GENDER DISTRIBUTION AFFECTS EATING BEHAVIOR IN PATIENTS WITH DENTAL DECAY

Cristina I. Petrescu, Cristina A. Croitor, Oana I. Suciu, Tudor O. Olariu

ABSTRACT

Objectives: The objective of our study was to investigate the measure in which gender distribution affects risk eating behavior (confectionery products and carbonated beverages consumption) in patients with dental decay. Material and method: The study was performed on a sample consisting of 60 patients with dental decay treated by students in the laboratories of the Faculty of Dental Medicine Timisoara, during 2008. The method was an epidemiological transverse inquiry, applying a questionnaire consisting of 10 items specific to the investigated topic (confectionery products and carbonated beverages consumption) connected with primary files data registration (register of consults). Results: Daily consumption of confectionery products in men (50%) was very high in comparison with women (18%), but women consumed confectionery products 2 times/day, also (18%). After confectionery products consumption, dental hygiene was performed by 1% men and 22% women. Men consumed more frequently cookies and beverages enriched with sugar (30% and 34%, respectively) than women (26% cases in both situations). Both sexes (27% men, 28% women) consumed sticky confectionery products (nougat, jelies, chocolate). Beverages consumption consisted of plain water and, predominantly, carbonated beverages in the same measure in men as in women. Women consumed more carbonated beverages obtained from fruits (55%) and less Coca Cola (35%) in comparison with men (37% consumed beverages obtained from fruits and 42% Coca Cola). A percentage of 73% men and 84% women did not wash their teeth after carbonated beverages consumption. We observed that between women and men beverage consumption there is a powerful Spearman correlation (r=0.943, sig. 0.005). Conclusions: There are differences between sexes regarding risk eating behavior on oral health (confectionery products consumption and sorts of carbonated beverages), oral hygiene and addressability of the patients to dental offices, and similarities for carbonated beverages. Key words: sex repartition, sugars, beverages, dental decay

INTRODUCTION

Dental decay is a multifactor disease, consisting of a localized destruction of the hard dental tissues under the action of micro-organisms. A long interaction between the decaying oral microbial flora and fermenting foods on a susceptible area (teeth and saliva) is necessary for dental decay to occur. Unhealthy eating behaviour (confectionery products and carbonated beverages consumption) could be a factor that accelerates the decaying process.1-3
behavioural researchers (Aizen and Fishbein, 1980 – Theory of reasoned action TRA; Aizen, 1991 – Theory of planned behaviour, TPB) uphold that a specific behaviour is predicted by the conscious decision to perform the action and, by extension, by one’s perception of how easy or difficult it is to perform that behaviour.4,5

Generally, people investigated know about the risks of confectionery products and carbonated beverages consumption concerning dental decay, and they intend to keep a healthy eating behaviour, but they go on having an unhealthy one. A differently performed eating behaviour with risk for dental decay could be seen in men and women. Regarding genders, there is a difference between intentions and perceptions and, consequently, between performed behaviours. This theory was investigated in a group of Italian teenagers who presented risk eating behaviour and the eating pattern’s role in the intention and perception of people was revealed.6

Another important factor which can interfere with eating behavior is that of age groups. A study made on people living in Great Britain and originating in China showed that conventional UK (United Kingdom) oral health promotion approaches may be sufficient for teenagers, but for the elderly and those who hold strong traditional health beliefs and negative attitudes towards dental care a sensitive approach is needed.7

MATERIAL AND METHODS

The aim of the study performed was to investigate eating behavior with risk depending on sex distribution in relation with the dental decay of the patients treated.

The study was performed on a sample consisting of 60 patients with dental decay treated by students in the laboratories of the Faculty of Dental Medicine, Timisoara, for 6 months (February-July) during the year 2008. The method was an epidemiological transverse inquiry, applying a questionnaire consisting of 10 items specific to the investigated topic (confectionery products and carbonated beverages consumption) and connected with primary files data registration (register of consults). The questionnaire was tested for validity and sensitivity. It was individually applied and anonymous. The investigation was done with the consent of the patients, and names of the investigated patients were kept confidentially. For analysis, a statistical SPSS 13.0 program was used with bivariate correlation and Spearman correlation coefficient calculation of eating risk behaviors between men and women with dental decay.

RESULTS

Descriptive statistics

The sample structure could be seen in Figures 1 and 2. The sample consisted of 63% women and 37% men. Referring to age groups distribution, the 31-45 years age group was predominant in men, and the 0-14 years age group and the 15-30 years one were predominant in women.

Confectionery products consumption

The frequency of confectionery products consumption is different by sexes. Daily consumption of confectionery products was very high in men (50%) in comparison with women (18%), but women consumed them 2 times/day also (18%). (Fig. 3) The confectionery products most frequently consumed by men and women were: sticky confectionery products, chocolate, cookies, candies and beverages with sugar. Referring to these confectionery products, men consumed, more frequently than women, cookies, candies (30% and 26%, respectively) and beverages with sugar (34% and 26%, respectively), and women consumed, almost as frequently as men, sticky confectionery products and chocolate (28% and 27%, respectively). While 15% women consumed sugary confectionery products, only 6% men had this behavior.
Regular oral hygiene after confectionery products consumption was performed more frequently by women (26%) than men (1%). Oral hygiene after confectionery products consumption was performed by men, most frequently, occasionally (54%). (Fig. 5)

(Fig. 4). Women consumed more beverages obtained from fruits and 42% Coca Cola. A small percentage of men and women consumed C vitamins (8% and 7%, respectively) and pickles (13% and 3%, respectively). (Fig. 7) A percentage of 73% men and 84% women did not wash their teeth after carbonated beverages consumption. (Fig. 8) We observed that between women and men beverages consumption there is a powerful Spearman correlation (r=0.943, sig. 0.005). All beverages, fruit juices, teas, coffees, alcoholic beverages have some form or another of acid in it. Citric acid is found in most fruit juices and phosphoric acid in most soft drinks.
Oral hygiene

Daily oral hygiene was more frequent in women (37% washed their teeth 1 time/day, 31% - 2 times/day and 12% - 3 times/day) than in men (18% washed the teeth 1 time/day, 27% - 2 times/day and 9% - 3 times/day) (Fig. 9). Oral hygiene, despite health care education, remained deficient, with a frequency of teeth washing of 3 times/day under 13% in the population studied.

![Figure 9. Distribution by genders (%) of patients with dental decay depending on oral hygiene.](image)

DISCUSSION

Factors that affect the frequency and severity of dental decays are tooth brushing frequency, feeding pattern, confectionery products and sweetened beverages consumption. Another study demonstrated a strong association between food and drink consumption and the caries experience.

Eating behavior as risk factor for dental decay is different from men to women, especially as far as confectionery products consumption is concerned. Men appeared to be much more exposed to this risk because of the more frequent consumption of confectionery products, especially the dangerous ones such as cookies, candies, beverages with sugar, sticky confectionery products and chocolate. Furthermore, oral hygiene after these confectionery products consumption is very poor. Sweet beverages consumed between meals seem to be a frequent risk factor in dental decay. Sugary liquids and foods rich in semi-hydrolyzed starch increase the chances of suffering caries. In other studies consumption of confectionery was independently associated with caries prevalence and consumption of teas with sugar was independently associated with caries severity.

Beverages consumption seems to be similar for men and women as categories, both sexes consuming beverages and predominantly carbonated beverages. When we analysed this consumption by sort of beverages, differences appeared between men and women: men consumed more Coca-Cola and pickles and women more beverages obtained from fruits. Consuming beverages derived from cola (irrespective of sugar or diet) two or more times per week is identified as risk factor both for having dental caries and for having a high level of dental caries. Men presented an eating behavior with greater risk than women. Poor oral hygiene practices, lack of guidance and appropriate dental health knowledge with frequent exposure to cariogenic foods were demonstrated as main risk factors among the surveyed population. Oral hygiene is also more deficient in the case of men than in women. Sanitary education in the area of oral hygiene and risk eating behavior seems to be rather poor. In other researches, also, the attitude of parents concerning the importance of children's oral health was mixed. Gaps were noted in the oral health activities of educational programs. Therefore improving of the oral health-related behavior could be realized by intervention, oral hygiene and dietary counseling, or by implementing multilevel-approach oral health-promotion programs. Health educators should be aware that many people have poor knowledge of the cariogenic status of some of the foods and drinks they consume and some are unsure of the importance of eating patterns. An interesting aspect which resulted from this study was the specific age at which differences between sexes in dental decay frequency is more visible: 31-45 years (50% men and 20% women). The frequency of dental decay decreases with age in women and increases in men. Significant associations between dental decay severity and long term sugar-soda consumption were generally seen in persons over age 25 years. In the future, a more complex range of reduced sugar and sugar-free products will be created which will vastly strengthen the structural approach to oral health promotion: improving food as well as educating people. Another result of a good oral health promotion is the increase in population addressability to dental offices in order to treat the early dental decays. New studies to investigate these aspects are necessary.

CONCLUSIONS

1. Eating behavior maintains as a risk behavior in the investigated population. Excessive confectionery products and beverages consumption associated with deficient oral hygiene continue to impact oral health negatively. There are differences between sexes (men consume more confectionery products and have more deficient oral hygiene after this consumption than
women) and similarities (men and women consume carbonated beverages in similar percentages). There are also differences regarding the sorts of consumed beverages (men consume more Coca-Cola and pickles than women and less beverages obtained from fruits). The eating behavior of men presents a greater risk on oral health than that of women.

2. Despite sanitary education, oral hygiene remains deficient, with a frequency of teeth washing of 3 times/day under 13% in the population studied. Oral hygiene is more deficient in men than in women and is better in case of confectionery products than of beverages consumption.

3. Addressability of women to dental offices is greater than that of men. There is a tendency of dental decay to decrease with age in women and to increase with age in men. Differences between sexes in the dental decay frequency are more visible in the age group 31-45 years, where the frequency of dental decays in men is double in comparison with that in women.

ACKNOWLEDGEMENTS

The authors are grateful for the professional support provided by Prof. Brigitha Vlaicu, Ph.D and Prof. Sorina Doroftei, Ph.D.

REFERENCES