

# Students' knowledge of oral hygiene vs its use in practice

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## Abstract

**Purpose:** The purpose of the work is to estimate the knowledge connected with the rules of the oral hygiene and its correlation with everyday habits among the students of Dental studies and Medical Studies at Medical School in Lublin and Polytechnics of Lublin.

**Material and methods:** A survey was conducted among 483 students: 58 2nd-year and 88 5th-year students of dentistry, 97 2nd-year and 51 5th-year students of medicine and 108 2nd-year and 81 5th-year students from The Polytechnics of Lublin.

**Results:** The study revealed that 50% students of dentistry, 32.43% students of medicine and 26.6% students of polytechnics brush their teeth after every meal; 94.23% students of dentistry, 89.91% students of medicine and 78.8% students of polytechnics know-how often teeth should be brushed. Students had better knowledge of how frequent they should change a toothbrush: 71.8% students of dentistry, 61.49% students of medicine and 54.4% students of polytechnics change their toothbrushes every 3 months, however, 84.61%, 62.16% and 49.42% students respectively have knowledge concerning the frequency of changing a toothbrush. The study also revealed that 13.46% students of dentistry, 10.14% students of medicine and 6.49% students of polytechnics visit dental clinic every 3 months, however, 4.49%, 13.51% and 14.05% students respectively go to see the dentist less than once a year. The reason for making a dental appointment was pain in 7.05% students of dentistry, 16.22% students of medicine and 22.22% students of polytechnics and a check-up in 64.74%, 62.84% and 51.85% students respectively.

**Conclusions:** Students' knowledge of oral hygiene does not always correlate with practice.

**Key words:** oral hygiene, students, questionnaire.

## Introduction

Hygiene (from Greek *hygienos*) is a science concerned with the investigations of environmental factors that affect human health. It studies how the human body responds to them. Obeying the rules of proper oral hygiene is of primary importance in the prevention of dental caries and periodontal diseases. Health education is also very important in dentistry. It is a basic issue of modern prevention programs and is included in all curricula of medical courses [1-3].

Dental health education is one of the preventive measures. Its aim is to raise awareness and motivate pro-health behaviors to maintain good oral health. The knowledge of prophylactic rules and their application in practice, necessary knowledge and thorough information adjusted to the patient's age are of high impact in accomplishing good oral health [3-7].

## Purpose

The purpose of the work is to estimate the knowledge connected with the rules of the oral hygiene and its correlation with everyday habits among the students of Dental studies and Medical Studies at Medical School in Lublin and Polytechnics of Lublin.

## Material and methods

A survey was conducted among 483 students: 58 2nd-year and 88 5th-year students of dentistry, 97 2nd-year and 51 5th-year students of medicine and 108 2nd-year and 81 5th-year

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Table 1. How often do you visit dental office? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
Every 3 months	7.4	18.2	13.46	11.3	7.8	10.14	7.5	3.8	6.49
Every 6 months	63.2	59.1	60.9	49.5	47.1	48.65	41.1	34.6	38.38
Once a year	25.0	18.2	21.15	26.8	29.4	27.7	33.6	52.6	41.62
Less than once a year	4.4	4.5	4.49	12.4	15.7	13.51	17.8	9.0	14.05

Table 2. What influences the frequency of dental visits? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
Fear	7.5	17.9	14.74	9.5	1.9	8.11	13.3	15.1	14.09
Lack of financial means	3.0	6.4	5.77	6.3	1.9	4.73	12.5	16.1	14.09
Lack of time	28.4	17.9	22.44	25.3	32.1	25.68	24.2	17.2	21.13
No need	61.2	57.7	57.05	58.9	64.2	60.81	50.0	51.6	50.70

Table 3. What are the causes of making a dental appointment? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
Dental appointment	66.7	63.6	64.74	64.6	59.6	62.84	47.3	58.2	51.85
Dental caries	13.0	30.7	23.08	11.1	21.2	14.87	14.5	25.3	19.05
Pain	11.6	3.4	7.05	16.2	15.4	16.22	31.8	8.9	22.22
Rother causes	8.7	2.3	5.13	8.1	3.8	6.76	6.4	7.6	6.88

students from The Polytechnics of Lublin. The questions concerned the knowledge of proper pro-health behaviors in the area of oral hygiene and their use in practice.

The results were analyzed statistically by Chi<sup>2</sup> test of goodness of fit [8,9].

## Results and discussion

The results are presented in *Tab. 1-8*.

*Tab. 1* presents the results concerning the frequency of dental visits. They revealed that 60.9% students of dentistry (63.2% 2nd-year and 59.1% 5th-year students), 48.65% students of medicine (49.5% 2nd-year and 47.1% 5th-year students) and 38.38% students of polytechnics (41.1% 2nd-year and 34.6% 5th-year students) go to the dentist every 6 months. Chi<sup>2</sup> test found statistically significant differences among the students of dentistry, medicine and polytechnics concerning the answer of going to the dentist once or less than once a year: 21.15%, 27.7% and 41.62% students respectively go to the dentist once a year (Chi<sup>2</sup>=15.075, p=0.0005); 4.49% students of dentistry, 13.51% students of medicine and 14.05% students of polytechnics go to the dentist less than once a year (Chi<sup>2</sup>=16.470, p=0.00026).

*Tab. 2* presents the causes of such frequency of dental visits. Most often mentioned cause was no need to see the dentist: 57.05% students of dentistry, 60.81% students of medicine and 50.7% students of polytechnics. Another cause was lack of time mentioned by 22.4% students of dentistry, 25.68% students of medicine and 21.13% students of polytechnics. Fear of dental

visit was mentioned by 14.74% students of dentistry, 8.11% students of medicine and 14.09% students of polytechnics. Additionally the students of polytechnics reported lack of financial means among the causes (14.09%).

*Tab. 3* lists most common factors that motivate to make a dental appointment. Dental check-up was mentioned by 64.7% students of dentistry (66.7% 2nd-year and 63.6% 5th-year students), 62.84% students of medicine (64.6% 2nd-year and 59.6% 5th-year students) and 51.85% students of polytechnics (47.3% 2nd-year and 58.2% 5th-year students). Dental caries was the cause for 23.08% students of dentistry (13.0% 2nd-year and 30.7% 5th-year students), 14.87% students of medicine (11.1% 2nd-year and 21.2% 5th-year students) and 19.05% students of polytechnics (14.5% 2nd-year and 25.3% 5th-year students). Chi<sup>2</sup> test revealed statistically significant differences among the students of dentistry, medicine and polytechnics as far as pain being the cause of dental appointment was concerned: 7.05%, 16.22% and 22.22% respectively (Chi<sup>2</sup>=13.2501, p=0.0013).

Other questions concerned the rules of oral hygiene. *Tab. 4* presents the answers to the question asking about the frequency of toothbrushing. Chi<sup>2</sup> test found statistically significant differences among the students of dentistry, medicine and polytechnics: 50%, 32.43% and 26.6% students respectively brush their teeth after every meal, 46.8%, 61.49% and 65.64% students respectively brush their teeth twice daily (Chi<sup>2</sup>=11.454, p=0.0032); 1.92%, 4.73% and 5.13% students respectively brush their teeth once daily and 1.28%, 1.35% and 2.56% students respectively brush their teeth less than once a day.

Table 4. How often do you brush your teeth? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
After every meal	44.1	54.5	50.0	29.2	39.2	32.43	22.0	32.6	26.67
Twice daily	50.0	44.3	46.8	63.5	56.9	61.49	66.1	65.5	65.64
Once daily	4.4	0.0	1.92	5.2	3.9	4.73	7.3	2.3	5.13
Less than once daily	1.5	1.1	1.28	2.1	0.0	1.35	4.6	0.0	2.56

Table 5. How often teeth should be brushed? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
After every meal	97.1	91.9	94.23	90.5	90.2	89.19	75.0	83.8	78.8
Twice daily	2.9	8.1	5.77	8.4	9.8	10.14	20.2	16.3	18.48
Once daily	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.54
Less than once daily	0.0	0.0	0.0	1.1	0.0	0.68	3.8	0.0	2.17

Table 6. How often do you change your toothbrush? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
Every month	10.9	12.6	10.26	12.5	9.8	11.49	20.6	16.0	18.68
Every 3 months	71.9	75.9	71.8	68.8	47.1	61.49	49.5	61.3	54.4
Every 6 months	12.5	9.2	10.26	12.5	31.4	18.92	18.7	17.3	18.13
Less than 6 months	4.7	2.3	3.21	6.3	11.8	8.12	11.2	5.3	8.79

Table 7. How often a toothbrush should be changed? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
Every month	12.3	9.3	10.26	36.5	21.6	31.08	38.9	30.8	35.48
Every 3 months	86.2	88.4	84.61	58.3	68.6	62.16	44.4	56.4	49.42
Every 6 months	1.5	1.2	1.28	2.1	9.8	4.73	11.1	10.3	10.75
Less than 6 months	0.0	1.2	0.64	3.1	0.0	2.03	5.6	2.6	4.3

Tab. 5 presents the answers concerning the students' knowledge of adequate frequency of toothbrushing. The students of dentistry – 94.23% (97.1% 2nd-year and 91.9% 5th-year students), 89.19% students of medicine (90.5% 2nd-year and 90.2% 5th-year students) and 78.8% students of polytechnics (75.0% 2nd-year and 83.8% 5th-year students) knew that teeth should be brushed after every meal. Chi<sup>2</sup> test revealed statistically significant differences among the students of dentistry, medicine and polytechnics concerning the rule of toothbrushing twice daily: 5.77%, 10.14% and 18.48% students respectively said “yes” to that question (Chi<sup>2</sup> = 12.210, p = 0.0022).

Tab. 6 lists answers to the question asking about the frequency of changing one's toothbrush. The results found that 71.8% students of dentistry (71.9% 2nd-year and 75.95% 5th-year students), 61.49% students of medicine (68.8% 2nd-year and 47.1% 5th-year students) and 54.4% students of polytechnics (49.5% 2nd-year and 61.3% 5th-year students) change their toothbrush every three months. Chi<sup>2</sup> test found statistically significant differences concerning the answer of changing one's toothbrush every month among the students of dentistry, medi-

cine and polytechnics: 10.26%, 11.49% and 18.68% students respectively (Chi<sup>2</sup> = 6.370, p = 0.041).

Tab. 7 presents the answers concerning the frequency of changing one's toothbrush. Chi<sup>2</sup> test revealed statistically significant differences among the students of dentistry, medicine and polytechnics in the frequencies of changing one's toothbrush every month, every three months and every six months: 10.26%, 31.08% and 35.48% students respectively (Chi<sup>2</sup> = 20.532, p = 0.00003) said that a toothbrush should be changed every month, 84.61%, 62.16% and 49.42% students respectively (Chi<sup>2</sup> = 17.248, p = 0.0017) said it should be changed every three months and 1.28%, 4.73% and 10.75% students respectively (Chi<sup>2</sup> = 12.233, p = 0.0022) said the toothbrush should be changed every six months.

Tab. 8 gathers the answers concerning the sources of information about the rules of oral hygiene: 48.76% students of dentistry, 36.27% students of medicine and 27.27% students of polytechnics obtained the information from the dentist, mass media as the source of information were mentioned by 15.92%, 21.57% and 33.6% students respectively, different brochures

Table 8. Where do you obtain information on oral hygiene rule from? (in %)

Answer	Students of dentistry			Students of medicine			Students of polytechnics		
	2nd-year	5th-year	Total	2nd-year	5th-year	Total	2nd-year	5th-year	Total
From doctor	35.8	60.4	48.76	35.0	38.8	36.27	22.9	32.7	27.27
From mass media	16.8	15.1	15.92	21.9	20.9	21.57	35.0	31.9	33.6
From brochures	33.7	22.6	27.86	18.2	13.4	16.67	22.1	14.2	18.58
From family and acquaintances	13.7	1.9	7.46	24.8	26.9	24.49	20.0	21.2	20.55

were mentioned by 27.86%, 16.6% and 18.58% students respectively and 7.46%, 24.49% and 20.55% students respectively obtained such information from the family members or their acquaintances.

## Conclusions

1. Students' knowledge of oral hygiene does not always correlate with practice.
2. Students of dentistry had the best knowledge of oral hygiene, then were the students of medicine and the students of polytechnics knew the least about oral hygiene.
3. The majority of students are aware that dental check-ups are important, however, a toothache continues to be the most common cause of making an appointment with the dentist.
4. There are different sources of information mentioned, however, the students of dentistry and medicine obtain it from the doctor mainly and the students of polytechnics from mass media.

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