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Original Article

Population groups at high risk for poor oral self care: the basis for oral health promotion

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Summary

Objectives: Identification of population groups at high risk for poor oral self-care in adults was needed in order to enable more focused planning of oral health promotion actions in Slovenia.

Methods: The study was based on the national health behaviour database in adults aged 25–64. Data collected in 2001 were used. The sample size was 15,379. The overall response rate was 64 %, and 8,392 questionnaires were eligible for oral self-care assessment. A complex indicator based on oral hygiene, frequency of visiting a dentist, and nutritional habits was derived. The outcome of interest was poor oral self-care. Logistic regression was used to test multivariate associations between several factors (gender, age, educational level, social class, etc.) and poor oral self-care.

Results: The overall prevalence of poor oral self-care was 6.9 %. The odds for this outcome were higher for men ($OR_{males\ vs.\ females} = 7.49$, $p < 0.001$), (or participants with the lowest educational levels ($OR_{uncompleted\ primary\ vs.\ university} = 5.95$, $p < 0.001$; $OR_{primary\ vs.\ university} = 4.95$, $p < 0.001$), and for participants from the lowest social classes ($OR_{lower\ vs.\ upper\text{-}middle} = 6.20$, $p < 0.001$; $OR_{labour\ vs.\ upper\text{-}middle} = 4.05$, $p = 0.001$).

Conclusions: Special attention should be paid to oral health promotion for men, for those with low educational level, and for those belonging to the lowest social classes.

Keywords: Dental health surveys – Oral health – Health behaviour – Health promotion – Slovenia.

Since the Ottawa Charter for Health Promotion, the promotion of a healthier lifestyle has become an issue of increased interest.[1] A report by Abel confirmed that a healthy lifestyle consists of patterns of behaviour to protect, promote or maintain health adopted by groups according to their social, cultural and economic environments.[2] The possibility of identifying lifestyle patterns and target groups for holistic preventive approaches becomes attractive, both for public health researchers and policy makers.

The World Health Organization recognizes oral health as an important component of general health, and furthermore, oral health is essential for well-being. The majority of oral diseases are related to lifestyles and reducing these predominantly chronic diseases relies much on changing behaviour. Positive changes in behaviour can and do occur, but require commitment and expertise within health promotion. Customs, practices and lifestyle issues play a role in the oral health of a community and should be considered when national policies and programmes are being formulated.

It has also become clear that risk factors for oral diseases are often the same as those implicated in major chronic diseases.[3] Oral health and general health share common factors related to diet, tobacco, and excessive alcohol consumption; the solutions to control oral diseases are to be found through shared approaches with integrated chronic disease prevention.

Oral health promotion is an integral part of general health promotion. Together, oral health and general health promotion address the inseparable issues of systemic and oral diseases, general and oral hygiene, general and oral health care attitudes, and general health services as well as dental services. Thus, oral health promotion and oral disease prevention should embrace what is termed ‘the common risk factor approach’; leading to the integration of oral health promotion

into a broader health promotion concept.[4] As a result, any advances in the evaluation of oral health promotion programmes are likely to benefit the development of health promotion in general.

Each country should produce a thorough description of its population in terms of various factors affecting oral health knowledge, attitudes, beliefs and behaviours. This information should be analysed in relation to known and acceptable oral health strategies used in other countries so as to establish potential appropriateness of such interventions. International exchanges of information are important in this context.[5]

In Slovenia, systematic information on the oral health behaviour profile of the adult population is needed in order to support the planning and evaluation of oral health promotion programmes for the public. Thus, the aim of our study was to assess the oral hygiene practices, including visits to the dentist and dietary habits, and to determine whether oral health attitudes and behaviours are in relation to the socioeconomic factors.

Methods

Participants

The study was based on Slovenian Countrywide Integrated Non-communicable Diseases Intervention programme (CINDI) Health Monitor database.[6] Cross sectional surveys are conducted approximately at three year intervals using a self-administered questionnaire. The present study used data collected in 2001. The stratified random sampling from the Republic of Slovenia Central Population Registry was performed by the Statistical Office of the Republic of Slovenia.[7] Final sample included 15,379 participants, aged 25–64. The research protocol for the survey was approved by the Ethical Committee of the Republic of Slovenia in 2001.

A self-administered postal questionnaire, based on the CINDI Health Monitor Core Questionnaire,[8] was mailed to participants. To increase the response rate, an extensive media campaign, lottery with healthy behaviour associated prizes and reminder letters for non-respondents were used. After 14 days, all non-respondents were reminded by a repeated invitation and a new issue of a questionnaire. A second reminder to non-respondents was sent after an additional seven-day period without a new issue of a questionnaire.

Assessment of oral self-care

A complex index of oral self-care, quality of oral self-care, was created and discussed by dental public health experts. It was derived from several basic questions. All important questions relating to oral self-care, available in the database, were used: oral hygiene (frequency of teeth brushing), frequency of visits to the dentist during the past year, frequency of consuming sweet pastries, sweets or candies, and frequency of consuming soft drinks (Table 1). These criteria were combined to create 8 categories into which the participants were classified (Table 2). These groupings were then submitted to a panel of public health experts whose task it was to define three categories of quality of oral self-care, in which the most important influence was assigned to oral hygiene, and the less important to nutritional habits:

1. good oral self-care: groups 1 and 2,
2. fair oral self-care: groups 3–5,
3. poor oral self-care: groups 6–8.

Finally, our analyses contrast poor oral self-care with the two other categories.

Statistical analysis

First, bivariate associations between quality of oral self-care and gender, age, educational level, type of work, social class (self-classification), residential community and geographical region were computed. Then logistic regression (direct method) was used to estimate the strength of the multivatriate associations between poor oral self-care and its determinants. Dummy variables were created for all predictive variables considered in the model. The simple method was applied. The group with the lowest frequency of poor oral self-care was used as reference group.[9,10] In all statistical tests a p-value 0.05 or less was considered significant.

SPSS statistical package for Windows Version 15.0 (SPSS Inc., Chicago, IL, USA) was used for the analysis.

Results

Study sample

Out of 15,379 questionnaires mailed, 15,153 (98.5 %) were actually delivered (226 participants could not be reached due to change of domicile, severe illness, or death). The response rate was 63.8 % (9,666 responses). Respondents did not differ statistically from non-respondents in age distribution or distribution of size of settlements of permanent residence, but the response to the survey was slightly lower among men (47.0 %) than among women (53.0 %) (the ratio men vs. women was in the sample 1:1.1, while in the 2001 population it was 1:1). Questionnaires from 9,034 respondents were eligible for analysis (eligibility criteria: gender and age provided by the Statistical Office of the Republic of Slovenia).

All questions concerning oral self-care were answered by 8,392 participants (92.2 %). Of those, 410 participants could not classify themselves to one of the pre-defined social classes

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Table 1. Criteria used for classifying oral self-care behaviour and their values.

Oral self-care behaviour component	Category	Unhealthy behaviour
Frequency of teeth brushing	0 – never; 1 – less than once a day; 2 – once a day; 3 – more than once a day	never or less than once a day
Frequency of visiting the dentist during the last year	number of visits; values grouped in 6 groups: 1 – never; 2 – once; 3 – twice; 4 – 3–4 times; 5 – 5–10 times; 6 – more than 10 times)	never
Frequency of consuming sweet pastries, sweets or candies	1 – once a day; 2 – 4–6 times a week; 3 – 1–3 times a week; 4 – 1–3 times a month; 5 – never	once a day or 4–6 times a week
Frequency of consuming soft drinks (colas, ice tea, juice etc.)	1 – once a day; 2 – 4–6 times a week; 3 – 1–3 times a week; 4 – 1–3 times a month; 5 – never	once a day or 4–6 times a week

Table 2. Groups according to combination of criteria used for classifying oral self-care.

Group N°	Frequency of teeth brushing	Frequency of visiting the dentist during the last year	Frequency of consuming sweet pastries, sweets or candies and/or soft drinks
1	at least once a day	at least once	at most 3 times a week
2	at least once a day	at least once	4–6 times a week or more frequently
3	at least once a day	never	at most 3 times a week
4	at least once a day	never	4–6 times a week or more frequently
5	less than once a day	at least once	at most 3 times a week
6	less than once a day	at least once	4–6 times a week or more frequently
7	less than once a day	never	at most 3 times a week
8	less than once a day	never	4–6 times a week or more frequently

and were excluded from analysis of association between social class and observed outcome, and from multivariate analysis. All data necessary to perform logistic regression analysis were available for 7,539 participants (83.5 %).

Components of oral self-care

Analyses of the items composing the quality of oral self-care index showed that among the 8,392 survey participants 1.5 % reported never brushing their teeth and 7.5 % answered that they brush their teeth less than once daily. Also 35.3 % participants reported that they did not visit a dentist during the previous year, 4.9 % participants reported daily consumption of sweet pastries, sweets, and candies, whereas 9.0 % reported consumimg those 4–6 times a week. Finally, 30.4 % participants reported daily consumption of soft drinks whereas 15.2 % reported consuming those 4–6 times a week. Frequency of risky health behaviour related to oral self-care, in different population groups according to gender, age and educational level are presented in Table 3.

Quality of oral self-care

Quality of oral self-care was established for 8,392/9,034 participants (92.9 %). Among them, 5,157 (61.5 %) were classified in the group with good oral self-care, 2,652 (31.6 %) in the group with fair oral self-care, and 583 (6.9 %) in the group with poor oral self-care. Quality of oral self-care in various population groups are presented in Table 4.

Poor oral self-care

In the general population, the prevalence of poor oral self-care was 6.9 %. Higher prevalence than average was found in men, in age groups 40–49 and 50–59, in participants with uncompleted primary, primary or vocational educational level, in participants working as manual workers in rural economy or industry, and those unemployed (job seekers), in participants self-classified in the lower or labor social class, in participants from rural residential communities, and in participants from eastern Slovenia (Table 4).

The results of the logistic regression model showed a statistically significant association between poor oral self-care and gender, age, educational level, type of work, social class and residential community, but not with geographical region of residence. Detailed results are presented in Table 5.

Discussion

The main results of our study show that poor oral self-care is unequally distributed among adults in Slovenia. Individuals, who are at the highest risk, are people, hardly attainable for

Table 3. Distribution (as %) of unhealthy behaviour related to oral self-care in different population groups in 8,392 participants of the health behaviour survey in Slovenia in 2001.

Population group		Frequency of teeth brushing		Did not visit a dentist during previous year	Frequency of consuming sweet pastries, sweets, candies		Frequency of consuming soft drinks	
		never	less than once a day		daily	4–6 times a week	daily	4–6 times a week
Gender	men	2.7	12.9	40.6	4.6	8.7	34.7	17.4
	women	0.5	3.0	30.8	5.2	9.3	26.8	13.3
Age (years)	25–29	1.2	4.6	31.7	6.7	13.0	39.3	23.3
	30–39	0.8	6.1	30.1	5.9	11.2	34.4	17.0
	40–49	1.7	8.9	35.6	5.5	8.5	32.1	14.2
	50–59	2.0	8.6	38.3	2.9	7.2	24.5	12.4
	60–64	2.2	7.6	43.3	3.8	5.1	20.6	11.5
Educational level	uncompleted primary	4.9	16.2	49.9	5.5	5.2	34.7	11.1
	primary	2.2	12.0	44.3	5.0	7.5	37.6	13.9
	vocational	2.0	9.9	37.8	4.4	7.8	34.3	14.9
	secondary	0.6	4.0	30.9	4.4	9.7	27.7	16.5
	college	0.4	3.2	27.6	4.5	11.3	21.8	14.9
	university	0.5	1.1	24.2	7.0	13.1	20.0	17.5

educational activities (unemployed and uneducated men, living in rural parts, mainly from eastern Slovenia). This population group lives in poor socioeconomic conditions that have a negative impact on practicing healthy lifestyle.

Two items of poor oral self-care, teeth brushing and visits to the dentist, can be compared to similar studies performed in Finland,[11] Latvia,[12] and Lithuania,[13] and to a certain extent to less similar studies carried out in the United Kingdom,[14] and in the United States:[15]

- teeth brushing: in Slovenia there is a higher percentage of adults who do not brush their teeth every day (9.0 %) than in Finland (7.4 %) and in the United Kingdom (less than 5 %) but less than in Latvia (16.9 %) and Lithuania (24.9 %);
- visits to the dentist: in Slovenia there is nearly the same percentage (35.3 %) of those who do not visit the dentist at least once a year as in Finland (35.5 %) and higher than in the United Kingdom (29 %) and in the United States (29.1 %) (United States percentages varied from 18.4 % in Connecticut, to 43.3 % in the Virgin Islands). In Latvia (38.0 %) and Lithuania (40.5 %) the percentages in this category are a bit higher.

The limitation of these comparisons is in different age range of participants (Slovenia: 25–64; Finland and Latvia: 15–64; Lithuania: 20–64; the United Kingdom ≥16; the United States: ≥18).

On average Slovenian adults drink a lot more soft drinks than their Finnish, Latvian and Lithuanian counterparts. There is no comparable data available from other countries. In Lithuania there are 21.1 % of those who consume these kinds of drinks 6 or 7 days a week; fewer such consumers have been found in Finland and Latvia (Finland: 5.1 %; Latvia: 2.9 %). But in Slovenia 30.4 % of adults drink soft drinks every day; the percentage would have been much higher if those consuming such drinks only 6 days a week would have been included. The problem could eventually grow out of all proportions since consumers of soft drinks are most often found amongst younger adults (25–29 year olds: 39 %; 30–34 year olds: 37 %).[16]

Due to large differences in questionnaires we were, unfortunately, unable to compare habits regarding consumption of sweets and sweet pastries.

Population groups at high risk

Since the degree of oral care according to the collected data is rather low in Slovenia it could be assumed that almost 7 % of the Slovene population has been insufficiently informed about preventive dental care and are not aware of the importance of oral health in their overall wellbeing. Because they do not feel the need to take care of their teeth properly they have not developed a dental care friendly lifestyle. This group of people is therefore highly prone to teeth infections, decay and various teeth conditions as well as different health problems that are indirectly connected with oral health.

Distribution of teeth brushing frequency by gender shows that adult males are much more ignorant towards their oral health

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Table 4. Distribution (as %) of quality of oral self-care in different population groups in 8,392 participants of the health behaviour survey in Slovenia in 2001.

Population group		N	Quality of oral self-care		
			Good	Fair	Poor
Gender	men	3,815	53.6	34.0	12.5
	women	4,577	68.0	29.6	2.4
Age (years)	25–29	887	66.2	29.3	4.5
	30–39	2,276	67.1	27.4	5.4
	40–49	2,386	60.1	31.7	8.2
	50–59	1,943	57.7	34.0	8.4
	60–64	900	54.4	38.9	6.7
Educational level	uncompleted primary	501	44.1	38.9	17.0
	primary	1,293	51.4	37.4	11.2
	vocational	2,561	56.8	34.0	9.2
	secondary	2,179	67.1	29.1	3.8
	college	748	70.6	26.6	2.8
	university	1,037	75.1	23.9	1.0
Type of work	manual work in rural economy	418	47.8	34.9	17.3
	manual work in industry	1,460	54.7	32.9	12.3
	administrative/intellectual work/student	3,853	68.8	28.4	2.8
	housekeeper	263	61.2	31.6	7.2
	pensioner/disability pensioner	1,460	56.8	36.3	6.9
	unemployed (job seeker)	557	53.5	37.0	9.5
Social class	lower	192	41.1	41.7	17.2
(self-classification)	labour	2,861	53.9	35.7	10.4
	middle	3,942	65.8	29.1	5.1
	upper-middle	827	73.3	25.9	0.8
	upper	101	75.2	21.8	3.0
Residential	urban	2,869	64.7	31.0	4.3
community	suburban	1,924	65.0	29.7	5.3
	rural	3,535	57.0	33.1	9.9
Geographical	western	1,914	63.0	31.1	5.9
region	central	2,458	63.5	30.6	5.8
	eastern	4,020	59.4	32.4	8.1

than females,[11–13] and are more prone to tooth decay.[17] The results are more or less the same in other similar studies.

Older people also tend to take less care of their teeth compared to younger people. The percentage of respondents aged 50–59 who are neglecting their oral health is almost double compared to the respondents aged 25–29. These huge differences can be explained by the fact that younger generations (especially those born after 1975) took part in organized dental education in preschool care institutions, schools and community health care centers. Still we can not be entirely satisfied with the awareness of preventive dental care in the age group 25–29 because the basic research report on health behaviour in Slovene adults show that around 32 % of respondents from this age group have not visited a dentist for the last 12 months.[16] We expected, that a much lower proportion of adults from this age group would be neglecting their oral health because they had been subjected to extensive dental-health prevention programmes (leading to higher awareness), but obviously we were mistaken. The interesting thing is that the lowest percentage was reached in the age group 30–39 (28 %). It could have been due to the fact that young adults aged 25–29 do not feel the need to visit the dentist because they know their teeth had been taken care of in their childhood so they do not worry about them; but they are subconsciously aware of the need to have their teeth regularly examined for prevention reasons and they start doing it after they reach their 30-ies.

The widespread drinking of soft drinks amongst the population is also problematic. The problem lies in the uncontrolled consumption of monosaccharides or so-called “fast sugars” between meals that can have potentially disastrous effects on oral health. It usually affects younger adults (25–29 year olds:

Table 5. Multivariate associations between socio-economic predictors of poor oral self-care in 7,539 participants of the health behaviour survey in Slovenia, 2001.

Predictors		OR*	95 % C.I. limits for OR		
	Category		Lower	Upper	p
Gender	women	1.00			
	men	7.49	5.71	9.81	<0.001
Age (years)	50–59	1.00			
	25–29	1.34	0.79	2.29	0.277
	30–39	1.40	0.90	2.18	0.139
	40–49	1.83	1.21	2.77	0.004
	60–64	1.71	1.17	2.51	0.006
Educational level	university	1.00			
	uncompleted primary	5.95	2.59	13.64	<0.001
	primary	4.95	2.22	11.06	<0.001
	vocational	3.74	1.73	8.12	0.001
	secondary	2.66	1.23	5.78	0.013
	college	2.82	1.20	6.61	0.017
Type of work	administrative/intellectual work/student	1.00			
	manual work in rural economy	2.73	1.88	3.96	<0.001
	manual work in industry	1.75	1.30	2.37	<0.001
	housekeeper	3.44	1.81	6.53	<0.001
	pensioner/disability pensioner	1.84	1.27	2.68	0.001
	unemployed (job seeker)	1.67	1.11	2.50	0.013
Social class (self-classification)	upper-middle	1.00			
	lower	6.20	2.52	15.29	<0.001
	labour	4.05	1.82	9.04	0.001
	middle	3.29	1.50	7.22	0.003
	upper	2.97	0.58	15.23	0.191
Residential community	urban	1.00			
	suburban	1.19	0.89	1.59	0.248
	rural	1.55	1.21	1.98	<0.001
Geographic region	western	1.00			
	central	1.24	0.93	1.64	0.146
	eastern	1.11	0.86	1.43	0.409

* Abbreviations: OR – odds ratio; C.I. – confidence interval.

39 %, 30–34 year olds: 37 %) and falls under the average level no sooner than in the 50–54 age group.[16]

Our results document the well known fact that people with a higher educational level tend to be more aware of preventive dental care than the less educated people. The former also have more general and expert knowledge regarding their oral health than the latter.

Similar differences have also been noticed between employed and unemployed people – unemployed respondents have proven to take less care of their oral health than the employed respondents, but it has not been that significant. The distinction between young unemployed people and pensioners has been more pronounced; the latter belong to the oldest two age groups where dental care is most often ignored.

The relationship between low level of dental care and social class has been rather significant. People with higher socio-economic status tend to have a more positive attitude towards preventive health care and vice versa. If we take into account the level of poverty in Slovenia (13.6 %), we can clearly see the close connection between the oral health care and socio-economic situation in the country.[18]

We have been observing the geographic distribution of poor oral health care frequency from the viewpoint of areas of residence (urban and suburban areas, rural communities) as well as belonging to three different geographic regions (western, central and eastern). We have shown differences of risky behaviour patterns: those are more common in rural communities than in the suburban areas and far less frequent in urban centers from a statistical point of view the differences

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between urban and suburban areas have not been worth mentioning; but the differences between urban and suburban areas on the one hand and rural communities on the other have been much more significant. But due to the polycentric development of Slovenia, small cities and huge daily migrations of population the differences between cities, suburban areas and rural communities have not been as explicit as in some other countries. Observations in different geographic health regions have shown slightly higher exposure to oral health problems in central and eastern health regions, but the differences have been so insignificant that it could not be proven by our method.

The implications of the results

Appropriate oral hygiene performed by individuals reduces dental plaque and improves gingival health. Teeth can be brushed several times a day but for a sufficient maintanance of oral hygiene it is necessary to brush them at least once a day before sleep. Dentists should be visited at least once a year for a professional checkup and treatment if needed. Dental visits are also important for eventual additional information about good oral hygiene of an individual. Proper oral health care also includes healthy dietary habits. Sweets and soft drinks contain a large amount of sugar and should be avoided.[19]

Many of the direct risk factors of oral diseases are known. A reduction or elimination in the effects of risk factors is possible through appropriate knowledge and behaviour such as preventive self-care, limiting high-risk behaviour like the use of tobacco and alcohol, taking part in professionally provided preventive, diagnostic and therapeutic care, and having a supportive environment (e. g. community water fluoridation). In order to confront negative behaviours through education and health promotion so as to improve the oral health status of the population, action is necessary not only at the individual level but also at the levels of the health care professions and society.

General and oral health education and promotion

Preventive dental services can improve health only if they are used by the public and the oral health care providers.[5] Proper use of self-care and professionally provided services requires both, the dissemination of information to the oral and general health care providers, and to the public at large. Studies on services provided by dental practices have shown that the majority of services are for the restoration of diseased teeth rather than for prevention.[20,21] The dissemination of knowledge to the public is also critical in order to stimulate appropriate utilization of dental services and self-care behaviours. Knowledge of factors related to caries and periodontal disease is poorer among older adults than among younger adults.[22] Regular use of dental services is associated with improved knowledge. This demonstrates the importance of education provided by dental practices and other sources.

According to several studies there is a significant relationship between general health and oral health on the one hand and socioeconomic and cultural factors on the other. A European and North American survey reported by Kandelman et al. showed that people of lower education, lower income families and individuals with little or no education were more likely to be edentulous than others.[23] A Swedish study conducted by Norlen et al. indicated a strong relationship between general health, social factors and oral health among women at retirement age.[24] Moreover, Beck et al. found that chronic disabling medical conditions, social and psychological factors such as social participation, and negative life events had an important influence on oral health.[25] Locker et al. reported that deprivation indices were sensitive to variations in oral health behaviours and could be used to identify small areas with high levels of need, and that they had a major role to play in research into features of people and places and how these promote and/or damage both oral and general health.[26] A worldwide study by Parkin & Muir revealed that tobacco and alcohol use heightened the risk of oral cancer, especially in older adults.[27]

Social and economic factors need to be addressed in both general and oral health promotion. Predisposing risk factors such as gender, age, geographical location, culture and racial/ethnic status are seldom modifiable but they strongly influence oral health status and must be acknowledged in the development of programmes aimed at reducing risk factors for oral diseases and conditions. A lack of perceived need is a prime example of a predisposing attitude.

Socioeconomic and demographic factors are consistently associated also with seeking and obtaining professional dental services. Persons with low income, low educational levels, no insurance coverage, or residing in locations with few health care providers are less likely to have visited a dentist during the past year than others.[28] Other indirect influences include individual enabling factors such as: educational and income levels; transportation; lifestyle, including smoking and alcohol consumption; and community support, such as financial assistance programmes and the availability of appropriate health care providers. The removal of barriers to both self-care and professionally provided strategies is necessary if a reduction in the burden of oral impairments in the population is to be achieved. This requires an oral health care delivery system that is different and more inclusive than what is traditional in most countries.

In order to maintain and improve the oral health of adults it is necessary to move beyond the focus of oral health as be-

ing primarily dependent on individual lifestyle choices. The social contexts of these choices remain hidden if an exclusively individual approach is adopted. The amount of control that people have over their own health is overestimated. The maintenance of oral integrity places enormous challenges on the behaviours not only of individuals but also of health care providers and the system, and requires the continuation and improvement of research, education, community programmes and clinical care.[5]

Strengths and weaknesses of the study

The strength of our study of oral self-care is that it is a part of the general health survey on risky health behaviour. At the same time, is not as detailed as it could be. The international questionnaire, for example, does not anticipate questions about protective means and applications in the oral cavity. However, additional questions can be included by individual countries. This is recommendable for such type of a research in the future because protective means can play an important role in oral public health, as reported earlier.[29]

We are well aware that other behavioural patterns like smoking and alcohol drinking (especially immoderate drinking habits) should have been taken into consideration if we were to get the whole evaluation of the oral health care. But such a task demands a profounder analysis and broader spectrum of professionals.

In conclusion, in Slovenia, renewed national goals for good (oral) health in the next decade should be set up. It is important to monitor the frequency of consumption of soft drinks, which becomes an important issue in Slovenia (not only because of poor oral health but also because of obesity). Development of public dental care networks for children and adolescents, and permanent monitoring of oral health status of adults (in the general frame of monitoring health behaviour) are necessary as well. A new preventive dental care programme with well-defined responsibilities of all parties concerned should be adopted and should comprise the content, volume, quality, time, monitoring, and financial sources allocated for these purposes. We should not forget the public health measures that should be taken, like fluoridation (e. g. salt), dental health education integrated in health promotion (kindergartens, schools etc.), education of the professionals etc. Such a programme could improve the situation, reduce the differences between the regions, and improve dental health education. Special attention should be given to the oral health promotion for those population groups with the highest odds registered: for men, for those with low educational level, and for those belonging to the lowest social classes, as well as of healthy living and lifestyles in general, especially for low socioeconomic groups, and for eldery people (financial and physical accessibility). People should be motivated to take care of their general and oral health actively, whereas the society should enabled them to do so.

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