



Towards Better Understanding of OHRQoL in Edentulous Patients

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Dear Editor-in-Chief

WHO goals for oral health 2020 target to reduce the number of edentulous persons and to increase the individuals with functional dentition. The prevalence of edentulism differs among countries (5% Switzerland, 8% Denmark, 40% Poland, 53% Bulgaria, 78% Bosnia and Herzegovina) (1). In Poland, between 1998 and 2009, the percentage of edentulous patients increased from 34.7% to 43.9% (2). The Oral Health Impact Profile is an instrument including conceptual dimensions of OHRQoL (3) giving greater weight to psychological and behavioral outcomes.

Our aim was to assess oral health impacts related to the Oral Health Impact Profile in edentulous patients with complete dentures from Białystok, Poland.

The participants were recruited from two randomly chosen dental clinics in Białystok, which constituted 11.1% of accessible public dental clinics. The inclusion criteria were: a public dental service, a prosthodontist, and patients with complete dentures. Participants consecutively filled in the questionnaire during their dental checkup. The participation was anonymous,

voluntary. Patients unable to fill in the questionnaire were excluded from the survey. The Polish version of the OHIP-14 was used (4). The values of Cronbach's alpha (0.969) were calculated to assess the internal consistency for the whole score and for particular items removed. The statistical analysis was performed using the IBM SPSS Statistics 20.0 software. Statistical hypotheses were verified at $P < 0.05$. The final sample consisted of 100 edentate people. The age ranged from 49 to 97 yr, (mean age 72.65 +/- 9.25). Table 1 shows mean values of the total OHIP-14 and its dimensions in relation to different variables. The age was significantly associated with the functional limitation dimension. Level of education, dry mouth, chewing ability and self-rated oral health indicated significant association with total OHIP-14 and its dimensions. In table 2 chewing problems, dry mouth and self-rated oral health were significantly associated with the OHIP-14. Participants who reported chewing problems had a 6.17 times greater odds of having the OHIP-14 score above the median than those without chewing problems.

Table 1: Mean values (SD) of the total OHIP-14 scores and its dimensions by age, gender, education, dry mouth, chewing ability and self-rated oral health

Variables	OHIP total	Functional limitation	Pain and discomfort	Psychological impact	Behavioral impact
Age (yr)*					
<59	15.17(12.98)	1.83(0.40)	2.17(2.48)	6.33(5.53)	4.83(4.99)
60-74	25.83(15.00)	3.75(2.10)	3.42(1.96)	9.91(5.86)	8.75(5.77)
75<	26.66(14.79)	4.20(2.32)	3.66(2.12)	10.00(5.59)	8.80(5.54)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.74)	8.54(5.66)
<i>P</i>	0.241	0.022	0.217	0.352	0.280
Gender					
Male (41)	27.05(14.37)	3.93(1.99)	3.53(1.98)	10.54(5.64)	9.00(5.62)
Female	24.47(15.30)	3.73(2.33)	3.34(2.13)	9.17(5.79)	8.22(5.72)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.74)	8.54(5.66)
<i>P</i>	0.453	0.606	0.530	0.348	0.557
Education*					
Primary (39)	28.10(13.67)	4.28(1.98)	4.00(2.05)	10.49(5.33)	9.33(5.28)
Secondary	26.79(15.20)	3.92(2.23)	3.50(1.97)	10.27(5.89)	9.10(5.81)
Tertiary (13)	13.15(11.95)	2.08(1.89)	1.54(1.33)	5.46(4.82)	4.08(4.34)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.74)	8.54(5.66)
<i>P</i>	0.008	0.008	0.001	0.017	0.010
Dry mouth					
No (13)	19.10(14.03)	3.00(2.04)	2.51(1.94)	7.45(5.51)	6.14(5.24)
Yes	32.22(12.79)	4.67(2.02)	4.41(1.74)	12.10(5.00)	11.04(5.00)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.74)	8.54(5.66)
<i>P</i>	0.000	0.000	0.000	0.000	0.000
Chewing ability					
No(51)	16.31(12.14)	2.77(1.92)	2.23(1.64)	5.85(4.41)	5.46(4.55)
Yes	26.91(14.85)	3.98(2.19)	3.62(2.07)	10.31(5.71)	9.00(5.69)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.743)	8.54(5.66)
<i>P</i>	0.017	0.027	0.019	0.008	0.046
Self rated oral health					
Bad	30.81(14.70)	4.42(2.13)	4.09(1.95)	11.77(5.72)	10.53(5.66)
Good(57)	18.53(12.15)	3.02(2.02)	2.58(1.91)	7.02(4.56)	5.91(4.52)
Total	25.53(14.90)	3.82(2.19)	3.44(2.07)	9.73(5.74)	8.54(5.66)
<i>P</i>	0.000	0.001	0.000	0.000	0.000

Kruskal–Wallis*; Mann–Whitney's U

Table 2: Odds ratios of achieving OHIP-14 score above median value

Variable	OR	OHIP-14 95%CI
Chewing problems (yes / no)	6.17	1.29-29.49*
Dry mouth (yes / no)	4.12	1.79-9.48*
Self-rated oral health (bad / good)	8.19	3.25-20.60*
Gender (male / female)	1.47	0.66-3.27

*95%CI does not include 1;

Our study is the first in Poland and Eastern Europe conducted on OHRQoL and associated factors in edentulous people using complete dentures. Our findings may be useful in developing preventive strategies and dealing with their impairments. The two most often reported domains were psychological and functional outcomes. They included “uncomfortable to eat foods”, “self-conscious” and “unsatisfactory diet”. A substantial proportion of participants demonstrated a number of oral health problems which were significantly associated with dry mouth, chewing problems, poor self-rated oral health, lower level of education and age over 75. Our data revealed significant level of impairment in elderly people using complete dentures (median-27; mean 25.53). The retained chewing function is a condition for a varied diet, and nutritional status which is significant at an older age. Our findings are consistent with results of the survey on chewing ability of elderly population conducted in different countries (5). A poor OHRQoL in edentulous persons was clearly related to the occurrence of dry mouth, and this condition had a significant impact on all dimensions of OHRQoL. Level of education has different impact on oral health-related quality of life (6). Age showed no impact on the OHIP total score, but the problems of participants over 75 years old were significantly associated with the difficulty in pronouncing words and a worse sense of taste.

Concluding, the Polish version of the OHIP-14 demonstrated good reliability and validity. Dry mouth, chewing problems and poor self-rated oral health, level of education and age over 75 were strongly associated with poor OHRQoL.

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