

Oral health and dental care of old adults in Byelorussia

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Introduction

A demographic revolution is under way throughout the world. Today, world-wide, there are around 600 million persons aged 60 years old and over; this total will double by 2025 and will reach virtually two billion by 2050 - the vast majority of them in the developing world [1].

In Byelorussia, the proportion of elderly of 65 years old and more has increased in the last ten-year period from 10.6% in 1990 to 13.5% in 2001 and in 2003 the proportion of elderly of age 60 and more amounted to 19%. Hopes for longer life are often associated with negative views about old age, expectations of declining intellectual abilities and physical health, of social isolation and inactivity. Increased lifetime in old age is combined with a concern about its quality. Oral health care of the elderly is one important aspect affecting the quality of life. There were several studies on dental caries prevalence among adults 65 years old and more [2, 3]. However, the real scope of oral diseases prevalence and the needs for oral care of the standard age groups of elderly in Byelorussia were unknown.

Objective

The aim of the present study was to assess the oral health status and treatment need of elderly population.

Material and methods

400 subjects aged 65-74 years old (M-112, F-288) in all six administrative regions of Byelorussia were surveyed. DMFT, CPITN, prosthetic status and treatment need were recorded in standard condition using the WHO 1986 oral health assessment forms. ANOVA program was used for statistics.

Results

According to oral health survey data, a high prevalence and intensity of dental caries and periodontal disease were apparent. 14.8% of surveyed elderly were edentulous, which was three times more than the WHO goals for the year 2010. The percentage of edentulous varied in different regions from 11.3 to 28.6. All dentate subjects were affected by dental caries of which non-treated coronal caries were in 50.5% of cases and root caries in 17.8%. Average DMFT (\pm SE) was 22.5 ± 0.9 , of which decayed teeth were 1.7 ± 0.15 , missing - 18.2 ± 0.49 , filled - 2.6 ± 0.14 . The average number of retained natural teeth was 13.8 per subject (according to the proposed WHO goal, it should be at least 20). 17% of dentate subjects had CPITN score "4"; 62.8% - "3"; 19.9% - "2"; 0.3% - "1"; no healthy sextants were found. 2.9 ± 0.12 of sextants were excluded from assessment due to missing teeth; 0.1 ± 0.02 of sextants showed bleeding; 1.3 ± 0.09 presented with calculus; 1.5 ± 0.08 - 4-5 mm pockets and 0.2 ± 0.03 - deep pockets. We could not compare this data with the WHO goals because of the large number of excluded sextants.

Table 1 shows the number and percentage of subjects in Byelorussia requiring treatment in average number of teeth. The need for one surface filling was 18.3%, two or more surfaces - 29.8%, endodontic treatment - 11.3%, extraction - 40%.

A total of 61.8% of elderly used prosthesis. We noticed the higher percentage of old people wearing partial and full dentures, in particular in the upper jaw (*Table 2*). $19.0 \pm 1.9\%$ of subjects had full denture in the upper arch and $10.8 \pm 1.6\%$ in the lower arch, and $9.8 \pm 1.4\%$ - in both jaws. There were a lot of bridges: $18.0 \pm 1.9\%$ of surveyed elderly had bridges in the upper arch and $12.8 \pm 1.6\%$ in the lower arch and $7.8 \pm 1.4\%$ in both.

89% of subjects needed prosthetic treatment, of which 45% needed one or more bridges; 17.1% - partial dentures and 26.6% - full den-

tures, of which 5.5% - to both jaws. The percentage of subjects needing prosthetic treatment is summarized in *Table 3*.

Table 1. Number (n) and percentage (%) of elderly aged 65-74 in Byelorussia requiring dental treatment in average number of teeth (av)

Treatment procedure indicated	N	%	Av (\pm SE)
1 s. filling	73	18.3	0.3 \pm 0.04
\geq 2 s. filling	118	29.8	0.47 \pm 0.04
Crown	28	7	0.15 \pm 0.04
Endodontic	45	11.3	0.22 \pm 0.04
Extraction	160	40.0	1.16 \pm 0.1
None	158	39.5	-

Table 2. Prosthetic status of elderly aged 65-74 in Byelorussia (% \pm SE)

Number of subjects	Prosthetic status	Location					
		Upper jaw		Lower jaw		Both jaws	
		n	%	n	%	n	%
400	One bridge	44	11 \pm 1.6	45	11.5 \pm 1.5	22	5.5 \pm 1.3
	More than one bridge	72	18.0 \pm 1.9	51	12.8 \pm 1.6	31	7.8 \pm 1.4
	Partial denture	23	5.8 \pm 1.3	27	6.8 \pm 1.4	15	3.8 \pm 0.9
	Combination of partial denture with bridge	8	2.0 \pm 0.8	14	3.5 \pm 0.9	11	2.8 \pm 0.8
	Full denture	76	19.0 \pm 1.9	43	10.8 \pm 1.6	39	9.8 \pm 1.4

Table 3. Number (n) and percentage (%) of subjects requiring prosthetic treatment (\pm SE)

Number of subjects	Prosthetic status	Location					
		Upper jaw		Lower jaw		Both jaws	
		n	%	n	%	n	%
400	One unit prosthesis	43	10.8 \pm 1.5	33	8.3 \pm 1.3	13	3.3 \pm 0.8
	Multi-unit prosthesis	107	26.5 \pm 2.2	132	33.0 \pm 2.4	70	17.5 \pm 1.6
	Combination of one and multi-unit prosthesis	22	5.5 \pm 1.3	19	5.0 \pm 1.1	23	5.8 \pm 1.4
	Full denture	31	7.8 \pm 1.4	53	13.0 \pm 1.7	22	5.5 \pm 1.4

Conclusion

We conclude that a high percentage of elderly aged 65-74 y.o. were dentate but the average

number of teeth was low (13.8 teeth per subject) and their status was poor, with very high need for therapeutic and prosthetic treatment.

References

1. Nitschke I. Geriatric oral health issues in Germany. *Int. Dental Journal*, 2001; **51**(3): 235-246.
2. Kunzel W., Borutta A., Leous P. et al. Multinationale studie zur Ermittlung des geros-

tomatologischen behandlungsbedarfs. WHO Kollaborationszentrum, Erfurt, 1994, 40 pp.

3. Borisenko L. Dental status and treatment need of elderly population in Byelorussia. *J. Community Dental Health*, 2003; **20**(3): 182.

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