# A comparative study of oral health attitudes and behaviour using the Hiroshima University - Dental Behavioural Inventory (HU-DBI) between dental and medical students in Romania

**Language:** English

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## Introduction

Attitudes and behaviour of dental students towards their oral health self-care would play an important role in determining the oral health conditions of their patients. In passing through the undergraduate curriculum, the dental student should be able to be an oral health model. Although dental literature provides much research about patient motivation to follow a prescribed regimen and/or effective gingival health care programme throughout his/her life, little attention has been given to dental students' oral self-care beliefs, attitudes and behaviour.
A questionnaire, entitled the Hiroshima University - Dental Behavioural Inventory (HU-DBI), was developed by Kawamura (2000). The purpose of this study was to determine the differences in oral self-care levels between 118 Romanian first year dental and medical students, providing new insights into the impact of curricula on student outcomes, such as their attitudes toward prevention and personal oral care.

## Objectives

This poster presents the differences in oral self-care levels between first year dental and general medical students in Romania.

## Material and Methods

### 1. Subjects
- The subjects of the study were 118 first year dental (68) and medical (50) students at the University of Medicine and Pharmacy "Carol Davila" who were invited to this survey using Romanian versions of a questionnaire titled "Hiroshima University - Dental Behavioural Inventory (HU-DBI)", and three additional questions about frequencies of brushing, flossing and mouth rinse, at the end of the academic year.
- The HU-DBI questionnaire, which consists of twenty dichotomous responses (agree-disagree) regarding oral health-related behaviour was completed by students in class, anonymously, during normal faculty hours.
- All students selected for the survey answered the questionnaire.
- A total score was calculated based on the response on each statement. Higher scores of the HU-DBI indicate better oral health attitudes/behaviour. The possible maximum score is 12.
- Each additional item has 4 categories (4 times and more, 3 times, twice, and everyday for toothbrushing frequency and once a week, once a month, and never, for flossing and mouth rinse frequency).
- The mean age (S.D.) of Dental and Medical students was 19.76 (0.52) and 19.25 (0.43) years old, respectively.
- The percentage of female students was higher in both samples (75% and 65%, dental and medical, respectively).

### 2. Data Analysis
- Descriptive statistics were used on all variables. Group comparisons were made using Mann-Whitney U-tests for ordinal level data and chi2 tests for categorical data.
- Statistical significance was based on probability values of less than 0.05.
- The statistical calculations were performed with GraphPad Instat version 3.0, GraphPad Software, Inc., San Diego California, USA.

## Results

### 1. Mean HU-DBI scores

Figure 1 presents the mean HU-DBI scores classified by gender (male/female) in the two schools. The mean score of dental students (6.39±1.64) was higher than that of the medical students (5.9±1.79), but the differences were not statistically significant. When students were classified according to gender, there were observed significant differences of the mean HU-DBI scores.
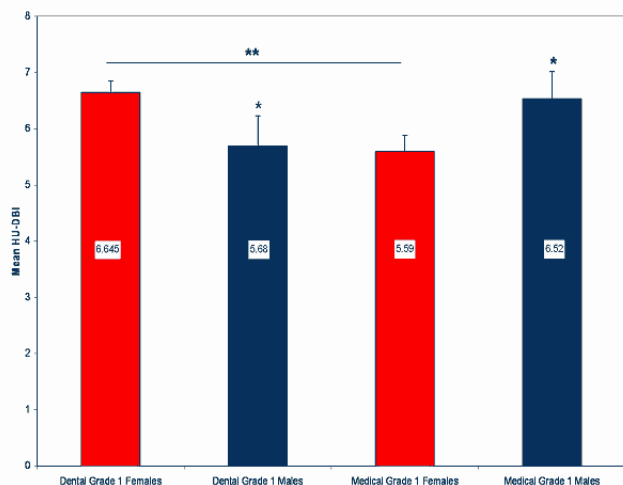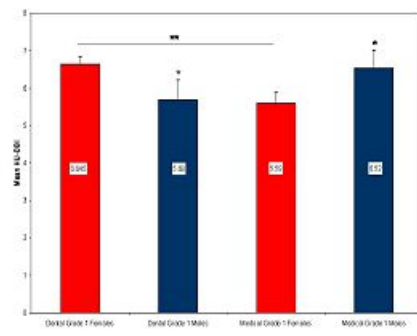
Figure 1. Comparison of the HU-DBI mean score between dental and medical students classified by gender (male/female). *: P<0.05, **: P<0.01

## 2. Percentage of "agree" response by school on the HU-DBI

Table 1 presents the HU-DBI statements and % distribution of the students who agreed with the statements, by school. The differences were notable in 3 items (nos. 1, 7, 15) between medical and dental group. Only 6% of the dental students do not worried much about visiting dentist (item 1), whereas 32% of the medical group did so (P<0.001). About one third of the medical group reported that they are "bothered by the colour of the gums" (item 7), whereas 19% of the dental students agreed with this statement (P<0.05). Furthermore, 56% of medical students seek dental care only when symptoms arise, compared with 31% of dental students (P<0.01).

| | | School[b] | Female | Male | Total | P-value | |
|---|---|---|---|---|---|---|---|
| 1. | I don't worry much about visiting the dentist. | D | 4 | 12 | 6 | NS | *** |
| | | M | 40 | 18 | 32 | * | |
| 2. | My gums tend to bleed when I brush my teeth. (D) | D | 23 | 31 | 24 | NS | NS |
| | | M | 22 | 24 | 22 | NS | |
| 3. | I worry about the colour of my teeth. | D | 71 | 37 | 59 | * | NS |
| | | M | 62 | 53 | 60 | NS | |
| 4. | I have noticed some white sticky deposits on my teeth. | D | 21 | 12 | 21 | NS | NS |
| | | M | 19 | 24 | 20 | NS | |
| 5. | I use a child sized toothbrush. | D | 10 | 12 | 10 | NS | NS |
| | | M | 12 | 0 | 8 | NS | |
| 6. | I think that I cannot help having false teeth when I am old.(D) | D | 25 | 37 | 26 | NS | NS |
| | | M | 34 | 24 | 32 | NS | |
| 7. | I am bothered by the colour of my gums. | D | 23 | 12 | 19 | NS | * |
| | | M | 34 | 35 | 36 | NS | |
| 8. | I think my teeth are getting worse despite my daily brushing.(D) | D | 25 | 37 | 26 | NS | NS |
| | | M | 37 | 12 | 28 | * | |
| 9. | I brush each of my teeth carefully.(A) | D | 87 | 81 | 84 | NS | NS |
| | | M | 78 | 76 | 76 | NS | |
| 10. | I have never been taught professionally how to brush.(D) | D | 19 | 31 | 22 | NS | NS |
| | | M | 28 | 18 | 24 | NS | |
| 11. | I think I can clean my teeth well without using toothpaste.(A) | D | 4 | 12 | 6 | NS | NS |
| | | M | 12 | 18 | 14 | NS | |
| 12. | I often check my teeth in a mirror after brushing.(A) | D | 90 | 50 | 78 | *** | NS |
| | | M | 66 | 71 | 66 | NS | |
| 13. | I worry about having bad breath. | D | 40 | 37 | 37 | NS | NS |
| | | M | 34 | 24 | 32 | NS | |
| 14. | It is impossible to prevent gum disease with toothbrushing alone.(D) | D | 56 | 56 | 56 | NS | NS |
| | | M | 66 | 35 | 54 | * | |
| 15. | I put off going to the dentist until I have toothache.(D) | D | 33 | 25 | 31 | NS | ** |
| | | M | 62 | 41 | 56 | NS | |
| 16. | I have used a dye to see how clean my teeth are.(A) | D | 25 | 12 | 22 | NS | NS |
| | | M | 28 | 24 | 28 | NS | |
| 17. | I use a toothbrush which has hard bristles. | D | 31 | 69 | 41 | ** | NS |
| | | M | 53 | 59 | 56 | NS | |
| 18. | I don't feel I've brushed well unless I brush with strong strokes. | D | 31 | 44 | 37 | NS | NS |
| | | M | 41 | 29 | 36 | NS | |
| 19. | I feel I sometimes take too much time to brush my teeth.(A) | D | 40 | 31 | 35 | NS | NS |
| | | M | 31 | 18 | 26 | NS | |
| 20. | I have had my dentist tell me that I brush very well | D | 54 | 56 | 56 | NS | NS |
| | | M | 53 | 47 | 52 | NS | |

Table 1. Questionnaire items of the HU-DBI and percentage of 'agree' response by school and level of education
a. In the calculation of the HU-DBI: (A) = One point is given for each of these agree responses. (D) = One point is given for each of these disagree responses
b. D: dental school, M: medical school
c. chi2 tests (upper left: between females and males in D, lower left: between females and males in M, right: between D and M). *: P<0.05, **: P<0.01, ***: P<0.001.

## 3. Toothbrushing, flossing and mouth rinse behaviour by school

Table 2 presents toothbrushing, flossing and mouth rinse behaviour by school and gender. No significant differences were observed between dental and medical students regarding toothbrushing and flossing frequency according to gender. The % of dental female students using mouth rinse everyday was 46% comparing with their male colleagues (12%; P<0.05). Also 56% of the male medical students reported that they used mouth rinse everyday, whereas only 12% of the male dental students agreed with this statement (P<0.05).

| | Dental school | | | Medical school | | |
|---|---|---|---|---|---|---|
| | females | males | total | females | males | total |
| **Toothbrushing frequency** | | | | | | |
| 4X and more | 11 | 0 | 7 | 10 | 0 | 6 |
| 3X | 40 | 25 | 37 | 31 | 59 | 41 |
| 2X | 47 | 63 | 51 | 56 | 29 | 47 |
| 1X | 2 | 12 | 5 | 3 | 12 | 6 |
| between males and females[a] | | * | | | NS | |
| between schools[a] | NS | NS | NS | | | |
| **Flossing frequency** | | | | | | |
| Everyday | 25 | 19 | 24 | 19 | 23 | 18 |
| 1 X a week | 19 | 25 | 20 | 14 | 12 | 14 |
| 1 X a month | 14 | 12 | 14 | 10 | 12 | 10 |
| Nil | 42 | 44 | 42 | 57 | 53 | 58 |
| between males and females[a] | | NS | | | NS | |
| between schools[a] | NS | NS | NS | | | |
| **Mouth rinse frequency** | | | | | | |
| Everyday | 46 | 12 | 38 | 26 | 59 | 37 |
| 1 X a week | 15 | 0 | 10 | 13 | 6 | 10 |
| 1 X a month | 12 | 19 | 14 | 10 | 12 | 12 |
| Nil | 29 | 69 | 38 | 51 | 23 | 41 |
| between males and females[a] | | ** | | | * | |
| between schools[a] | * | ** | NS | | | |

Table 2. % of toothbrushing per day, flossing and mouth rinse frequency by school a Mann-Whitney U-tests (NS: Not significant, *: P<0.05, **: P<0.01, ***: P<0.001, : P<0.0001).

## Conclusions

There were considerable differences in dental health attitudes/behaviour between first year dental and medical students.

## Literature

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## Abbreviations

HU-DBI = Hiroshima University - Dental Behavioural Inventory

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