-year-olds. With improved oral hygiene, sealants applications had an effect (15).

Carvalho et al. (16) in their study reported that during the 15-year period, the percentage of caries-free children increased from 4% to 50%, and DMF-T index among 12-year-olds declined from 7.5 to 1.6. Home-based dental health care and professional dental care were associated with the observed decline.

Hugosson et al. (17) in the study reported that changes in dental caries were affected by reintroducing fluoride mouth rinsing and oral hygiene teaching and training in schools. During the 6-year period, DMF-T indices among 12-year-olds in Germany declined from 2.4 in 1994 to 1.2 in 2000 (18). The authors concluded that prevention-oriented health policy could considerably improve oral health within a short time.

Caries declined in Poland among 12-year-olds was from 4.2 in 1995 to 3.8 in year 2000 (7). The high importance of children and their parents' education and oral hygiene skills was pointed by authors. However, continuous implementation of oral health programs at schools is most relevant.

Based on previously described studies it might be concluded that the changes in caries experience among 12–15-year-olds are predisposed by lifestyle, social status, oral hygiene, usage of fluoride, and implementation of caries preventive programs at schools.

Dynamics in caries prevalence in Lithuania was influenced by the number of factors such as political, economical, and social, particularly since 1990, when Lithuania became an independent country, and political system has changed. The health care reform was intended to change health care strategy, financing. The concept of national health care system was accepted in 1991 where high importance was devoted to prevention of the diseases. Unfortunately, because of unstable economics and frequent governmental changes, the financing is still unsatisfactory. Only 0.18% of GDP are assigned for dental health care (19, 20).

At present, sealant application program is running in Lithuania. The participants are all 7–8- and 12–13-year-old children. Unfortunately, there is no any other state-funded prevention program for other age group children and adolescents. The regional caries prevention programs financed by the municipality had

showed the good results in caries arrestment or decline (21). These changes were observed in the present study as well.

A ridiculous amount – 9 euros per year for a child – is assigned for the treatment. It cannot guarantee high-quality dental services. Therefore, a tendency towards an increase in dental caries experience might be observed. All together – Ministry of Health of the Republic of Lithuania, dentists, teachers, parents, and children – are able to arrest the progression and to decrease caries experience. We think that one of the most effective measures would be implementation of oral heath prevention programs at schools all over the country.

Conclusions

1. Results of the present study showed the changes in caries experience between 1983 and 2005. During the period, when caries prevention programs were implemented, a decrease in the prevalence and severity of caries was observed.

2. Oral hygiene among 12-year-olds improved, and it was confirmed by a significant decrease in OHI-S in 1983, 1988, and 1995 as compared to 2005 ($P<0.01$, $P<0.01$, and $P<0.05$, respectively). The same tendency was observed among 15-year-old children. A significant improvement of OHI-S was observed in 1988 and 1995 as compared to 2005 ($P<0.001$ and $P<0.01$, respectively).

3. Correlation between oral hygiene (OHI-S) and dental caries (DMF-T) was observed in both age groups in Kaunas ($r=0.5$, $P<0.01$).

4. A decline in caries experience was associated with improved oral hygiene, usage of fluoride-containing toothpaste, and fluoride content in drinking water. A significant improvement might be reached by implementation of caries preventive programs at schools all over the country.

Dantų ėduonies dinamika Lietuvoje 1983–2005 m. tarp 12–15 metų moksleivių

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Raktažodžiai: dantų ėduonis, paplitimas, KPI-D, moksleiviai, profilaktika.

Santrauka. *Tyrimo tikslas.* Išanalizuoti dantų ėduonies paplitimo ir intensyvumo dinamiką 1983–2005 m. tarp 12 ir 15 metų moksleivių šešiuose skirtinguose Lietuvos regionuose.

Medžiaga ir metodai. 1983–2005 m. ištirta 5910 12–15 metų moksleivių šešiuose Lietuvos regionuose. Tyrimui naudota PSO burnos vertinimo metodika. Įvertintas dantų ėduonies paplitimas, apskaičiavus vaikų, turinčių ėduonies pažeistų dantų bei visų tirtų vaikų santykį, apskaičiuotą procentais. Ėduonies intensyvumui vertinti naudotas KPI-D indeksas. Kiekvienam tiriamajam nustatytas individualus KPI-D bei apskaičiuotas ėduonies intensyvumo indeksas visiems tiriamiesiems ir atskirai kiekvienai amžiaus grupei. Burnos ertmės higiena vertinta apskaičiavus OHI-S indeksą. Fluoro kiekis geriamajame vandenyje buvo padidėjęs Kretingos regione – 1,6–2,2 ppm, kitose vietovėse – 0,22–0,40 ppm.

Rezultatai. Dantų ėduonis tarp 12 metų moksleivių 1983 m. buvo 88,4 proc., 2005 m. – 85,5 proc. Tarp 15 metų moksleivių 1983 m. buvo 95,45 proc., 2005 m. – 92,9 proc. Dantų ėduonies intensyvumo vidurkis tarp 12 metų moksleivių sumažėjo nuo 4,52 (1983 m.) iki 3,72 (2005 m.), tarp 15 metų moksleivių – nuo 6,41 (1983 m.) iki 5,58 (2005 m.). Burnos higienos indeksas tarp 12 metų moksleivių 1983 m. buvo 1,69, 2005 m. – 1,34; tarp 15 metų moksleivių 1983 m. – 1,46, 2005 m. – 1,22.

Išvados. Laikotarpiais, kai buvo vykdomos profilaktikos programos, pastebėta dantų ėduonies paplitimo ir intensyvumo mažėjimo tendencija, kuri atskirais laikotarpiais buvo statistiškai reikšminga. Nagrinėjant dantų ėduonies priklausomumą nuo burnos higienos būklės, nustatyta, kad tiek 12 metų, tiek 15 metų moksleiviams yra koreliacija tarp OHI-S ir KPI-D. Remiantis šio tyrimo duomenimis, galima teigti, kad tiek 12 metų, tiek 15 metų moksleivių dantų ėduonies paplitimo ir intensyvumo mažėjimo tendencija galėjo būti susijusi su burnos higienos būklės pagerėjimu, pastų su fluoridais vartojimu bei fluoro kiekiu geriamajame vandenyje.

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